



May 2023

# VEHICLE SAFETY

## Extent of Open Recalls among Ridesharing Vehicles

# GAO Highlights

Highlights of [GAO-23-105996](#), a report to congressional committees

## Why GAO Did This Study

As with all passenger vehicles, ridesourcing vehicles can have unrepaired, or open, safety recalls, which could expose customers in these vehicles unknowingly to safety risks.

The Infrastructure Investment and Jobs Act includes a provision for GAO to study the extent of open recalls in passenger vehicles used for ridesourcing. This report describes (1) how many vehicles used for ridesourcing had open safety recalls and (2) public and private sector roles in overseeing safety recalls in vehicles used for ridesourcing.

GAO obtained confidential data from ridesourcing companies Lyft and Uber, which represent the vast majority of the U.S. market, for vehicles that completed a passenger trip in August 2022, the most recent month of trips at the time we requested data. GAO used tools made available by CARFAX and NHTSA to analyze whether these vehicles had open safety recalls as of December 2022. GAO used the CARFAX tool for about 98 percent of the vehicles. For the remainder, GAO used a sampling method and the NHTSA search tool for a manufacturer that does not participate with CARFAX.

Additionally, GAO (1) reviewed NHTSA documents and interviewed NHTSA officials; (2) interviewed officials from six states and five localities that may have collected data on ridesourcing vehicles or were among top ridesourcing markets; and (3) interviewed representatives from four ridesourcing companies selected based on market share and operation in selected states and localities.

View [GAO-23-105996](#). For more information, contact Elizabeth Repko at (202) 512-2834 or [repkoe@gao.gov](mailto:repkoe@gao.gov).

May 2023

## VEHICLE SAFETY

### Extent of Open Recalls among Ridesharing Vehicles

#### What GAO Found

“Ridesourcing,” also called ridesharing, involves transportation network companies such as Lyft and Uber using a digital network to connect passengers with drivers of, most commonly, personally owned vehicles. GAO estimated that nationally, nearly 1 in 6, or about 16 percent, of ridesourcing vehicles that performed a passenger trip in August 2022 had an open safety recall as of December 2022. Separately, a company that maintains a vehicle history database, CARFAX, reported about 1 in 5, or about 20 percent, of passenger vehicles nationally had an open safety recall in 2022.

Ridesourcing vehicles could differ from all U.S. passenger vehicles in ways, such as vehicle age, that may be associated with whether a safety recall is remedied. For example, the National Highway Traffic Safety Administration (NHTSA) has found that recalls for newer vehicles are generally remedied more often than recalls for older vehicles. NHTSA or a manufacturer may designate a safety recall campaign as a “Do Not Drive” recall, indicating that affected vehicles should not be driven until remedied. Of the ridesourcing vehicles with an open safety recall, GAO estimated that less than 1 percent had a recall with an urgent “Do Not Drive” designation.

#### An Estimated 1 in 6 Ridesourcing Vehicles Had One or More Open Safety Recalls Nationally



Source: GAO analysis of National Highway Traffic Safety Administration (NHTSA), CARFAX, Lyft, and Uber data. | GAO-23-105996

Public sector oversight of open safety recalls in ridesourcing vehicles is limited.

- **Federal actions:** Federal law does not require that vehicle owners—with the exception of rental car companies—remedy open safety recalls. However, NHTSA has worked with ridesourcing companies to raise awareness of open safety recalls in ridesourcing vehicles, according to NHTSA officials.
- **State actions:** Of six selected states, one, Maryland, requires that a vehicle used for ridesourcing be certified annually as not having any open safety recalls. Representatives from safety and mobility organizations and an association; representatives from two ridesourcing companies; and NHTSA officials told us that Maryland is the only state they knew of with a requirement specific to open safety recalls on ridesourcing vehicles.
- **Local actions:** Officials from all five localities GAO interviewed said they do not have requirements specific to open safety recalls on ridesourcing vehicles.

On the private sector side, selected ridesourcing companies told GAO they took some steps related to recalls. These steps included (1) suspending vehicles with an open “Do Not Drive” recall from their platforms until the recall is remedied, (2) periodically sharing notices about major recalls with drivers, and (3) including a statement in companies’ terms of service that drivers are to monitor and repair any open safety recalls.

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**Abbreviations:**

NHTSA	National Highway Traffic Safety Administration
TNC	transportation network company
VIN	Vehicle Identification Number
VRSS	Vehicle Recall Search Service

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May 15, 2023

The Honorable Maria Cantwell  
Chair  
The Honorable Ted Cruz  
Ranking Member  
Committee on Commerce, Science, and Transportation  
United States Senate

The Honorable Cathy McMorris Rodgers  
Chair  
The Honorable Frank Pallone, Jr.  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

“Ridesourcing” also referred to as ridesharing, is available in hundreds of cities across the United States and can supplement other transportation options by providing an alternative for individuals who may have difficulty driving or accessing public transportation. Ridesourcing involves transportation network companies (TNC), such as Uber and Lyft, using a digital network to connect passengers with drivers of, most commonly, personally owned vehicles. As with all passenger vehicles, these ridesourcing vehicles can have unrepaired—or open—safety recalls, which could expose customers riding in these vehicles unknowingly to safety risks. High-profile safety recalls over the last decade, such as those involving ignition switches and air bags, have highlighted the importance of whether and how vehicle owners are notified of recalls and have them repaired. A 2019 review by *Consumer Reports* of ridesourcing vehicles in two major metropolitan areas found that 1 in 6 were subject to open safety recalls.<sup>1</sup>

The National Highway Traffic Safety Administration (NHTSA) oversees vehicle safety recalls when a defect in a vehicle creates an unreasonable safety risk or when vehicles do not comply with federal motor vehicle safety standards. With the exception of rental car companies, federal law does not require vehicle owners to repair or otherwise remedy open

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<sup>1</sup>Ryan Felton, “1 in 6 Uber and Lyft Cars Have Open Recalls, Consumer Reports Study Suggests,” *Consumer Reports* (Aug. 16, 2019).

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safety recalls.<sup>2</sup> Meanwhile, state governments, local governments, and ridesourcing companies may play a role in creating requirements for ridesourcing vehicles, including requirements for open safety recalls.

The Infrastructure Investment and Jobs Act includes a provision for GAO to study the number of passenger vehicles used by TNCs in each state that have one or more open recalls.<sup>3</sup> This report describes:

- how many vehicles used for ridesourcing had open safety recalls, and
- public and private sector roles in overseeing safety recalls in vehicles used for ridesourcing.

To describe how many vehicles used for ridesourcing had open safety recalls, we obtained confidential data from two ridesourcing companies, which represent the vast majority of the U.S. market, for vehicles that completed at least one passenger trip between August 1, 2022, and August 31, 2022. We chose this period as it was the most recent month of trips at the time we requested data. For each vehicle, the data included the state in which the vehicle was registered and a unique Vehicle Identification Number (VIN),<sup>4</sup> among other information. To assess the reliability of these data we checked the data for duplicate and unexpected values and interviewed company representatives. We found the data sufficiently reliable for the purpose of describing how many vehicles used for ridesourcing had open safety recalls.

To determine whether vehicles used for ridesourcing in August 2022 had open safety recalls, we searched for open safety recalls in December 2022 using two vehicle-recall search tools made available by NHTSA and by CARFAX, a private company that maintains a vehicle history

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<sup>2</sup>Rachel and Jacqueline Houck Safe Rental Car Act of 2015 § 3 (codified at 49 U.S.C. § 30120(i)(3)). In addition, federal law bans the sale of new cars with open safety recalls. 49 U.S.C. § 30120(i)(1).

<sup>3</sup>Pub. L. No. 117-58, § 24203(b), 135 Stat. 429, 820 (2021).

<sup>4</sup>Under NHTSA's regulations, each motor vehicle must contain a 17-character VIN that encodes specific information about the particular vehicle. See 49 C.F.R. §§ 565.13(b), 565.15.

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database.<sup>5</sup> For about 98 percent of vehicles we analyzed, we used recall information from a search of all vehicles by entering VINs into CARFAX's Vehicle Recall Search Service (VRSS) search tool. The remaining 2 percent of vehicles were from one manufacturer that does not participate in VRSS. For these, we used a stratified, random-sampling approach and entered sampled vehicle VINs individually into NHTSA's single-VIN recall search tool. We analyzed information returned by the search tools to identify vehicles with open safety recalls and, for vehicles with open safety recalls, to describe the number and type of recalls.<sup>6</sup> To assess the reliability of the data returned by both search tools, we conducted data checks, interviewed CARFAX representatives and NHTSA officials, and reviewed documentation. We found the data sufficiently reliable for describing how many vehicles used for ridesourcing had open safety recalls.

To describe public and private sector roles in overseeing safety recalls in vehicles used for ridesourcing, we reviewed documents and interviewed representatives from selected safety and mobility groups, associations, and research organizations regarding state and local oversight of ridesourcing vehicles, among other topics. These organizations included the Center for Auto Safety, Shared-Use Mobility Center, American Association of Motor Vehicle Administrators, Texas A&M Transportation Institute, National Conference of State Legislatures, and Consumer Reports. The documents we reviewed included reports describing state and local ridesourcing statutes and regulations.<sup>7</sup> We also interviewed

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<sup>5</sup>We did not search for open safety recalls on vehicles until December 2022, as we had to allow time to receive the data requested from private companies and to then assess the reliability of those data. The vehicle recall search tools draw on manufacturer data, which are updated frequently, and cannot search recall information retroactively. With the exception of one manufacturer discussed below, we searched vehicle recall status for all vehicles on the same date in December 2022. Our analysis did not capture recalls that may have been open but remedied prior to December. Conversely, our analysis did capture recalls that were issued after August and not remedied as of December. We did not verify that vehicles that performed a passenger trip in August 2022 continued to perform passenger trips through December 2022.

<sup>6</sup>We excluded a small number of duplicate and invalid vehicle VINs and excluded duplicate VINs in cases where a vehicle performed at least one passenger trip on both ridesourcing platforms. The share of vehicles excluded beyond those that performed trips on both platforms totaled less than 1 percent of the data.

<sup>7</sup>See Texas A&M Transportation Institute, *Policy Implications of Transportation Network Companies Final Report*, (October 2017) and Washington State Joint Transportation Committee, *Policy Guide: Regulation of Transportation Network Companies* (January 2019).

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NHTSA officials and reviewed statutes and regulations describing NHTSA’s responsibility for overseeing defect and noncompliance recalls.

We also interviewed officials who had oversight of ridesourcing vehicles and comparable industries, specifically taxi or carsharing vehicles, from six selected states and five localities. We selected six states—California, Colorado, Massachusetts, Kentucky, Maryland, and Texas—based on criteria including that the state had a requirement specific to open safety recalls on ridesourcing vehicles, received funding from NHTSA’s State Notification to Consumers of Motor Vehicle Recall Status pilot program,<sup>8</sup> or may have collected data on ridesourcing vehicles. We selected five localities—Boston, Chicago, King County and Seattle,<sup>9</sup> New York City, and San Francisco—based on criteria including that the locality was among top ridesourcing markets, may have collected data on ridesourcing vehicles, or had oversight of safety recalls on taxis. We also reviewed selected states’ and localities’ statutes, regulations, and other ridesourcing-related documents such as data collection and safety inspection forms.

In addition, we reviewed documents and interviewed representatives from four selected ridesourcing companies to learn about their policies and procedures for safety recalls. We selected the companies Lyft, Uber, Hopskipdrive, and Wingz based on criteria including market share and companies that operate in the selected states and localities described above. We also interviewed representatives from three private companies that offer vehicles for drivers to use for ridesourcing, Hertz, Kinto, and Getaround. We selected these companies to include companies that partner with ridesourcing companies and cover different industries. We reviewed federal statutes and regulations and selected state statutes for rental and carsharing companies to have vehicle safety recalls remedied. For additional information on our scope and methodology, see appendix I.

We conducted this performance audit from April 2022 to May 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain

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<sup>8</sup>Under the State Notification to Consumers of Motor Vehicle Recall Status pilot program, NHTSA may award grants to applicant states that agree to inform vehicle owners or lessees of any open safety recalls on their vehicle at the time of registration at no cost, as well as provide any other information NHTSA requires. 49 U.S.C. § 30119 note.

<sup>9</sup>The City of Seattle shares oversight responsibility with King County, which houses Seattle. Ridesourcing companies, drivers, and vehicles obtain joint licenses from Seattle and King County. For the purpose of this report, we refer to King County and the City of Seattle as a single locality.



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sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

### Ridesourcing

Ridesourcing is an on-demand, technology-enabled service that connects passengers with drivers who provide transportation services through digital applications.<sup>10</sup> Ridesourcing drivers typically use their personal vehicles, but may also use rented vehicles.<sup>11</sup> To become a ridesourcing driver, drivers must sign up to drive with a ridesourcing company and agree to its terms of service. Ridesourcing companies have certain requirements for drivers and the vehicles used on their platform, including that drivers have vehicle insurance, have a valid U.S. driver's license, and use a 4-door vehicle. Typically, when a customer requests a ride through the application, it notifies a ridesourcing driver. Some ridesourcing platforms also provide for riders to schedule a ride in advance. The ridesourcing driver then may choose to accept the trip, pick up the customer, and navigate to the destination. The driver is automatically paid by the customer for the ride through the application.

State governments have been involved in overseeing ridesourcing. According to past reviews of state oversight of ridesourcing, most states passed legislation regulating some aspect of ridesourcing between 2014 and 2017 to respond to this new transportation service.<sup>12</sup> In 2019, the Washington State Joint Transportation Committee reported that 49 states and Washington, D.C., had enacted requirements for ridesourcing, with Oregon the exception.<sup>13</sup> In 2021, Oregon enacted a law regulating

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<sup>10</sup>Ridesourcing services are also called "ridesharing" or "ridehailing" services. In addition, ridesourcing companies can be called "Transportation Network Companies" or "Transportation Network Providers." For the purpose of this report, we use the terms ridesourcing and ridesourcing company.

<sup>11</sup>For the purpose of this report, we refer to all such vehicles as ridesourcing vehicles.

<sup>12</sup>See Washington State Joint Transportation Committee, *Policy Guide: Regulation of Transportation Network Companies* (January 2019) and Texas A&M Transportation Institute, *Policy Implications of Transportation Network Companies Final Report* (October 2017).

<sup>13</sup>Washington State Joint Transportation Committee, *Policy Guide: Regulation of Transportation Network Companies* (January 2019).

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ridesourcing.<sup>14</sup> Requirements for ridesourcing differ by state, but many states require insurance, background checks for ridesourcing drivers, or vehicle inspections, according to the Texas A&M Transportation Institute.<sup>15</sup> Some local governments may also provide oversight of ridesourcing. The Texas A&M Transportation Institute also reported that local government requirements are often similar to those at the state level, such as requiring insurance or background checks, but may also build upon requirements set by the state.

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## Vehicle Safety Recalls

NHTSA is responsible for overseeing two types of vehicle recalls, both of which can be initiated by either a manufacturer or NHTSA.<sup>16</sup> Safety defect recalls are initiated when NHTSA or a manufacturer identifies a defect in a vehicle or vehicle equipment related to motor vehicle safety.<sup>17</sup>

Compliance recalls are initiated when a vehicle or vehicle equipment is found to not comply with applicable federal motor vehicle safety standards.<sup>18</sup> For the purpose of this report, we consider both safety defect and compliance recalls to be “safety recalls.”<sup>19</sup> NHTSA oversaw over 900 safety recall campaigns in 2022, with safety defect recalls accounting for 82 percent of vehicle recall campaigns.<sup>20</sup>

NHTSA or a manufacturer may designate a safety recall campaign as a “Do Not Drive” recall to indicate that affected vehicles should not be

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<sup>14</sup>2021 Or. Laws Ch. 222 (H.B. 2393).

<sup>15</sup>Texas A&M Transportation Institute, *Policy Implications of Transportation Network Companies Final Report* (October 2017).

<sup>16</sup>NHTSA’s general authority over motor vehicle safety is primarily codified at 49 U.S.C. Chapter 301. Its authority related to defects and noncompliance is codified in 49 U.S.C. § 30112, et seq.

<sup>17</sup>For safety defect recalls, NHTSA and vehicle manufacturers are obligated to initiate a recall if either the agency or the manufacturer identifies a defect “related to motor vehicle safety.” 49 U.S.C. § 30118(a), (c)(1). For the purpose of these obligations, “motor vehicle safety” means “performance of a motor vehicle or motor vehicle equipment in a way that protects the public against unreasonable risk of accidents...and against unreasonable risk of death or injury in an accident.” 49 U.S.C. § 30102(a)(9).

<sup>18</sup>NHTSA’s motor vehicle safety standards are located in 49 C.F.R. Part 571. Its regulations related to remedying defects and noncompliance are located in 49 C.F.R. Parts 573 and 577.

<sup>19</sup>For the purpose of our report, we have limited the scope of our review to safety recalls in passenger vehicles, not equipment. Passenger vehicles include cars, pickup trucks, sport utility vehicles, large passenger vans, and minivans, but exclude other vehicles, such as motorcycles, recreational vehicles, and commercial trucks.

<sup>20</sup>NHTSA, *2022 Annual Report Safety Recalls* (March 2023).

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driven until remedied. For example, a recall of certain 2023 model year vehicles was designated “Do Not Drive” because of the risk that a wheel might detach while driving. NHTSA issues press releases to help notify the public of such “Do Not Drive” recalls. According to a March 2022 NHTSA consumer alert, if a vehicle owner uses NHTSA’s recall search tool and their vehicle has an open “Do Not Drive” recall, the tool displays recall information in a red box.

Manufacturers are required to provide written notification of a safety recall to vehicle owners and repair the recalled vehicle or otherwise remedy the identified defect or noncompliance, generally without charge.<sup>21</sup> These notifications must include, among other things, an explanation of the potential safety hazards presented by the problem, instructions on how to get the problem corrected, and information on how long the remedy will take to perform.<sup>22</sup> For most safety recalls, a vehicle owner must bring a vehicle to a dealership for the remedy. In some cases, recalls can be remedied through a software update without requiring a trip to a dealership.

NHTSA monitors the percentage of vehicles affected by safety recalls that manufacturers ultimately remedy (known as recall completion rates).<sup>23</sup> NHTSA calculates these rates using data provided by vehicle manufacturers. For example, in August 2021, NHTSA reported that 69

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<sup>21</sup>After a recall is initiated, manufacturers are required to provide written notification to vehicle owners via First-Class Mail within 60 days and remedy the defect or noncompliance. Manufacturers have three options for remedying the defect or noncompliance: repair the vehicle, replace the vehicle with an identical or similar vehicle, or refund the purchase price in full, minus a reasonable allowance for depreciation. 49 U.S.C. §§ 30118, 30120(a)(1)(A); 49 C.F.R. § 577.7. Manufacturers are not required to provide the remedy free of cost to vehicle owners if the first owner purchased the vehicle more than 15 years before their notification of the safety defect or noncompliance. 49 U.S.C. § 30120(g).

<sup>22</sup>49 C.F.R. § 577.5.

<sup>23</sup>NHTSA, *Report to Congress: “Vehicle Safety Recall Completion Rates Report”* (August 2021). This was the last of three reports on safety recall completion rates NHTSA was required to produce under the Fixing America’s Surface Transportation Act. Pub L. No. 114-94, § 24104(c), 129 Stat. 1312, 1703-1704 (2015). Manufacturers conducting notification campaigns are required to submit a quarterly report to NHTSA for eight consecutive quarters (24 months, beginning with the quarter in which the campaign was initiated), or until all remedial measures have been taken, whichever occurs first. Each quarterly report must include the number of vehicles that have been inspected and repaired that quarter. 49 C.F.R. § 573.7.

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percent of vehicles recalled in 2018 had been remedied, as of 15 months after a remedy became available.

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## Vehicle Recall Search Tools

NHTSA hosts a search tool on its website that vehicle owners can use to determine if their vehicle has any open safety recalls by entering their vehicle's unique VIN. To support this search tool, NHTSA requires that manufacturers maintain data on vehicles subject to recalls.<sup>24</sup> When a VIN is entered, the recall search tool queries the manufacturer-maintained data and returns information on any open safety recalls on the vehicle that began within the previous 15 years. The tool does not return information on recalls previously remedied.

In addition to the NHTSA search tool, CARFAX, in a joint effort with the Alliance for Automotive Innovation, created and makes a recall search tool available to approved private businesses and government entities at no cost.<sup>25</sup> This tool, called the Vehicle Recall Search Service (VRSS), allows an approved user to search recall information provided by participating manufacturers for up to 10,000 VINs at a time. Similar to the NHTSA search tool, the VRSS tool does not return information on recalls previously remedied. CARFAX also uses data from this tool and its CARFAX vehicle history database to periodically report on the rate of open safety recalls in vehicles nationally and by state.

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<sup>24</sup>49 C.F.R. § 573.15(a). Only manufacturers that have manufactured for sale, sold, offered for sale, introduced or delivered for introduction in interstate commerce, or imported into the United States 25,000 or more light vehicles in a calendar year must make recall information available to the public on the internet. The system manufacturers use to provide this information must be updated at least once every 7 calendar days. 49 C.F.R. § 573.15(b)(7).

<sup>25</sup>The Alliance for Automotive Innovation is a trade association comprised of, among others, manufacturers producing cars and light trucks sold in the U.S. and equipment suppliers. CARFAX also offers a free, single-VIN recall search tool available to the public at [www.carfax.com/recall](http://www.carfax.com/recall).

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## About 1 in 6 Ridesourcing Vehicles Had an Open Safety Recall

In our analysis of ridesourcing company data, we estimated that about 1 in 6, or about 16 percent, of ridesourcing vehicles that made a passenger trip in August 2022 had an open safety recall as of December 2022.<sup>26</sup> In addition, an estimated 3 percent of ridesourcing vehicles had more than one open safety recall. For context, CARFAX reported that in 2022 about 1 in 5, or about 20 percent, of U.S. passenger vehicles had an open safety recall.<sup>27</sup>

Vehicles operated on ridesourcing platforms and their drivers could differ from all U.S. passenger vehicles and their drivers in ways that may be associated with whether a safety recall is remedied, such as vehicle age and driver convenience. For example, NHTSA found that recalls for newer vehicles generally have higher completion rates than recalls for older vehicles.<sup>28</sup> The average age of ridesourcing vehicles we analyzed was about 6 years, while the average age of U.S. passenger vehicles in 2022 was about 12 years.<sup>29</sup> Officials from NHTSA and representatives from Stout, a firm that has worked with automakers and published reports on vehicle recall trends, have identified that newer vehicles generally have higher completion rates because these vehicle owners are more familiar with dealerships that perform repairs and are easier to find and notify of recalls than owners of older vehicles.

We reported in 2017 that consumers in focus groups cited convenience as a key consideration when deciding whether to remedy open safety recalls, with some describing being “too busy” to schedule and fix the

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<sup>26</sup>For about 98 percent of vehicles we analyzed, we used recall information for each vehicle from CARFAX’s VRSS search tool. For the remaining 2 percent of vehicles from a manufacturer that does not participate in VRSS, we used NHTSA’s search tool and a stratified random sampling approach to estimate how many such vehicles had open safety recalls. We analyzed data from two ridesourcing companies that represent the vast majority of the U.S. market. We obtained data for ridesourcing vehicles that performed a passenger trip in August 2022 and searched vehicle recall status in December 2022. We did not verify that vehicles that performed a passenger trip in August 2022 continued to perform passenger trips through December 2022. Our analysis did not capture recalls that may have been open but remedied prior to December. Conversely, our analysis captured recalls that were issued after August and not remedied as of December. See appendix I for more information on our methodology.

<sup>27</sup>According to CARFAX representatives, its analysis reflects all manufacturers that participate in CARFAX’s VRSS tool.

<sup>28</sup>See NHTSA, *Report to Congress: Vehicle Safety Recall Completion Rates Report* (August 2021).

<sup>29</sup>See S&P Global Mobility, *Average Age of Vehicles in the US Increases to 12.2 years, according to S&P Global Mobility* (May 2022).

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recall.<sup>30</sup> In addition, officials from NHTSA and representatives from Stout told us that vehicle owners who use a vehicle in a trade or for business—which could include ridesourcing vehicles—might be less likely to have a recall repaired because the time to complete the repair can result in lost income. NHTSA has reported that other factors including where a vehicle owner lives, socioeconomic factors, and an owner’s assessment of risk may play a role in whether owners get a safety recall remedied.<sup>31</sup>

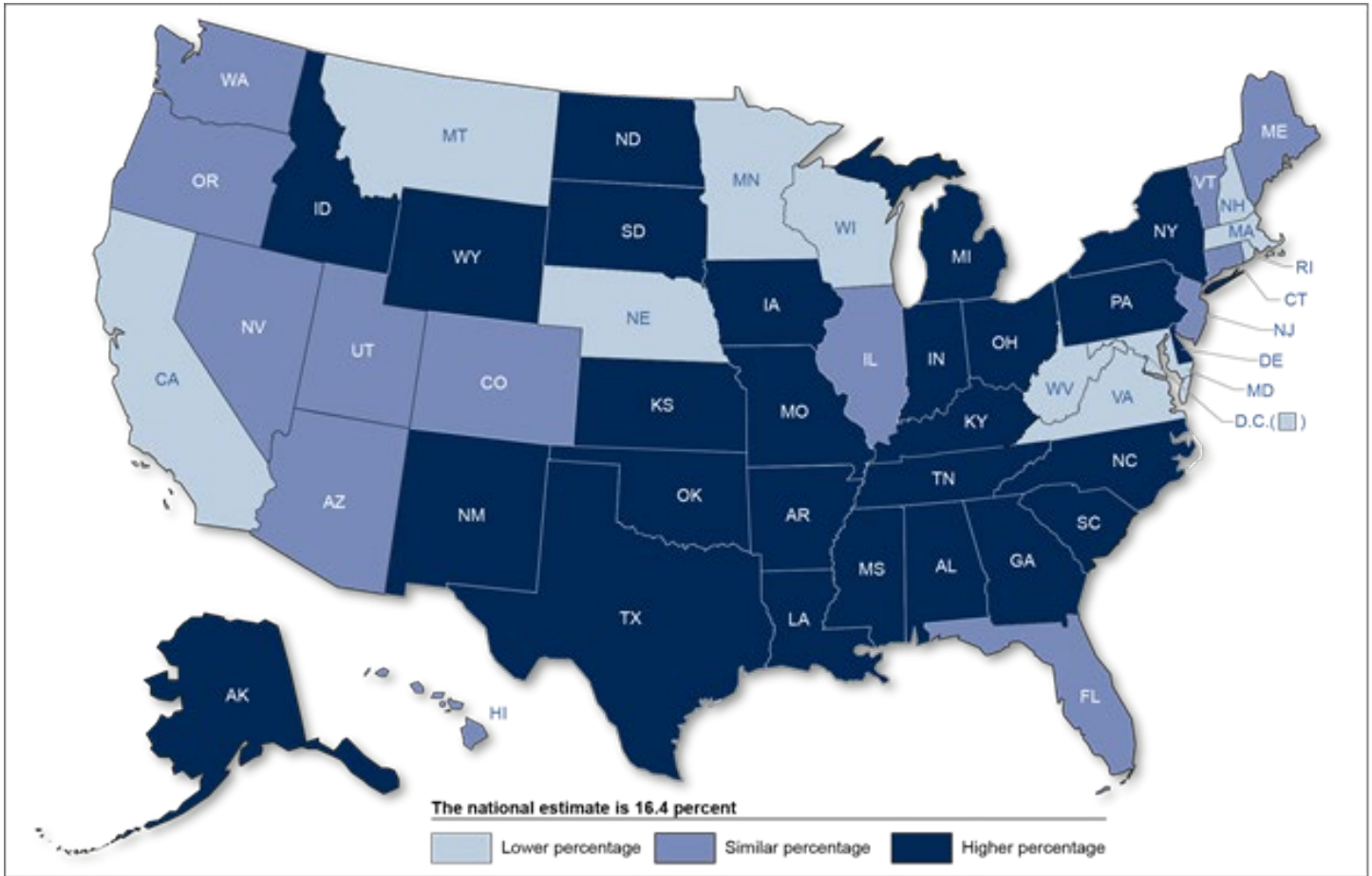
In our analysis, we also found that the percentage of ridesourcing vehicles that had at least one open safety recall varied across states and Washington, D.C. For example, we estimated that in Mississippi almost 1 in 4 ridesourcing vehicles (about 23 percent) had an open safety recall, while almost 1 in 8 ridesourcing vehicles in Washington, D.C., (about 12 percent) had at least one open safety recall. Figure 1 compares the percentage of ridesourcing vehicles with an open safety recall in each state and Washington, D.C., to the national percentage. We did not examine the causes of variation in open safety recall percentages in ridesourcing vehicles across states, but the factors discussed above that may be associated with whether vehicle owners remedy safety recalls could vary by state. See appendix II for a table showing the percentage of ridesourcing vehicles that had open safety recalls as of December 2022 in each state.

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<sup>30</sup>GAO, *Auto Recalls: NHTSA Should Take Steps to Further Improve the Usability of Its Website*, [GAO-18-127](#) (Washington, D.C.: December 2017). The Infrastructure Investment and Jobs Act has since included a provision for GAO to study the reasons why vehicle owners do not have repairs performed for vehicles subject to open recalls, among other topics. Pub. L. No. 117-58, § 24203(a), 135 Stat. 429, 819-820 (2021).

<sup>31</sup>NHTSA, *Report to Congress: Vehicle Safety Recall Completion Rates Report* (August 2021).

**Figure 1. Estimates of Ridesourcing Vehicles with an Open Safety Recall in each State and Washington, D.C., as Compared to the National Estimate**



Source: GAO analysis of National Highway Traffic Safety Administration (NHTSA), CARFAX, Lyft, and Uber data. | GAO-23-105996

Notes: We obtained data for ridesourcing vehicles that performed a passenger trip in August 2022 and searched the vehicles' recall status in December 2022. For about 98 percent of vehicles we analyzed, we used recall information for each vehicle from CARFAX's Vehicle Recall Search Service (VRSS) search tool. For the remaining 2 percent of vehicles, which were from a manufacturer that does not participate in VRSS, we used NHTSA's search tool and a stratified random sampling approach to estimate how many such vehicles had open safety recalls resulting in upper and lower bounds around the national and state estimates.

States had a higher percentage of open recalls compared to the national rate when the lower bound of the state was greater than the upper bound of the national rate. States had a lower percentage of open recalls compared to the national rate when the upper bound of the state was less than the lower bound of the national rate. State estimates assume that states grouped within a stratum have the same percentage of vehicles with an open safety recall for the manufacturer that did not participate in VRSS. State bounds are not symmetric because the upper bound was determined by assuming all vehicles from the manufacturer that does not participate in VRSS had an open recall and the lower bound was determined by assuming none of the vehicles from that manufacturer had an open recall, respectively. The United States' estimate's upper and lower bounds are a standard 95 percent

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confidence interval. See appendix I for more information on our methodology and appendix II for a table of national and state estimates as well as upper and lower bounds.

CARFAX has also found that the percentage of passenger vehicles with an open safety recall varied across states and Washington, D.C. For example, CARFAX found that Mississippi, Texas, and Louisiana had the highest open safety recall rates in 2022 ranging from about 23 to 24 percent. Washington, D.C., Wisconsin, and Oregon had the lowest open safety recall rates, ranging from about 15 to 16 percent.<sup>32</sup>

In addition, we analyzed whether ridesourcing vehicles were affected by certain types of open safety recalls. Specifically:

**“Do Not Drive” recalls.** Of vehicles with an open safety recall, we estimated that less than 1 percent had at least one recall with the urgent “Do Not Drive” designation. See figure 2. According to NHTSA data, “Do Not Drive” recalls are not common. For example, in 2022, less than 2 percent of 932 vehicle recall campaigns had the “Do Not Drive” designation, and these recalls comprised about 1 percent of vehicles recalled in 2022.<sup>33</sup>

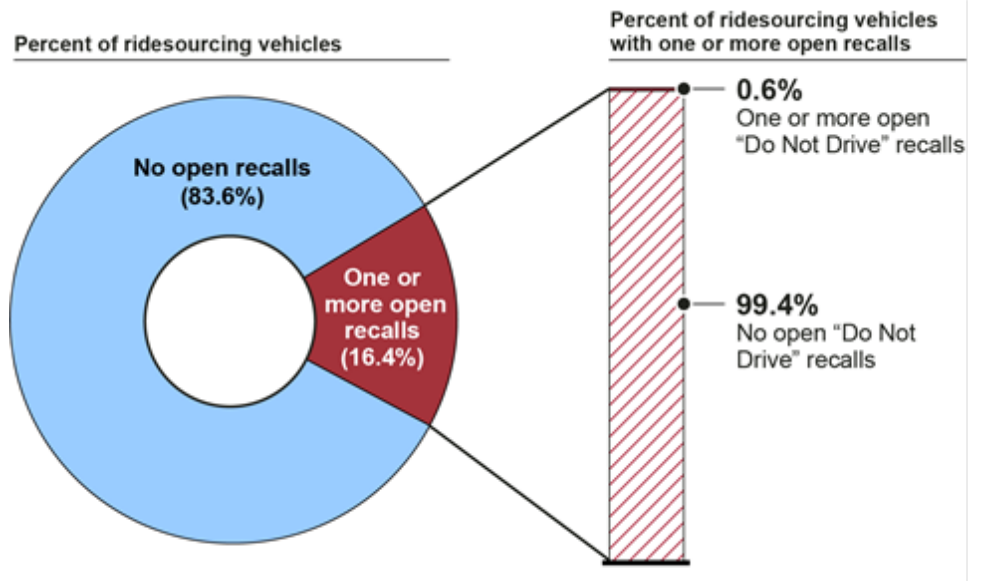
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<sup>32</sup>CARFAX publishes information such as a map illustrating the number of open safety recalls by state on its website. CARFAX representatives told us that they use manufacturer data from the VRSS search tool as well as other data to estimate this information.

<sup>33</sup>NHTSA, *2022 Annual Report Safety Recalls* (March 2023) and data obtained from NHTSA. A vehicle could be subject to multiple safety recall campaigns in a given year.



**Figure 2. Estimated Percentage of Ridesourcing Vehicles with an Open “Do Not Drive” Safety Recall**



Source: GAO analysis of National Highway Traffic Safety Administration (NHTSA), CARFAX, Lyft, and Uber data. | GAO-23-105996

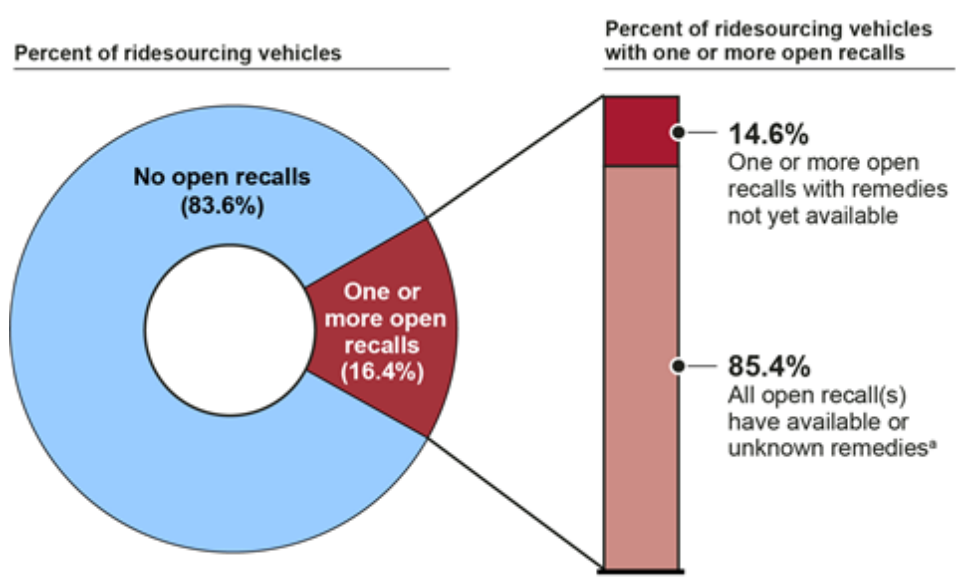
Notes: We obtained data for ridesourcing vehicles that performed a passenger trip in August 2022 and searched the vehicles’ recall status in December 2022. For about 98 percent of vehicles we analyzed, we used recall information for each vehicle from CARFAX’s Vehicle Recall Search Service (VRSS) search tool. For the remaining 2 percent of vehicles, which were from a manufacturer that does not participate in VRSS, we used NHTSA’s search tool and a stratified random sampling approach to estimate how many such vehicles had open safety recalls.

We obtained a list of NHTSA campaign numbers for “Do Not Drive” recalls announced from July 2012 to September 2022 and used these to identify vehicles with “Do Not Drive” recalls returned by the search tools. All estimates in this figure have a margin of error within plus or minus 0.1 percentage points at the 95-percent confidence level. For example, the estimated percentage of ridesourcing vehicles with one or more open recalls in December 2022 (16.4 percent) has a margin of error of 0.1 percentage points and a 95-percent confidence interval of 16.3 to 16.5 percent. See Appendix I for more information on our methodology.

**Remedy not available.** Of vehicles with an open safety recall, we estimated that 15 percent had at least one recall for which a remedy was not yet available at the time we checked the recall status of the vehicle. A remedy may not be available if, for example, the manufacturer has not yet identified the specific repair or remedy to address a defect or if parts needed for a remedy are not yet available. In such cases, a vehicle owner would not be able to resolve the recall until the manufacturer made a remedy available. The majority of the remaining 85 percent of vehicles

with one or more open safety recalls had a remedy available to address the defect or noncompliance with safety standards.<sup>34</sup> See figure 3.

**Figure 3. Estimated Percentage of Ridesourcing Vehicles with an Open Safety Recall with a Remedy Not Yet Available**



Source: GAO analysis of National Highway Traffic Safety Administration (NHTSA), CARFAX, Lyft, and Uber data. | GAO-23-105996

Notes: We obtained data for ridesourcing vehicles that performed a passenger trip in August 2022 and searched the vehicles' recall status in December 2022. For about 98 percent of vehicles we analyzed, we used recall information for each vehicle from CARFAX's Vehicle Recall Search Service (VRSS) search tool. For the remaining 2 percent of vehicles, which were from a manufacturer that does not participate in VRSS, we used NHTSA's search tool and a stratified random sampling approach to estimate how many such vehicles had open safety recalls.

For vehicles with one or more open recalls, the search tools also returned a remedy availability, indicating whether a manufacturer remedy was available at the time we searched the VIN. All estimates in this figure have a margin of error within plus or minus 0.4 percentage points at the 95 percent confidence level. For example, the estimated percentage of ridesourcing vehicles with one or more open recalls in December 2022 (16.4 percent) has a margin of error of 0.1 percentage points and a 95-percent confidence interval of 16.3 to 16.5 percent. See appendix I for more information on our methodology.

<sup>a</sup> For an estimated 6 percent of all vehicles with one or more open safety recalls, remedy availability status for at least one safety recall was unknown at the time we searched for recall information for the vehicle in December 2022.

<sup>34</sup>For an estimated 6 percent of all vehicles with one or more open safety recalls, remedy availability information was not available for at least one recall at the time we searched for recall information.

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## Public Sector Oversight of Open Safety Recalls in Ridesourcing Vehicles Is Limited, and the Private Sector Uses Various Procedures for Safety Recalls

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### Public Sector Actions

#### Federal Actions

While federal law does not require that vehicle owners—with the exception of rental car companies—remedy open safety recalls on their vehicles,<sup>35</sup> NHTSA has engaged with ridesourcing companies to raise awareness of open safety recalls in ridesourcing vehicles, according to NHTSA officials. For example, NHTSA officials said that they coordinated with representatives from a ridesourcing company to visit a “hub”—a company-sponsored location where ridesourcing drivers can get support for account or driving issues—in the Washington, D.C., area in February 2020. At this ridesourcing hub, NHTSA officials said that they distributed brochures to ridesourcing drivers describing how to determine if their vehicle had an open safety recall and offered to check vehicles for open recalls. NHTSA officials said that NHTSA did not subsequently visit other ridesourcing hubs because of the COVID-19 pandemic. NHTSA officials told us they hope to restart this effort.

In addition, NHTSA officials said that the agency has undertaken various efforts to increase safety recall completion in all passenger vehicles, which would include ridesourcing vehicles. These efforts include a paid advertising campaign encouraging consumers to check for open recalls and reaching out to automotive websites to publish messages encouraging consumers to check vehicles twice a year for open recalls.

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<sup>35</sup>Raechel and Jacqueline Houck Safe Rental Car Act of 2015 § 3, 49 U.S.C. § 30120(i)(3). In addition, federal law bans the sale of new cars with open safety recalls. 49 U.S.C. § 30120(i)(1).

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## State Actions

Of the six selected states we reviewed, one state—Maryland—requires that ridesourcing drivers take action related to vehicle safety recalls. Specifically, through a self-certification process, a vehicle must be annually certified as not having any open safety recalls to be used for ridesourcing in Maryland.<sup>36</sup> If the ridesourcing vehicle has an open safety recall, a driver may not use that vehicle for ridesourcing.<sup>37</sup> Maryland enacted this requirement when updating its regulations in 2021 to help reduce the risk of ridesourcing and other for-hire vehicles operating while subject to open safety recalls. Officials that oversee ridesourcing from the other five selected states (California, Texas, Kentucky, Colorado, and Massachusetts) said that they did not have a requirement specific to open safety recalls on ridesourcing vehicles. California is currently considering a requirement to address safety recalls in vehicles used for ridesourcing.<sup>38</sup>

Beyond our selected states, we found no other state with a requirement specific to open safety recalls for ridesourcing vehicles, based on our review of external reports and interviews. Representatives from safety and mobility organizations; an association; representatives from two ridesourcing companies; and officials from NHTSA told us that Maryland is the only state they knew of with a requirement specific to open safety recalls on ridesourcing vehicles.

All six selected states we reviewed require that ridesourcing vehicles undergo safety inspections.<sup>39</sup> However, these requirements for safety inspections do not specifically require the owner to repair or remedy open safety recalls. All selected states require that ridesourcing vehicles undergo safety inspections at least once a year. Two states, Maryland and California, require that certain ridesourcing vehicles undergo safety inspections more frequently under certain circumstances. For example, Maryland requires that ridesourcing vehicles 10 years or older undergo a

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<sup>36</sup>Md. Code Regs. 20.95.01.11(B).

<sup>37</sup>Specifically, upon self-certification, the owner, transportation network operator, or TNC may not operate or permit the operation of a motor vehicle for hire with any open vehicle safety recalls as of the date of self-certification, except if, due to the unavailability of parts to comply with the manufacturer's safety recall, the owner or operator cannot comply with the recall. See Md. Code Regs. 20.95.01.11(C).

<sup>38</sup>Cal. Pub. Util. Comm'n Rulemaking (R.) 12-12-011.

<sup>39</sup>Cal. Pub. Util. Code § 5431(b)(3); Cal. Pub. Util. Comm'n D. 13-09-045, 28-29; Cal. Pub. Util. Comm'n D. 16-04-041, 55; Cal. Pub. Util. Comm'n General Order 157 E, § 4.05; 4 Code. Colo. Regs 723-6:6714; 601 Ky. Admin. Regs. 1:113 § 5; Md. Code Regs. 20.95.01.11; 540 Mass. Code Regs. 4.04, 30.02; Texas Transp. Code Ann. § 548.051.

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safety inspection twice a year.<sup>40</sup> Selected states' inspections cover vehicle components such as brakes, windshields, and headlights. Five of the six selected states had safety inspection requirements for ridesourcing vehicles that were in addition to any state safety inspection requirements for personal vehicles. The other state, Texas, requires that ridesourcing vehicles meet the same safety inspection requirements as personal vehicles. Texas recently began to check for and notify vehicle owners of open safety recalls as part of the annual safety inspection but does not require that vehicle owners remedy those recalls.<sup>41</sup> Similarly, California checks for and notifies vehicle owners of open recalls as part of its Smog Check program but does not require that owners remedy those recalls.<sup>42</sup>

Officials from some selected states said that open safety recalls in ridesourcing vehicles were not an issue that had been raised in their oversight of ridesourcing. For example, officials from one selected state said that their state allows consumers to submit complaints on ridesourcing companies and that they had not received complaints related to safety recalls on ridesourcing vehicles. Representatives from safety and research organizations said that most state oversight of ridesourcing is focused on issues such as ridesourcing insurance and background checks for drivers. Representatives from an association told us they surveyed states between 2014 and 2015 about states' oversight of ridesourcing and found that recall issues were not a prominent part of ridesourcing policy discussions at that time.

## Local Actions

Officials from all five selected localities said that they do not have requirements specific to open safety recalls on ridesourcing vehicles.

- Two localities (San Francisco and Boston) cannot set safety recall requirements for ridesourcing vehicles because they are located in states where state law preempts local oversight of ridesourcing

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<sup>40</sup>Md. Code Regs. 20.85.01.11(F)(2).

<sup>41</sup>This effort is a result of Texas' participation in NHTSA's State Notification to Consumers of Motor Vehicle Recall Status program. Texas law requires all vehicles to undergo an annual safety inspection. While recall information is not currently required by law to be included in the Vehicle Inspection Report, state law permits adoption of such a requirement. Tex. Transp. Code § 548.252(c).

<sup>42</sup>California generally requires vehicles older than eight model years to undergo an annual smog inspection, which is separate from the state's annual rideshare vehicle inspection requirement.

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vehicles.<sup>43</sup> State preemption occurs when state law supersedes or supplants local oversight of an issue—either partially or completely—such that the state reserves authority for regulating some or all aspects of that issue.<sup>44</sup>

- Officials from one locality (King County and Seattle) said that they considered adding a recall requirement for ridesourcing vehicles, but state law would now preempt such a requirement. In 2014, King County and Seattle instituted requirements for ridesourcing vehicles, such as requiring ridesourcing vehicles to be licensed by the County and the City.<sup>45</sup> In 2022, Washington State passed legislation that generally preserved the existing ridesourcing requirements in King County and Seattle but limited the ability of a locality in the state to create new requirements.<sup>46</sup>
- Officials from two localities (New York City and Chicago) said that they do not have a vehicle safety recall requirement for ridesourcing vehicles because they view the oversight of vehicle recalls, in general, to be separate from their oversight of ridesourcing. For example, officials from Chicago said that the federal government typically handles efforts to encourage owners to remedy vehicle recalls, which would include recalls on ridesourcing vehicles. Similarly, officials from New York City said that they follow efforts by New York State to encourage all vehicle owners to remedy recalls.

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<sup>43</sup>Cal Pub. Util. Code § 5381 and Cal. Pub. Util. Comm'n D-13-09-045; Mass. Gen. Laws ch. 159A½, § 10.

<sup>44</sup>PREEMPTION, Black's Law Dictionary (11th ed. 2019).

<sup>45</sup>King County's TNC regulations are generally located in King Cnty. Code ch. 6.64, and the City of Seattle's TNC regulations are generally located in Seattle Mun. Code ch.6.310.

<sup>46</sup>2022 Wash. Legis. Serv. Ch. 281 § 32 (S.H.B. 2076).

### Selected State and Local Safety Recall Requirements Related to Taxis



Taxis provide a similar service to ridesourcing and, like ridesourcing, may be regulated at the state or local level. Representatives from a safety organization noted some states and localities regulate taxis similarly to ridesourcing vehicles. For example, Colorado sets similar requirements for both taxis and ridesourcing vehicles, such as requiring both taxis and ridesourcing vehicles to undergo annual inspections. In contrast, Massachusetts sets requirements for ridesourcing vehicles but allows local governments to set requirements for taxis.

#### Of the six selected states and five selected localities:

- **Maryland:** Officials said the state requires taxi owners under the Maryland Public Service Commission's jurisdiction to remedy safety recalls. Specifically, Commission officials said that taxi owners that operate in locations that are under the Commission's jurisdiction are required to self-certify that the vehicles do not have any open safety recalls.
- **San Francisco:** Officials said the local government took steps to alert taxi drivers of open safety recalls. Specifically, officials from San Francisco told us that in 2018, they reviewed taxi data to determine the number of taxis operating in San Francisco that had open recalls. Officials then alerted taxi companies of open recalls.

Source: GAO interviews of state and local officials. | GAO-23-105996

Some selected localities had taken steps to raise awareness of safety recalls for ridesourcing vehicles. For example, officials from Chicago said that they forward notices about "Do Not Drive" recalls through social media and e-mail to inform ridesourcing and other for-hire drivers (such as taxi drivers) of such recalls. Officials from New York City said that they remind ridesourcing drivers during required vehicle inspections to check for open safety recalls on their vehicles.

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Three selected localities (New York City, King County and Seattle, and Chicago) have requirements for ridesourcing vehicles that include safety inspections.<sup>47</sup> For example, New York City requires that ridesourcing vehicles undergo a safety inspection three times a year that includes the engine, seatbelts, and tires, among other components.<sup>48</sup> New York City issues a license for a ridesourcing vehicle, after the vehicle passes its inspection and meets other requirements, and a ridesourcing vehicle must have this license to operate in the city. These requirements also apply to taxis, as New York City regulates ridesourcing vehicles similarly to taxis. New York City also publishes data on ridesourcing vehicles licensed to operate in the city, such as vehicle VIN and year on its website. As another example, an official from Chicago said that, while Chicago does not have a requirement specific to recalls on ridesourcing vehicles, ridesourcing drivers are responsible under local rules for ensuring ridesourcing vehicles are safe for public use.<sup>49</sup>

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## Private Sector Actions

**Ridesourcing companies.** The four ridesourcing companies we spoke with had taken some steps related to safety recalls, including:

- *Removing vehicles with “Do Not Drive” recalls.* Representatives from two ridesourcing companies said that they remove vehicles with certain open “Do Not Drive” recalls from their platform. Specifically, representatives told us that when their company is aware of a “Do Not Drive” recall, it searches for the recall status of the vehicles on its platform covered by the recall and suspends any vehicles with open “Do Not Drive” recalls from the platform. The companies then notify the drivers that their vehicles are suspended from the platform until the recall is remedied. These notices include an explanation of how to get information on open recalls from the NHTSA website and how to get the recall remedied. Representatives from both companies said that once the recall is shown to be remedied through a subsequent recall search, the vehicle is reinstated to the platform. Representatives from both ridesourcing companies said that they become aware of “Do Not Drive” recalls through notices published online, such as NHTSA notices about air bag recalls. Representatives from one

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<sup>47</sup>Whether a ridesourcing vehicle that is subject to locality requirements is also subject to state requirements depends on the state. For example, ridesourcing vehicles operating in King County and Seattle and Chicago are also subject to state requirements, while New York City is exempt from certain New York State requirements and sets many of its own requirements for ridesourcing vehicles operating in New York City.

<sup>48</sup>Rules of the City of New York Taxi & Limousine Comm’n § 59A-26.

<sup>49</sup>City of Chic. Transp. Network Providers Rules, art. 2, rule TNP5.10.



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company said that relying on notices published online could make identifying vehicles with “Do Not Drive” recalls challenging.

- *Sharing information on recalls.* Representatives from three ridesourcing companies said that the companies periodically share notices about major safety recalls with their drivers. Representatives said that these notices are for recalls that affect their driver base, such as recalls that affect a large number of vehicles or have a “Do Not Drive” designation. The notices also include information on how to check vehicles for open safety recalls on NHTSA’s website.
- *Including statements on recalls in terms of service.* Two ridesourcing companies include a statement in their terms of service that drivers are to keep vehicles maintained according to industry standards, including that the driver monitor for and repair any open safety recalls. Drivers are required to agree to the terms of service in order to operate a vehicle on the ridesourcing company’s platform. One ridesourcing company includes a statement that drivers are to keep vehicles maintained according to industry standards in its terms of service, but does not include a statement about monitoring or repairing open recalls. A representative from the fourth ridesourcing company said that the company is in the process of updating its terms of service to include a statement that mentions open safety recalls.

**Rental and peer-to-peer carsharing vehicles:** Some ridesourcing companies have partnered with rental and peer-to-peer carsharing companies—companies that provide platforms that allow individuals to make their personal vehicles available for rent—to make vehicles available to ridesourcing drivers. Representatives from two ridesourcing companies said that rental and peer-to-peer carsharing vehicles are used for a small percentage of trips on their platforms. These vehicles may be subject to federal or state safety recall requirements applicable to the industries that rent or make vehicles available for use.

- *Rental vehicles.* Federal law requires that rental car companies remedy open vehicle safety recalls before they rent vehicles to the public.<sup>50</sup> Representatives from two rental car companies told us that when they become aware that the rental car company’s vehicles are subject to an open safety recall, both companies suspend each vehicle from being available for rental until the recall is remedied.

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<sup>50</sup>Raechel and Jacqueline Houck Safe Rental Car Act of 2015, Pub. L. No. 114-94, § 24109(c), 129 Stat. 1706 (Dec. 4, 2015), *codified at* 49 U.S.C. § 30120(i)(1).

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Representatives from both companies said that they suspend vehicles with open recalls whether the vehicle is being rented for ridesourcing or for general use. For longer-term vehicle rentals—which may include rentals for ridesourcing—with open recalls, representatives from both companies said that they will contact the driver to exchange the rental vehicle for a vehicle without an open recall.<sup>51</sup>

- *Peer-to-peer carsharing vehicles.* Some states require peer-to-peer carsharing companies to verify that a vehicle does not have any open safety recalls before making it available on their platforms.<sup>52</sup> The National Conference of State Legislatures identified at least 19 states that require peer-to-peer carsharing vehicles to verify that a vehicle is not subject to a safety recall before being offered on a platform, as of July 2022. Representatives from a peer-to-peer carsharing company said that it checks vehicles on its platform for open recalls in states with such recall requirements. If the company finds an open safety recall, it suspends the vehicle until the owner remedies the recall.

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## Agency Comments

We provided a draft of this report to DOT for review and comment. DOT told us that they had no comments on the draft report.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Transportation, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

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If you or your staff any have questions about this report, please contact me at (202) 512-2834 or [repkoe@gao.gov](mailto:repkoe@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.



Elizabeth Repko  
Director, Physical Infrastructure Issues

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<sup>51</sup>As discussed above, we obtained data for all vehicles that completed a passenger trip between August 1, 2022, and August 31, 2022. These data did not differentiate between rental or peer-to-peer carsharing vehicles and personally owned vehicles. See appendix I for more information on our methodology.

<sup>52</sup>See, e.g., Ariz. Rev. Stat. § 28-9612; Colo. Rev. Stat. § 6-1-1213.

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# Appendix I: Objectives, Scope, and Methodology

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This report describes (1) how many vehicles used for ridesourcing had open safety recalls and (2) the public and private sector roles in overseeing safety recalls in vehicles used for ridesourcing. For the purpose of this report, we use “safety recalls” to include safety defect recalls, which are initiated when a defect in a vehicle creates an unreasonable safety risk, and compliance recalls, which are initiated when vehicles are found not to comply with applicable federal motor vehicle safety standards.<sup>1</sup>

To describe how many vehicles used for ridesourcing had open safety recalls, we obtained confidential data from the transportation network companies Lyft and Uber, also referred to as ridesourcing companies, which represent the vast majority of the U.S. ridesourcing market.<sup>2</sup> We requested and obtained data for all vehicles that completed at least one passenger trip between August 1, 2022, and August 31, 2022. We chose this period as it was the most recent month of trips at the time we requested data. For each vehicle, the data include the Vehicle Identification Number (VIN),<sup>3</sup> make, model, year, state of registration, license plate, and date of last trip. We used ridesourcing company data on state of registration to assign vehicles to states for our analysis.<sup>4</sup> To assess the reliability of these data, we conducted checks, such as for duplicate data and unexpected values, and spoke with knowledgeable representatives from the ridesourcing companies. We found the data were sufficiently reliable for the purpose of describing how many vehicles used for ridesourcing had open safety recalls.

We used two vehicle recall search tools made available by the National Highway Traffic Safety Administration (NHTSA), which oversees vehicle safety recalls, and by CARFAX, a private company that maintains a vehicle history database, to determine whether vehicles used for

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<sup>1</sup>These types of recalls also extend to equipment. We have limited our scope to safety recalls in passenger vehicles, not equipment.

<sup>2</sup>For example, according to market research company Bloomberg Second Measure, in May 2022, Lyft and Uber accounted for about 28 and 72 percent of ridesourcing industry consumer spending, respectively.

<sup>3</sup>Under the National Highway Traffic Safety Administration’s regulations, each motor vehicle must contain a 17-character VIN that encodes specific information about the particular vehicle including make, model, and year. See 49 C.F.R §§ 565.13(b), 565.15.

<sup>4</sup>In a small number of cases where the ridesourcing company data included different states of registration, we used the state associated with the more recent passenger trip. In cases of identical recent passenger trip dates, we randomly assigned one of the two states provided.

ridesourcing during August 2022 had open safety recalls as of December 2022 and to obtain information about any open safety recalls. We did not search for open safety recalls on vehicles until December 2022, as we had to allow time to receive the data requested from private companies and to then assess the reliability of those data.<sup>5</sup> In using these search tools, we limited our analysis to vehicles from manufacturers subject to a federal requirement to maintain data on vehicles subject to recalls, representing over 99.9 percent of the vehicle data we obtained.<sup>6</sup> We also limited our analysis to vehicles with a valid VIN and for which the make and year encoded in the vehicle's VIN matched the make and year data provided by the ridesourcing companies.<sup>7</sup>

For about 98 percent of vehicles we analyzed, we used the recall information from a search of all vehicles by entering VINs into the Vehicle Recall Search Service (VRSS) made available by CARFAX in a joint effort with the trade association Alliance for Automotive Innovation. The remaining 2 percent of vehicles we analyzed were from one manufacturer that does not participate in VRSS but is subject to the federal requirement to maintain data on vehicles subject to recalls. For these vehicles, we entered VINs individually into NHTSA's single-VIN search tool and used a stratified random sampling approach to estimate how many such vehicles had open safety recalls nationally and by state. To create the strata, we

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<sup>5</sup>We obtained data for ridesourcing vehicles that performed a passenger trip in August 2022 and searched vehicle recall status in December 2022. The vehicle-recall search tools draw on manufacturer data, which are updated frequently, and cannot search recall information retroactively. With the exception of one manufacturer discussed below, we searched vehicle recall status for all vehicles on the same date in December 2022. Our analysis did not capture recalls that may have been open but remedied prior to December. Conversely, our analysis captured recalls that were issued after August and not remedied as of December. We did not verify that vehicles that performed a passenger trip in August 2022 continued to perform passenger trips through December 2022.

<sup>6</sup>Only manufacturers that have manufactured for sale, sold, offered for sale, introduced or delivered for introduction in interstate commerce, or imported into the United States 25,000 or more light vehicles in a calendar year must make recall information available to the public on the internet. The system manufacturers use to provide this information must be updated at least once every 7 calendar days. See 49 C.F.R. § 573.15. The two search tools we used for our analysis draw upon this required data to produce recall search results.

<sup>7</sup>We also excluded a small number of duplicate records from ridesourcing company data from our analysis. The share of vehicles excluded due to duplicate records, invalid or error responses, or differences between the make and model encoded in the vehicle VIN and ridesourcing company data totaled less than 1 percent of the data. In addition, we accounted for duplicate VINs in cases where the same vehicle performed at least one passenger trip on both ridesourcing platforms.

ranked states in order of the percentage of that manufacturer's vehicles out of all ridesourcing vehicles. We then grouped states into tertiles creating three strata,<sup>8</sup> and randomly selected vehicles within each strata.

We used NHTSA's search tool to search and record safety recall data for the sampled VINs. Another analyst independently verified that safety recall data were recorded accurately. This input allowed us to estimate the recall status of the vehicles in a given tertile for that manufacturer.<sup>9</sup>

We then combined these sampled estimates with the data obtained from the VRSS tool to obtain national and state estimates of the percentage of vehicles with an open safety recall.<sup>10</sup> Because we followed a probability procedure based on random selections, our sample is only one of a large number of samples that we might have drawn. Since each sample could have provided different estimates, we express our confidence in the precision of our particular estimates with an upper bound and lower bound. We provide the upper and lower bounds along with each estimate of the percentage of open recalls nationally and by state in appendix II.<sup>11</sup>

Both vehicle search tools returned vehicle data including make, model, year, and recall availability, indicating whether there was an open recall at the time we searched the VIN. For vehicles with one or more open recalls, the tools returned additional information for each recall including a NHTSA campaign number unique to the recall campaign and remedy availability, indicating whether a manufacturer remedy was available at the time we searched the VIN. Because the CARFAX search tool returns

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<sup>8</sup>Of the 50 states and Washington, D.C., there were two states in the first tertile, 15 states in the second tertile, and 34 states in the third tertile.

<sup>9</sup>Grouping states into tertiles provides a more granular estimate than that at the national level, but assumes that states within a tertile have the same percentage of vehicles with an open safety recall for the manufacturer that did not participate in VRSS.

<sup>10</sup>For national estimates, we used standard stratified random sampling methods to estimate the percentage of vehicles with an open safety recall. For state estimates, we estimated the percent of open safety recalls from the sample to obtain the number of vehicles from the manufacturer that did not participate in VRSS that had an open safety recall that we then combined with VINs queried in VRSS.

<sup>11</sup>For national estimates, we used standard stratified random sampling methods to estimate the upper and lower bounds (95 confidence intervals) of the percentage of vehicles with an open safety recall. For state estimates, we determine the upper and lower bounds of the estimates by assuming all vehicles from the manufacturer that does not participate in VRSS had an open recall and none of the vehicles from that manufacturer had an open recall, respectively.

information for recalls in addition to safety recalls, we used NHTSA campaign numbers to limit our analysis to safety recalls.<sup>12</sup>

To assess the reliability of the data returned by the CARFAX VRSS, we reviewed CARFAX documentation of data fields, interviewed knowledgeable CARFAX representatives, and conducted data checks such as checking for internal consistency. Similarly, we assessed the reliability of the data returned by the NHTSA search tool by reviewing NHTSA documentation, interviewing agency officials, and checking responses against those expected for given data fields. We also compared safety recall search results for a sample of vehicles from both tools and found that the tools returned consistent safety recall information. We found that data on vehicle safety recall status returned by both of the search tools were sufficiently reliable for describing how many vehicles used for ridesourcing had open safety recalls.

To determine how many ridesourcing vehicles were affected by certain open safety recalls considered as “Do Not Drive” recalls by NHTSA, we obtained a list of NHTSA campaign numbers for such recalls from NHTSA announced from July 2012 to September 2022.<sup>13</sup> Specifically, NHTSA uses this designation to indicate that vehicles affected by such a recall should not be driven until remedied. We then used these campaign numbers to identify vehicles with “Do Not Drive” recalls returned by the CARFAX VRSS and NHTSA search tools. To assess the reliability of the campaign numbers, we cross-checked them with summary information provided by NHTSA, reviewed documentation related to campaign numbers, and interviewed NHTSA officials. We found that the NHTSA campaign number data were reliable for the purpose of identifying open

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<sup>12</sup>For example, the CARFAX VRSS returns information for campaigns in addition to safety recalls, such as emissions recalls overseen by the U.S. Environmental Protection Agency, and non-safety related manufacturer service campaigns as reported to CARFAX.

<sup>13</sup>NHTSA officials told us that NHTSA began tracking such recalls in 2012. Further, we obtained the list in September 2022. As such, the percentages of ridesourcing vehicles affected by “Do Not Drive” recalls in the report are limited to recalls issued from 2012 through part of 2022. The list of “Do Not Drive” recalls that we obtained and used is as follows: 12V336, 12V475, 13V103, 14V246, 14V316, 14V320, 14V325, 14V368, 14V440, 14V514, 14V816, 15V020, 15V022, 15V174, 15V210, 15V407, 15V593, 15V621, 15V802, 16V097, 16V156, 16V256, 16V292, 16V366, 16V406, 16V411, 16V414, 16V678, 16V697, 16V701, 17V629, 17V703, 17V772, 18V022, 18V023, 18V038, 18V039, 18V089, 18V215, 18V324, 18V369, 18V458, 18V554, 19V070, 19V678, 19V851, 19V879, 20V010, 20V182, 20V676, 20V712, 20V723, 20V774, 20V813, 20V814, 21V037, 21V205, 21V224, 21V251, 21V390, 21V407, 21V420, 21V437, 21V473, 21V675, 21V678, 21V681, 21V684, 21V806, 21V826, 21V864, 21V865, 22V014, 22V110, 22V130, 22V194, 22V198, 22V315, 22V367, 22V369, 22V444, 22V503, 22V541, 22V597, 22V629.

“Do Not Drive” safety recalls affecting vehicles announced from July 2012 to September 2022.

We also interviewed NHTSA officials, representatives from CARFAX, and representatives from Stout, a private company that has published reports on vehicle recall trends, to obtain information about vehicles’ safety recall completion rates and the share of vehicles with open safety recalls nationwide. We reviewed documents including a 2021 NHTSA report to Congress on vehicles’ safety recall completion rates and Stout’s 2021 report on vehicle recall trends, as well as information developed by CARFAX about the share of vehicles with open safety recalls.<sup>14</sup> Finally, we also shared parts of the draft report with Uber and Lyft for comment on how we analyzed their confidential data on ridesourcing vehicles and on the presentation of our analysis.

To describe public and private sector roles in overseeing safety recalls in vehicles used for ridesourcing, we reviewed documents and interviewed representatives from selected safety and mobility groups, associations, and research organizations. We interviewed representatives and obtained documents from these groups regarding state and local oversight of ridesourcing vehicles; state and local oversight of vehicles used in comparable industries, such as taxi and peer-to-peer carsharing vehicles; and public and private entities that collect data on ridesourcing vehicles. These organizations included the Center for Auto Safety, Shared-Use Mobility Center, American Association of Motor Vehicle Administrators, Texas A&M Transportation Institute, National Conference of State Legislatures, and Consumer Reports. The documents we reviewed included reports describing ridesourcing statutes and regulations nationwide.<sup>15</sup>

We also reviewed documents and interviewed NHTSA officials on their role in oversight of vehicle safety recalls generally and agency efforts related to recalls on ridesourcing vehicles specifically. We reviewed

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<sup>14</sup>See NHTSA, *Vehicle Safety Recall Completion Rates Report*, (August 2021) and Stout, *Automotive Defect & Recall Report* (October 2021). CARFAX uses manufacturer recall data from the VRSS tool and the CARFAX vehicle history database to analyze the rate of open safety recalls in vehicles nationally and by state.

<sup>15</sup>See Texas A&M Transportation Institute, *Policy Implications of Transportation Network Companies Final Report*, (October 2017), and Washington State Joint Transportation Committee, *Policy Guide: Regulation of Transportation Network Companies* (January 2019).

statutes and regulations describing NHTSA's responsibility for overseeing defect and noncompliance recalls.<sup>16</sup>

To describe states' and localities' roles in overseeing safety recalls on ridesourcing vehicles, we reviewed documents and interviewed officials from six selected states and five localities. The states selected were California, Colorado, Kentucky, Maryland, Massachusetts, and Texas. We selected states that (1) had a requirement to remedy open safety recalls on ridesourcing vehicles, (2) received federal funding from NHTSA's State Notification to Consumers of Motor Vehicle Recall Status grant program,<sup>17</sup> (3) may have collected data on ridesourcing vehicles, or (4) had requirements related to open safety recalls in peer-to-peer carsharing vehicles.<sup>18</sup> The localities selected were Boston, Chicago, King County and Seattle,<sup>19</sup> New York City and San Francisco. We selected localities that (1) were among top ridesourcing markets, (2) may collect data on ridesourcing vehicles, or (3) had oversight of safety recalls on taxis. We identified states and localities with relevant requirements by interviewing representatives from the organizations described above, reviewing past reports on state ridesourcing oversight,<sup>20</sup> and reviewing information published online by organizations we interviewed including the National Conference of State Legislatures, Consumer Reports, and the Center for Auto Safety. We reviewed selected states' and localities' statutes, regulations, and other documents for ridesourcing vehicles, such as vehicle safety inspection forms and forms used to collect ridesourcing vehicle data.

In addition, we reviewed documents and interviewed representatives from four selected ridesourcing companies to learn about their policies and procedures for safety recalls. We selected the companies Lyft, Uber,

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<sup>16</sup>See 49 U.S.C. ch. 301; 49 C.F.R. parts 573 and 577.

<sup>17</sup>NHTSA's State Notification to Consumers of Motor Vehicle Recall Status grant program provides funding to states that apply and are approved to inform vehicle owners about open safety recalls at points of contact such as vehicle registration or inspection.

<sup>18</sup>Peer-to-peer carsharing companies provide platforms that allow individuals to make their personal vehicles available for rent.

<sup>19</sup>The City of Seattle shares oversight responsibility with King County, which houses Seattle. Ridesourcing companies, drivers, and vehicles obtain joint licenses from Seattle and King County. For the purpose of this report, we refer to King County and the City of Seattle as a single locality.

<sup>20</sup>Washington State Joint Transportation Committee, *Policy Guide: Regulation of Transportation Network Companies* (January 2019) and Texas A&M Transportation Institute, *Policy Implications of Transportation Network Companies Final Report*, (October 2017).



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**Appendix I: Objectives, Scope, and Methodology**

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Hopskipdrive, and Wingz based on criteria including market share and companies that operate in the selected states and localities described above.

We also interviewed representatives from three private companies that offer vehicles for drivers to use for ridesourcing. We selected the companies Hertz, Kinto, and Getaround based on the criteria that companies partner with ridesourcing companies and vary by business model. We reviewed federal statutes and regulations, and selected state statutes for rental and peer-to-peer carsharing companies to have vehicle safety recalls remedied.

# Appendix II: Estimated Percentage of Ridesourcing Vehicles That Had One or More Open Safety Recalls Nationally and by State

**Table 1: Estimated Percentage of Ridesourcing Vehicles That Had One or More Open Safety Recalls by State**

State	Estimated percentage	Lower bound	Upper bound
<b>United States</b>	<b>16.4%</b>	<b>16.3%</b>	<b>16.5%</b>
Alabama	19.0%	18.7%	19.5%
Alaska	17.9%	17.7%	18.1%
Arizona	16.4%	15.8%	17.8%
Arkansas	18.4%	18.2%	18.7%
California	13.3%	11.3%	16.0%
Colorado	16.5%	15.4%	18.9%
Connecticut	15.7%	15.0%	17.2%
Delaware	18.2%	18.0%	18.6%
District of Columbia	12.5%	12.4%	12.7%
Florida	16.8%	16.2%	17.6%
Georgia	17.4%	16.6%	19.1%
Hawaii	15.4%	14.8%	16.8%
Idaho	18.5%	18.1%	19.1%
Illinois	16.5%	15.8%	18.2%
Indiana	19.5%	19.2%	20.0%
Iowa	17.8%	17.6%	18.1%
Kansas	17.2%	16.9%	17.6%
Kentucky	19.4%	18.9%	20.2%
Louisiana	18.9%	18.2%	19.9%
Maine	16.2%	16.0%	16.4%
Maryland	13.2%	12.7%	14.0%
Massachusetts	13.4%	12.8%	14.8%
Michigan	18.3%	17.7%	19.7%
Minnesota	13.4%	12.8%	14.8%
Mississippi	22.9%	22.7%	23.1%
Missouri	17.9%	17.3%	19.3%
Montana	14.6%	14.4%	15.1%
Nebraska	14.9%	14.6%	15.2%
Nevada	16.3%	15.1%	18.9%
New Hampshire	13.4%	13.2%	13.6%
New Jersey	16.6%	16.2%	17.1%
New Mexico	18.8%	18.4%	19.4%
New York	17.4%	16.9%	18.2%
North Carolina	17.9%	17.4%	18.6%

**Appendix II: Estimated Percentage of  
Ridesourcing Vehicles That Had One or More  
Open Safety Recalls Nationally and by State**

North Dakota	19.7%	19.5%	20.0%
Ohio	17.9%	17.7%	18.3%
Oklahoma	20.4%	20.2%	20.6%
Oregon	14.3%	12.7%	16.7%
Pennsylvania	17.8%	17.0%	19.0%
Rhode Island	15.0%	14.9%	15.1%
South Carolina	18.1%	17.9%	18.4%
South Dakota	20.4%	20.1%	21.0%
Tennessee	19.7%	18.9%	20.8%
Texas	18.9%	18.3%	19.8%
Utah	17.0%	16.2%	18.8%
Vermont	15.3%	14.6%	16.7%
Virginia	13.3%	12.6%	14.7%
Washington	16.6%	15.7%	18.8%
West Virginia	16.0%	15.8%	16.2%
Wisconsin	14.6%	14.5%	14.8%
Wyoming	18.1%	17.6%	18.8%

Source: GAO analysis of National Highway Traffic Safety Administration (NHTSA), CARFAX, Uber, and Lyft data. | GAO-23-105996

Notes: These data include all vehicles that completed at least one passenger trip on the two ridesourcing platforms between August 1, 2022 and August 31, 2022. We searched for the vehicle recall status in December 2022. For about 98 percent of vehicles we analyzed, we used recall information for each vehicle from CARFAX's Vehicle Recall Search Service (VRSS) search tool. For the remaining 2 percent of vehicles, which were from a manufacturer that does not participate in VRSS, we used NHTSA's search tool and a stratified random sampling approach to estimate how many such vehicles had open safety recalls resulting in upper and lower bounds around the national and state estimates.

State estimates assume that states grouped within a stratum have the same percentage of vehicles with an open safety recall for the manufacturer that did not participate in Vehicle Recall Search Service (VRSS). State bounds are not symmetric because the upper bound was determined by assuming all vehicles from the manufacturer that does not participate in VRSS had an open recall and the lower bound was determined by assuming none of the vehicles from that manufacturer had an open recall, respectively. The national estimate's upper and lower bounds are a standard 95 percent confidence interval. See appendix I for more information on our methodology.

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# Appendix III: GAO Contact and Staff Acknowledgments

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## GAO Contact

Elizabeth Repko, (202) 512-2834 or [repkoe@gao.gov](mailto:repkoe@gao.gov).

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## Staff Acknowledgments

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