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July 2018

# PUBLIC TRANSIT PARTNERSHIPS

## Additional Information Needed to Clarify Data Reporting and Share Best Practices

Accessible Version

# GAO Highlights

Highlights of [GAO-18-539](#), a report to the Committee on Banking, Housing, and Urban Affairs, U.S. Senate

## Why GAO Did This Study

The public transit landscape is changing, as advances in technology have enabled more on-demand mobility services, such as ridesourcing and bike-share services. In response, some transit agencies have started to partner with private mobility companies with the aim of offering public transit riders more efficient and convenient options through on-demand services. FTA supports public transportation systems through a variety of federal grant programs.

GAO was asked to review various issues related to such partnerships. This report examines, among other things: (1) the types of partnership projects that selected transit agencies have initiated with private mobility companies and (2) how DOT's efforts and funding and federal requirements may impact such partnerships. GAO interviewed DOT officials and reviewed DOT documents; interviewed 16 local transit agencies and 13 private mobility companies involved in transit partnerships; and reviewed 22 projects initiated by the selected partners, including 5 funded by the Mobility on Demand Sandbox grant program. GAO selected these partners to represent a range of service types and geographic locations; the results are non-generalizable.

## What GAO Recommends

GAO is making three recommendations including that FTA disseminate information about how partnership projects met federal requirements and how data on partnerships should be entered into the National Transit Database. DOT concurred with the recommendations.

View [GAO-18-539](#). For more information, contact Mark Goldstein at (202) 512-2834 or [goldsteinm@gao.gov](mailto:goldsteinm@gao.gov).

July 2018

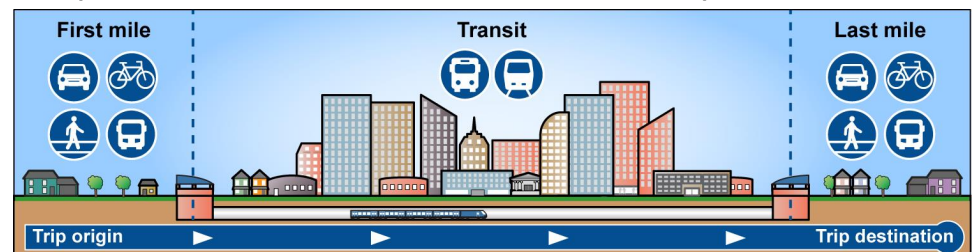
## PUBLIC TRANSIT PARTNERSHIPS

### Additional Information Needed to Clarify Data Reporting and Share Best Practices

## What GAO Found

Some local transit agencies are pursuing partnerships with private mobility companies—including car-share and "ridesourcing" companies such as Lyft and Uber, which provide access to a shared vehicle "on demand"—with the aim of offering public transit riders more efficient and convenient service options. Most of the transit partnership projects that GAO selected (14 of 22) involved private partners providing on-demand transportation for the "first- and last-mile" connections to or from public transit stations (see figure). Local transit agencies use first- and last-mile connections to increase their public transit ridership. Other services provided through selected projects included filling transit service gaps in under-served areas. Most selected projects have not yet been evaluated to determine whether they achieved intended outcomes.

Concept of First- and Last-Mile Connections to Access Public Transportation



Source: GAO. | GAO-18-539

The Department of Transportation's (DOT) efforts, especially the Federal Transit Administration's (FTA) initiation of the Mobility on Demand Sandbox program, have facilitated partnerships, but confusion about how to meet some requirements and how to report data pose challenges to implementing projects. In October 2016, FTA announced the selection of 11 projects to receive grants and has since provided assistance to the grantees. FTA also issued clarifications about how certain federal requirements—such as those related to the Americans with Disabilities Act of 1990 (ADA)—apply to transit partnerships. However, most selected local transit agencies (14 of 16) said that additional information beyond what FTA has already disseminated, including how agencies have successfully structured partnerships and met federal requirements, would be helpful. Collecting and disseminating such information could help FTA be better positioned to respond to changes in the transit industry that could impact its own efforts and goals, such as planning for future Mobility on Demand grants. In addition, most selected local transit agencies reported confusion related to reporting information about their on-demand projects into the FTA's National Transit Database, including confusion about which on-demand project data would qualify for entry. This confusion has led to possible reporting inconsistencies by some local transit agencies. Ensuring that data contained in the National Transit Database are complete and accurate is important, since according to FTA officials, FTA uses these data (1) to apportion certain grant funds to local transit agencies based on factors such as passenger miles traveled, and (2) to track its progress in achieving goals such as promoting efficient transportation systems, among other things.

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**Abbreviations**

ADA	Americans with Disabilities Act of 1990
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CTA	Chicago Transit Authority
DOT	Department of Transportation
FAQ	Frequently Asked Questions
FHWA	Federal Highway Administration
FOIA	Freedom of Information Act
FTA	Federal Transit Administration
ITS	Intelligent Transportation Systems
ITS JPO	Intelligent Transportation Systems Joint Program Office
LAVTA	Livermore Amador Valley Transit Authority
MARTA	Metropolitan Atlanta Rapid Transit Authority
MBTA	Massachusetts Bay Transportation Authority
MaaS	Mobility as a Service
MBTA	Massachusetts Bay Transportation Authority
MOD	Mobility on Demand
NTD	National Transit Database
PSTA	Pinellas Suncoast Transit Authority
RTA	Regional Transit Authority
TRI	FTA Office of Research, Demonstration, and Innovation
SUMC	Shared Use Mobility Center
WMATA	Washington Metropolitan Area Transit Authority

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July 30, 2018

The Honorable Mike Crapo  
Chairman  
The Honorable Sherrod Brown  
Ranking Member  
Committee on Banking, Housing, and Urban Affairs  
United States Senate

In response to recent developments in technology, local transit agencies have started to partner with private mobility companies—including car-share and bike-share companies, taxis, and “ridesourcing” companies such as Uber and Lyft—with the aim of offering public transit riders more efficient and convenient service options. Such transit partnerships may become more common as mobility technologies emerge, many of which are enabled by smartphone applications. Partnerships include, for example, arrangements where local transit agencies seek to increase public transit ridership by subsidizing ridesourcing rides to or from rail stations, making access more convenient.

In 2016, the Federal Transit Administration (FTA) launched a new program to explore such transit partnerships and in turn to make transportation services more integrated and efficient. FTA’s funding opportunity announcement for its Mobility on Demand (MOD) “Sandbox” grant program generated a lot of interest among transit providers such as local transit agencies, generating 78 eligible proposals.<sup>1</sup> From these applications, FTA announced the selection of 11 projects to receive about \$8 million. Such partnerships can offer benefits, but some private mobility companies’ business models may run counter to providing accessible and

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<sup>1</sup>FTA developed its Mobility on Demand (MOD) initiative to help communities nationwide incorporate the latest technology into their public transit services with the goal of making them more effective, efficient, and equitable. According to FTA officials, FTA designed the MOD Sandbox program to fund demonstration projects to allow FTA to better understand and encourage the transit agency partnerships with private mobility companies that facilitate such technology.

equitable transit. For example, riders without a smartphone could be excluded from accessing some emerging services.<sup>2</sup>

In the light of these developments, you asked us to examine several aspects of partnerships between local transit agencies and private mobility companies such as ridesourcing companies, including potential benefits from partnerships and challenges to their implementation. This report addresses:

1. the types of partnership projects that selected transit agencies have pursued with private mobility companies and the potential effects of these partnerships;
2. how DOT's efforts and funding, and various federal requirements impact such emerging partnerships; and
3. other considerations that may affect the future prevalence of such partnerships.

To address these objectives, we reviewed documents from and conducted interviews with a selection of local transit agencies and private mobility companies engaged in transit partnerships. Specifically, we selected 15 transit partnerships, to represent a range of type of project, type of service, and geographic location.<sup>3</sup> The selected transit partnerships also include 5 projects that received funding through FTA's MOD Sandbox grant program. We interviewed 29 stakeholders involved in these partnerships including representatives from 16 local transit agencies<sup>4</sup> and 13 private mobility companies, including three ridesourcing companies,<sup>5</sup> 3 taxi companies, 5 technology companies focused on

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<sup>2</sup>According to FTA officials, the agency is working to ensure that such concerns about access and equity are carefully considered within the MOD program so that every traveler can take advantage of all new and emerging mobility options. For example, according to FTA officials, each MOD Sandbox project must have an equity and accessibility plan outlining how these issues will be addressed.

<sup>3</sup>See appendix I for more details about the selected transit partnerships.

<sup>4</sup>One partnership included two local transit agencies. We refer to the public entities involved in these transit partnerships as "local transit agencies" for consistency. However, some of them are city governments and regional transportation authorities that provide transit activities.

<sup>5</sup>Ridesourcing services are also sometimes called "ride-sharing" or "ride-hailing" services, terms used interchangeably. When we refer to ridesourcing services in this report, we are referring to technology-enabled services such as Uber and Lyft, in which passengers use a smartphone app to book a ride in a vehicle.

transit, a bike-share company, and a car-share company. Although the views of these selected officials are not generalizable to those of all local transit agencies or private mobility companies, they represent a range of perspectives and expertise regarding partnerships. We also interviewed officials and reviewed documents from the Department of Transportation (DOT), including in FTA and the Intelligent Transportation Systems Joint Program Office (ITS JPO)<sup>6</sup> and interviewed five other stakeholders with knowledge of transit issues, such as the Shared Use Mobility Center (SUMC) and the Community Transportation Association of America. In addition, we reviewed industry and research documents and compared DOT's efforts to federal internal control standards and leading practices for collaboration identified in prior GAO work.<sup>7</sup>

We conducted this review from June 2017 to July 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain 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

The growth of the “sharing economy” has begun to impact public transportation. DOT describes the sharing economy as a developing phenomenon based on sharing, renting, and borrowing goods and services, rather than owning them. One facet of the sharing economy is shared mobility, meaning the shared use of a motor vehicle, bicycle, or other transportation mode that is often facilitated by requests from users,

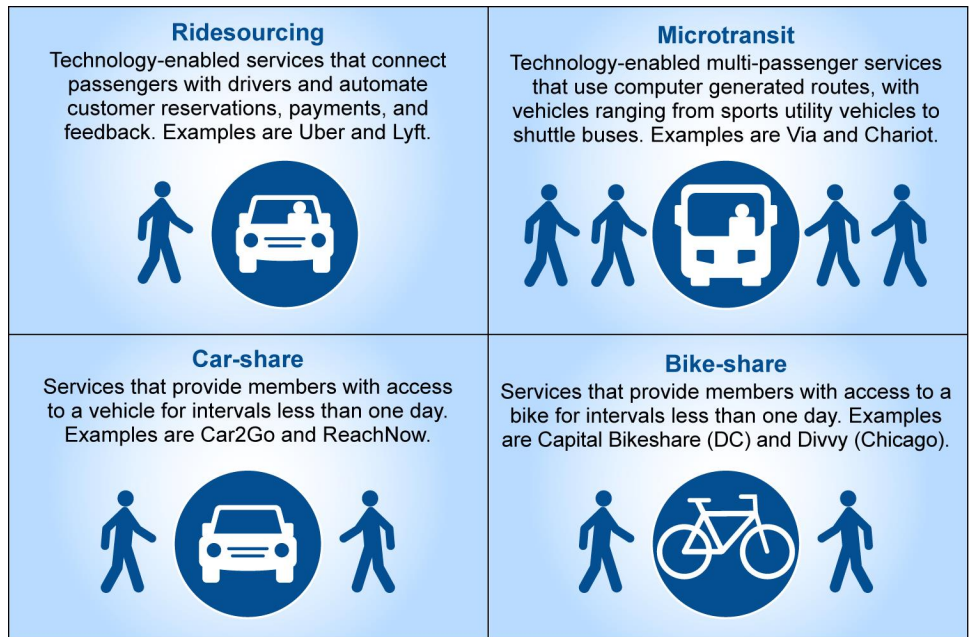
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<sup>6</sup>DOT's Intelligent Transportation Systems Joint Program Office (ITS JPO) conducts research, development, and education activities to facilitate the adoption of information and communication technology to enable society to move more safely and efficiently. ITS JPO has department-wide authority in coordinating the ITS program and initiatives among several DOT Offices, including FTA and the Federal Highway Administration (FHWA).

<sup>7</sup>Key documents reviewed include: National Academy of Sciences, *TCRP Research Report 188: Shared Mobility and the Transformation of Public Transit* (Washington, D.C.: 2016); GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September, 2014); and GAO, *Transportation Safety: Federal Highway Administration Should Conduct Research to Determine Best Practices in Permitting Oversize Vehicles*, [GAO-15-236](#) (Washington, D.C.: February, 2015).

largely through mobile applications. See figure 1 for examples of shared mobility services available “on demand” through mobile applications.

**Figure 1: Examples of On-Demand Shared Mobility Services**



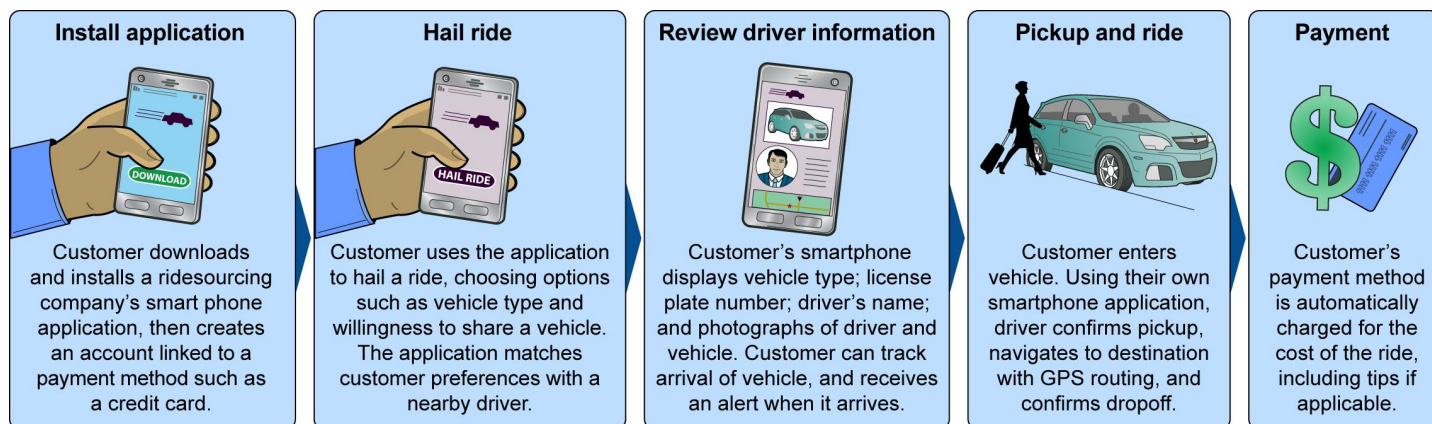
Source: GAO. | GAO-18-539

The increased use of ridesourcing services has been particularly noticeable in recent years. Since Uber first initiated ridesourcing services in the U.S. in 2010, such services have become increasingly popular, especially in urban areas. While data on the use of ridesourcing are limited, researchers reported in 2017 that about 21 percent of adults in major U.S. cities had used ridesourcing services, and about a quarter of them used these services on a frequent (weekly or daily) basis.<sup>8</sup> Ridesourcing services offer convenience benefits for riders (see fig. 2, which explains how such services work).

<sup>8</sup>Regina R. Clewlow and Gouri Shankar Mishra, *Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States*, University of California Davis Institute of Transportation Studies, Research Report UCD-ITS-RR-17-07 (October 2017).



Figure 2: Example of How Ridesourcing Services Work



Source: GAO. | GAO-18-539

Millions of Americans—especially those unable to provide their own transportation due to age, disability or income constraints—rely on public transit to fully participate in society and access vital services. The types of services typically provided by local transit agencies include:

- **rail services**, in which vehicles operate along railways.
- **fixed-route bus services**, which operate according to regular schedules along prescribed routes with designated stops.
- **paratransit services**, which generally speaking are accessible, origin-to-destination transportation services that operate in response to calls or requests from riders.<sup>9</sup>
- **other demand-response services**, which are sometimes called dial-a-ride.

Local transit agencies have historically contracted out some services, in part to decrease their operating costs. For example, a survey we conducted in 2013 showed that a majority (61 percent) of the 463

<sup>9</sup>The Americans with Disabilities Act of 1990 (ADA) requires, among other things, that public entities that operate fixed-route systems provide paratransit services to individuals with disabilities that is comparable to the level of service provided to individuals without disabilities who use the fixed-route system. Pub. L. No. 101-336, § 223(a), 104 Stat. 327, 340 (July 26, 1990) (codified at 42 U.S.C. § 12143(a)). DOT's ADA implementing regulations define "paratransit" as comparable transportation services required by the ADA for individuals with disabilities who are unable to use fixed route transportation systems. 49 C.F.R. § 37.3.

responding local transit agencies contracted out one or more services. Services most frequently contracted out included paratransit services for individuals with disabilities and demand-response services. In particular, taxi companies have often been used to fulfill paratransit services and other demand-response services.<sup>10</sup>

Within DOT, FTA is responsible for providing grants that support the development of safe, comprehensive, and coordinated public transportation systems, among other things. Specifically, FTA:

- Annually distributes about \$12 billion to support and expand transit systems, according to DOT.<sup>11</sup> Two of these funding sources are Urbanized Area Formula Grants<sup>12</sup> and Formula Grants for Rural Areas.<sup>13</sup> These grant funds go to local transit agencies, but these local transit agencies may in some cases use these funds to procure the services of third parties such as private mobility companies.
- Ensures that local transit agencies receiving certain federal financial assistance do not discriminate based on race, color, religion, national origin, sex, disability, or age.<sup>14</sup> Furthermore, FTA ensures local transit agencies comply with DOT regulations implementing certain portions

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<sup>10</sup>See GAO, *Public Transit: Transit Agencies' Use of Contracting to Provide Service*, [GAO-13-782](#) (Washington, D.C.: September, 2013).

<sup>11</sup>U.S. Department of Transportation, *Fiscal Year 2018 Budget Highlights*, Washington, D.C.: May 2017.

<sup>12</sup>49 U.S.C. § 5307.

<sup>13</sup>49 U.S.C. § 5311.

<sup>14</sup>See 49 U.S.C. § 5332.

of Title VI of the Civil Rights Act of 1964, as amended, (Title VI)<sup>15</sup> and the Americans with Disabilities Act of 1990, as amended, (ADA).<sup>16</sup>

- Administers the National Transit Database (NTD), which is intended to provide information to the federal government and others on which to base public transportation service planning. All recipients and direct beneficiaries of grants from the urbanized area formula program and rural area formula program are required by statute to submit data to the NTD, such as financial and operating data.<sup>17</sup>

FTA's Office of Research, Demonstration, and Innovation recently launched a new MOD program to further its goals of improving the integration of transportation systems and increasing the accessibility and efficiency of public transit services for riders.<sup>18</sup> According to officials, FTA believes that the U.S. public transportation system will be heavily influenced by the "Mobility on Demand" concept in the future, so has incorporated this concept into its planned research efforts. The MOD program is the agency's main effort to help local transit agencies to explore emerging shared mobility technologies, in part by partnering with private mobility companies. The MOD program involves several components, including funding projects through the competitive MOD Sandbox grant program. In May 2016, FTA published a notice of funding opportunity and solicitation of project proposals for the MOD Sandbox grant program. In October 2016 FTA announced the selection of 11

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<sup>15</sup>Pub. L. No. 88-352, Title VI, 78 Stat. 241, 252 (July 2, 1964) (codified as amended at 42 U.S.C. §§ 2000d *et seq.*). DOT's implementing regulations for Title VI of the Civil Rights Act of 1964 are located at 49 C.F.R. part 21. FTA also has a circular providing information on Title VI requirements and guidelines for FTA recipients. FTA C4702.1B (Oct. 1, 2012).

<sup>16</sup>Pub. L. No. 101-336, 104 Stat. 327 (codified as amended 42 U.S.C. §§ 12101-12213.). DOT's implementing regulations for the ADA are located at 49 C.F.R. parts 37, 38, and 39. FTA also has a circular providing guidance on the ADA. FTA C4710.1 (Nov. 4, 2015). Additionally, FTA has issued frequently asked questions (FAQs) related to compliance with the ADA for local transit agencies involved in partnerships with on-demand, shared mobility services. According to these FAQs, the ADA applies to shared mobility projects regardless of whether there is federal funding involved. The applicable requirements may depend on the nature of the project and the service that will result, such as a fixed route, general public demand responsive, or ADA paratransit.

<sup>17</sup>49 U.S.C. § 5335.

<sup>18</sup>Within FTA, the Office of Research, Demonstration, and Innovation leads and funds research related to mobility, innovation, and other issues.

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projects to receive about \$8 million.<sup>19</sup> According to FTA officials, the agency designed the MOD program with several goals in mind, including:

- Funding those proposed grant projects with the most promise for generating benefits for the respective communities.
- Helping agencies better understand how such partnerships work in practice to promote emerging on-demand mobility options.
- Identifying any federal requirements that could impact the ability to provide on-demand mobility services offered through partnerships.
- Evaluating the extent to which the MOD Sandbox projects achieve their intended outcomes by developing and applying relevant performance metrics.

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## Partnerships Seek Various Service Efficiencies, but Their Full Impacts are Unknown

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### Most Selected Projects' On-Demand Services Aimed to Increase Transit Ridership

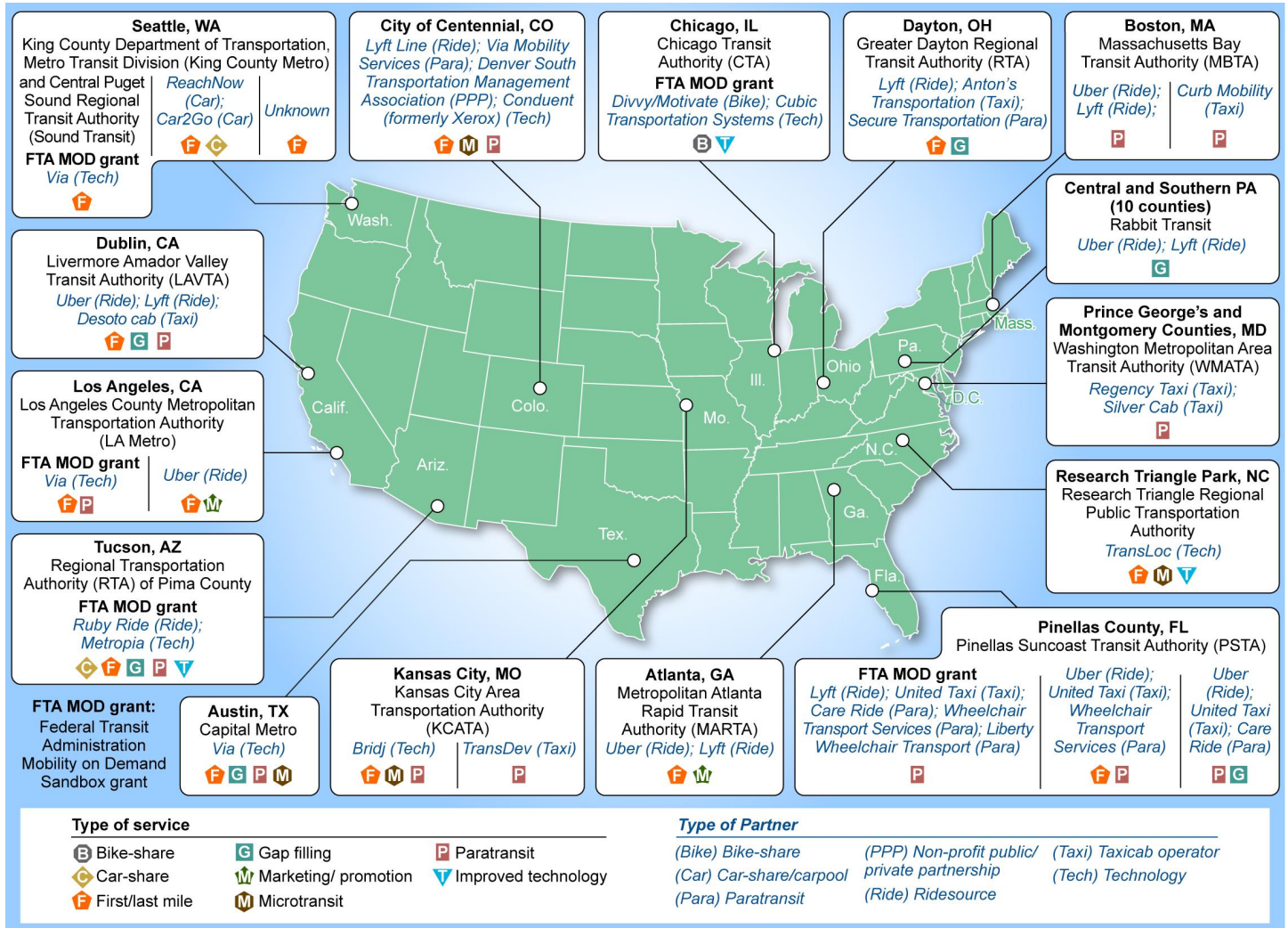
As shown in figure 3 below, local transit agencies nationwide are pursuing partnerships to offer a variety of on-demand services that aim to make access to public transportation more efficient and convenient. The private mobility companies involved in selected partnerships include some well-known companies such as Uber and Lyft, and some lesser-known types of companies such as a bike-share company and technology companies focused on transportation.<sup>20</sup> Selected local transit agencies most frequently partnered with ridesourcing companies (11 projects), while 8 partnership projects included more than one type of private partner. Five of the 22 partnership projects were in FTA's MOD Sandbox program.

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<sup>19</sup>The Secretary of the Department of Transportation is authorized to make grants or enter into contracts, cooperative agreements, or other agreements with certain entities to promote the early deployment and demonstration of innovation in public transportation that has broad applicability. 49 U.S.C. § 5312(e). The MOD Sandbox projects are funded under this authority.

<sup>20</sup>Some of the selected transit agencies were involved in more than one project.

Figure 3: Fifteen Selected Transit Partnerships



Sources: GAO and Map Resources. | GAO-18-539

Most selected projects (14 of 22) involved on-demand *first- and last-mile transportation connections*, through which respective local transit agencies aim to increase ridership on their transit systems (see table 1). Addressing the first- and last-mile issue has been identified as an ongoing challenge for many local transit agencies seeking to increase

their transit ridership.<sup>21</sup> Research suggests that the easier it is to access a transit system, the more likely people are to use it.<sup>22</sup>

**Table 1: Examples of Services Provided Through Selected Projects**

Types of Service	Description	Number of projects offering the service <sup>a</sup>
<b>First-and last-mile connections</b>	<p>Transport riders from their origin to the nearest transit stop or from the transit stop to their final destination. Such services may increase transit ridership, and may also help the transit agency by reducing the demand for parking in dense urban areas. For example:</p> <p>From January 2016 through June 2018, the Livermore Amador Valley Transit Authority (LAVTA) partnered with Uber, Lyft, and a taxi company to provide first- and last-mile service for trips that begin and end in Dublin, CA. LAVTA paid half of the fare per ride, up to \$5.00.</p>	14
<b>Paratransit<sup>b</sup></b>	<p>On-demand services offered to riders eligible for paratransit, which is comparable transportation service required by the ADA for individuals with disabilities who are unable to use fixed route transportation systems.<sup>c</sup> For example:</p> <p>From October 2016 through April 2018, the Massachusetts Bay Transportation Authority (MBTA) operated a pilot program with Uber and Lyft to offer on-demand paratransit service to customers that were already eligible for MBTA's paratransit services.</p>	13
<b>Filling gaps left by fixed- route services</b>	<p>On-demand services used to either replace fixed routes with low ridership or in under-served areas. For example:</p> <p>From June 2017 through June 2019, the Greater Dayton Regional Transit Authority (RTA) is partnering with Lyft and two other providers to provide on-demand rides from designated RTA Connect stops in a specific service area to a transfer point where riders can access fixed-route bus service. The on-demand service replaces fixed-route bus service that was eliminated due to low ridership.</p>	6
<b>Microtransit</b>	<p>Private multi-passenger transportation services that serve passengers on-demand using computer-generated routes; some use common pick-up or drop-off points. Vehicles range from large SUVs to shuttles. For example:</p> <p>Capital Metro in Austin, TX partnered with Via Transportation, Inc. (Via) to provide on-demand microtransit service from June 2017 through June 2018 to an area of Austin with few fixed route options. Riders could book rides directly with Via using an app or by phone.</p>	4

<sup>21</sup>For example, see Transportation Research Board, Transportation Research Circular E-C231, *U.S. Department of Transportation's Mobility on Demand Initiative: Moving the Economy with Innovation and Understanding* (March 2018).

<sup>22</sup>See, for example, Los Angeles County Metropolitan Transportation Authority – Metro, *First Last Mile Strategic Plan & Planning Guidelines* (March 2014).

Types of Service	Description	Number of projects offering the service <sup>a</sup>
<b>Improved technology for riders</b>	<p>Upgrading the technology that riders use to schedule and pay for trips; or to plan trips that involve multiple modes of transportation. For example:</p> <p>The Regional Transportation Authority (RTA) of Pima County, AZ will offer riders the ability to request services from Ruby Ride ridesourcing company via a phone app. The RTA and Metropia—a local technology company—will also offer riders incentives to change travel behaviors, such as changing travel times to when roads are less busy, in exchange for discounted services. Planned launch is fall 2018.</p>	3
<b>Marketing</b>	<p>Arrangements where the transit agency and the private mobility partner advertise each other's services, sometimes tied to ride discounts. For example:</p> <p>In July 2015, the Metropolitan Atlanta Rapid Transit Authority initiated a partnership with Uber to provide first mile/last mile transportation. Through the partnership, users new to Uber could sign up with a promotional code for a first free trip, up to a \$20 value.</p>	2
<b>Bike-share</b>	<p>Short-term bike rental, usually for individual periods of an hour or less over the course of a membership (periods can range from a single ride, to several days, to an annual membership). For example:</p> <p>The Chicago Transit Authority is partnering with the Chicago Department of Transportation and Divvy Bikeshare to integrate Divvy rentals into Ventra, CTA's central fare payment system that is accessible by smartphone application.</p>	1

Source: GAO analysis | GAO-18-539

<sup>a</sup>Most of the 22 projects we reviewed provided more than one type of service.

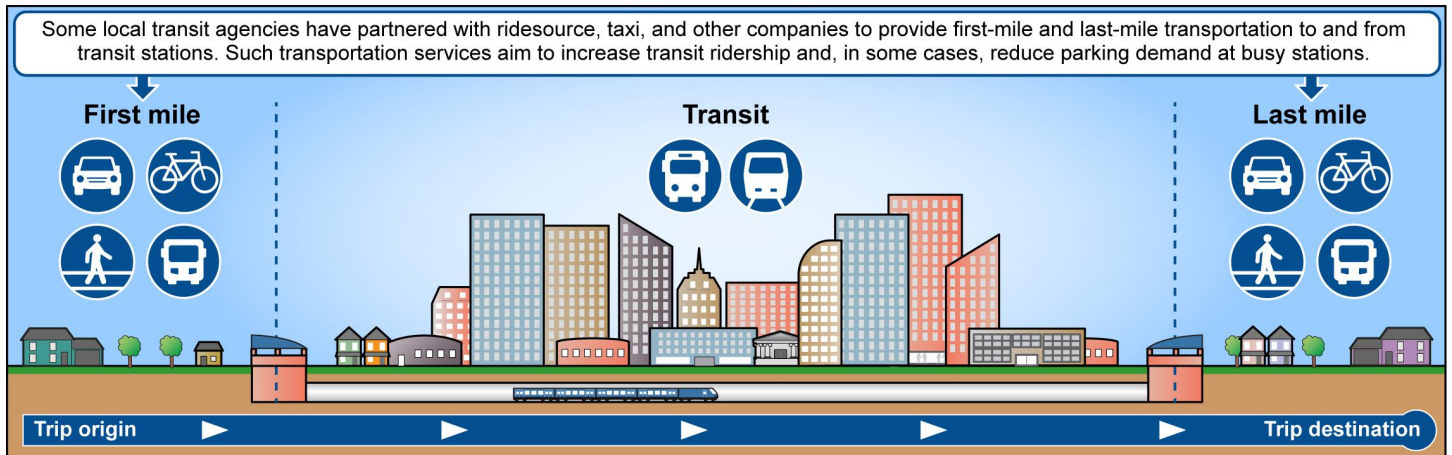
<sup>b</sup>In some of these partnerships, the local transit agency partnered with the private company to provide some or all of its required paratransit service. However, in other partnerships, the local transit agency partnered with the private company to provide service that was targeted to eligible paratransit riders but in some cases could also be used by non-paratransit eligible riders.

<sup>c</sup>49 C.F.R. § 37.3.

Connecting on-demand services for the “first- and last-mile”—which refers to the distances riders need to travel to or from a public transit station or a stop to arrive at their final destination—could improve transit access by effectively extending service beyond the respective fixed-route buses and commuter trains (see fig. 4).<sup>23</sup> To attract riders to use such first- and last-mile services, eight projects provided a discount to pay for a portion of the fare for the ridesourcing ride to access public transit. Figure 5 below shows a selected local agency’s advertisement for such a voucher program.

<sup>23</sup>According to a recent report on U.S. public transit user characteristics, most public transit users walk to access transit services (over two-thirds of riders) and most also walk from their transit service to their final destination (about 75 percent of riders). See American Public Transportation Association, *Who Rides Public Transportation*, (January 2017).

**Figure 4: Concept of First- and Last-Mile Connections to Public Transportation**



Source: GAO. | GAO-18-539

**Figure 5: Example of a Voucher Program for First- and Last-Mile Ridesourcing Transportation**

**WE'LL PAY HALF YOUR FARE\* WHEN YOU RIDE WITH THESE SERVICES IN DUBLIN!**

**HOW IT WORKS**

- 1 Download the app for Uber, Lyft or DeSoto Cabs.
- 2 Open the app and select Promotions/Promos from the menu options.
- 3 Enter promo code GODUBLIN and select "Apply" if needed.
- 4 Set up your trip using uberPOOL, Lyft Line or DeSoto Share.
- 5 Your discount will be subtracted automatically once your trip concludes.

\*Up to \$5. For more information, go to [www.wheelsbus.com](http://www.wheelsbus.com).

The advertisement features a green background with white text. On the right side, there is a smartphone graphic displaying the 'GO DUBLIN!' logo (with a green clover) and logos for Uber, Lyft, and DeSoto Cab Company.

Source: Livermore Amador Valley Transit Authority, California. | GAO-18-539



The second most common type of service provided through selected projects was on-demand paratransit service,<sup>24</sup> which could help the respective transit agencies offer eligible riders more convenient options and also help address the high cost of providing such services. More than half of the selected projects (13 of 22) provided on-demand services targeted toward paratransit-eligible riders, either as the primary project goal or to ensure equivalent service for eligible customers. Officials from two local transit agencies told us that by providing more convenient ADA paratransit services—as compared to traditional services that require booking a day or more in advance—these projects in turn produce other benefits. For example, officials from one local transit agency with such a partnership thought their program could really benefit the broader community because the targeted riders could make more spur-of-the-moment decisions to participate in activities such as shopping, work, and church. Also, as we have previously reported, the costs of paratransit services are much more costly to provide than fixed route trips.<sup>25</sup>

Some local transit agencies also aimed to improve their public trip planning and ticketing systems, to increase convenience for riders in their communities. Specifically, five selected local agency projects involved early experiments with the Mobility as a Service (MaaS) concept, meaning offering riders a central electronic platform—such as an app—to plan end-to-end trips including booking, ticketing, and paying for any transportation needed to make the trip, both public or private.<sup>26</sup> If fully implemented, MaaS would allow riders to, for example, use one app to view and compare real-time availability of various modes (e.g., a traveler might be directed to a train if one is arriving quickly, or to a ridesourcing vehicle if train service has ended for the night). Riders could tailor their trip to meet their needs and payments could be processed through their phone. Implementing MaaS apps could increase convenience for consumers, and may also increase transit ridership. As an example of an ‘early’ MaaS experiment, Chicago Transit Authority’s MOD Sandbox

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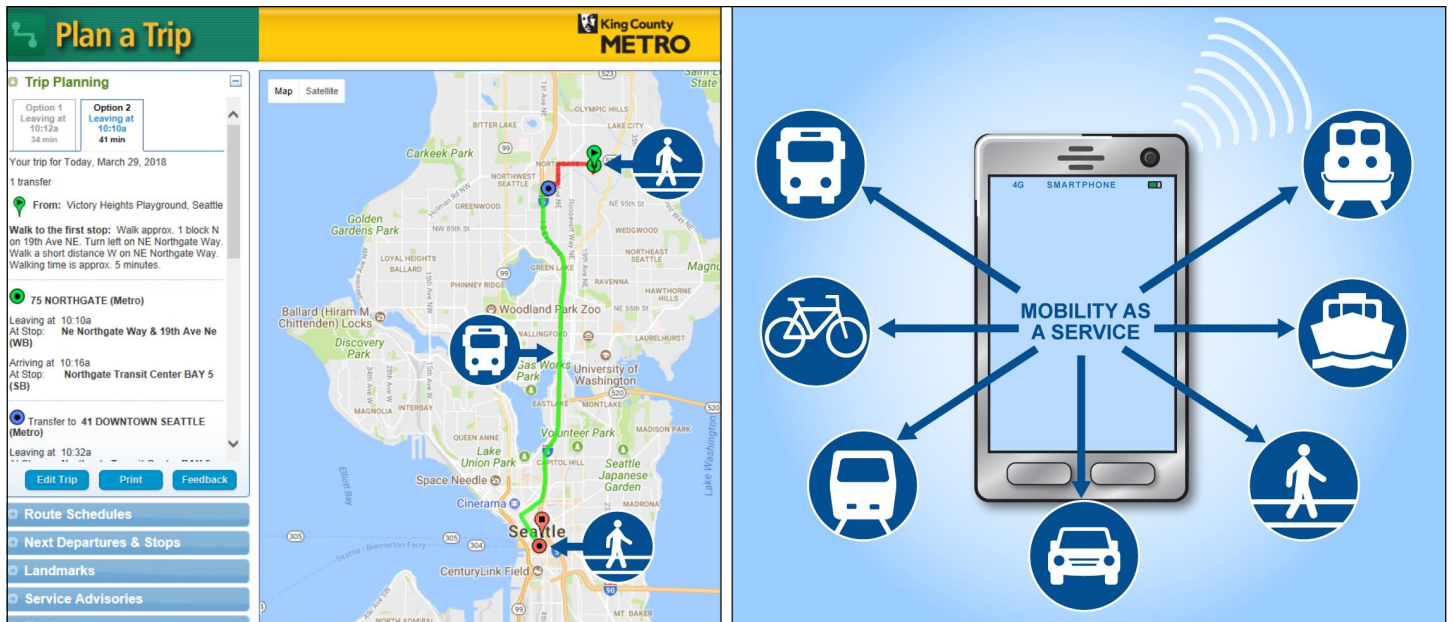
<sup>24</sup>DOT’s ADA implementing regulations define “paratransit” as comparable transportation services required by the ADA for individuals with disabilities who are unable to use fixed route transportation systems. 49 C.F.R. § 37.3. For the purposes of this report, paratransit service refers to both the paratransit service required by the ADA as well as other service targeted toward paratransit eligible riders, unless specified otherwise.

<sup>25</sup>See [GAO-13-17](#).

<sup>26</sup>Warwick Goodall, Tiffany Dovey Fishman, Justine Bornstein, and Brett Bonthron, “The Rise of Mobility as a Service: Reshaping How Urbanites Get Around,” *Deloitte Review* (2017).

project seeks to integrate the city’s bike-share system into CTA’s central trip planning and fare payment app, so that riders can more easily pay for a bike-share ride along with their transit trip. Figure 6 shows a sample of a current trip planner and a future MaaS concept.

**Figure 6: Sample of Current Trip Planner and Future Mobility as a Service Concept**



In this example, a current trip planning app for King County Metro gives directions for walking to a bus stop, using the bus system, and then walking from the destination bus stop to the final destination.

Sources: King County Metro and GAO. | GAO-18-539

The Mobility as a Service concept allows a user to book multiple trips on different modes of transportation from different providers using one smart phone app.

To initiate their on-demand projects, half of selected local transit agencies relied on local funds and not federal funds. Specifically, officials from half of the local transit agencies (8 of 16) indicated that their projects did not use federal funds, with the projects either partially or entirely funded through a local transit agency or local government subsidy, where the transit agency subsidizes or pays the entire cost of the on-demand service.<sup>27</sup> The remaining 7 local transit agencies used federal funds for their projects. For example, the 5 FTA MOD Sandbox projects in our selection received federal funds to support 80 percent of project costs,

<sup>27</sup>According to an official from one additional local transit agency, no funds were exchanged for their transit agency project with a private mobility company, where each co-promoted the partnership.

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with the remaining 20 percent of project costs supported through local matching funds.<sup>28</sup> One FTA MOD Sandbox project involved two local transit agencies.<sup>29</sup>

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### Long-Term Sustainability and Effects on Transit Ridership, Costs, and Communities Have Not Yet Been Determined

Most of the selected projects have not yet been evaluated to determine whether they achieved intended outcomes. However, a few transit officials told us that their agencies' costs had decreased since initiating the partnerships. For example, an official from one transit agency reported that the on-demand service provided through their partnership had helped them reduce costs for paratransit. Two of the completed partnerships in our review generated insufficient ridership to succeed. The partnerships were widely covered by the press, which transit agency officials believe provides other transit agencies the opportunity to learn from them as well. Specifically, Kansas City's Bridj project and the Go Centennial project in the city of Centennial, Colorado failed to attract sufficient riders despite the money and time invested by the local transit agencies and their private partners. The transit officials involved indicated that the projects should have incorporated more marketing of the services being offered and allowed more time for riders to adapt to the new on-demand services, an issue which we will further discuss later in this report.

In addition, according to some selected local transit agencies and literature, the increase in such partnerships may have negative effects on public transit ridership and on local transit agencies more broadly. For example, as riders become comfortable with the new on-demand options, they may elect to use these transportation modes instead of public transit, thus reducing public transit ridership. In addition to the possible loss of ridership revenue, on-demand services could decrease other transit

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<sup>28</sup>See 49 U.S.C. § 5312(g)(1).

<sup>29</sup>One selected project used federal funds from the Congestion Mitigation and Air Quality Improvement Program (CMAQ). According to FHWA documentation, the CMAQ Program provides a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas) according to FHWA documentation.

agency revenues, such as parking fees charged at some transit stations. Further, one researcher that regularly reviews emerging mobility topics discussed the concern that over time, an increase in on-demand services offered could result in inequitable public transit. Specifically, she noted that if on-demand services offered continue to increase, riders may begin to perceive fixed route transit services as inferior to these new services, which could divert riders and revenues away from public transit. Eventually, this could result in two systems: an inferior public transit system and a superior on-demand system for those who can afford it.

To provide more information about potential outcomes from such partnerships, DOT officials have commissioned a study to evaluate the outcomes of the MOD Sandbox partnerships and anticipate publishing results in 2019.<sup>30</sup> In collaboration, FTA and DOT's ITS JPO developed an evaluation framework for each of the 11 funded MOD Sandbox projects. As part of this evaluation, the transit agencies plan to collect information, such as ridership and cost data, to demonstrate how the project has influenced transit rider behavior. ITS JPO plans to use the data to measure the extent to which each project has fulfilled its goals and impacted travel behavior. The study will also include crosscutting analyses and lessons learned for all MOD Sandbox projects. According to DOT officials, FTA is also developing performance metrics to track the projects over time to see the extent to which they promote integrated transportation.

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<sup>30</sup>According to DOT officials, DOT is conducting this study to comply with its responsibility under 49 U.S.C. § 5312(e)(4).

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## While DOT Has Facilitated Partnerships, Some Requirements and Limited Data Pose Implementation Challenges

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### FTA Has Facilitated Partnerships through the Mobility on Demand Program

FTA's MOD program is a key effort under way to encourage and better understand transit partnerships. Since first announcing the selected 11 MOD Sandbox projects to receive funding in October 2016, FTA has supported the program through various efforts, and most (10 of 16) selected local transit agencies in our review expressed positive views on the program. Specifically:

- FTA has provided technical support to participants as the MOD Sandbox projects have progressed. According to FTA officials, FTA has contracted with the SUMC to provide technical assistance to MOD Sandbox grantees. Officials from all six MOD grantees in our selection said that FTA support throughout the grant and planning processes has been helpful. For example, officials from one transit agency indicated that this program shows FTA's dedication to the idea of shared mobility and enables the grantees to try out new models in a "nurturing environment."
- FTA has held quarterly meetings open to all MOD Sandbox participants, including local transit agencies and private mobility companies. According to two private mobility companies in our selection that participated in the MOD Sandbox program, these meetings were a constructive forum where participants could discuss challenges, lessons learned and other issues.<sup>31</sup>

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<sup>31</sup>According to FTA officials, it has also initiated some efforts to assist local transit agencies pursuing such partnerships outside of the MOD Sandbox grant program. For example, FTA partnered with the Shared-Use Mobility Center (SUMC) to launch the MOD On-Ramp program, which aims to provide 12 months of technical assistance to six public transportation entities to promote their proposed ideas for on-demand mobility solutions. For instance, as part of the On-Ramp program, SUMC will help participants develop their business plans for launching their on-demand programs. SUMC issued a Request for Proposals for this program in February 2018 and announced selected participants in June, 2018. See <http://sharousemobilitycenter.org/news/mobility-on-demand-on-ramp-request-for-proposals/>.

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## Most Selected Transit Agencies Wanted Additional Information Describing How Transit Partnerships Have Met Federal Requirements

Since initiating the MOD Sandbox program, FTA has gathered information from grantees about federal requirements that may pose challenges to implementing transit partnerships. For example, FTA's MOD Sandbox notice of funding opportunity encouraged grant applicants to identify any regulatory or policy waivers needed to implement proposed projects.<sup>32</sup> According to FTA officials, they received many such waiver requests from applicants, many of which they could not grant. For example, some of the MOD Sandbox grantees' private partners requested waivers from ADA requirements, which according to FTA officials the agency does not have the authority to waive. FTA officials also clarified that they do not intend to immediately change policies or regulations based on the feedback received through the MOD Sandbox program. Instead, they aim to help MOD Sandbox participants meet requirements and to provide technical assistance to local transit agencies outside of the program. They said that, in the longer term, the agency would consider potential policy and regulatory revisions if needed.<sup>33</sup>

Most selected transit agencies (11 of 16) and private mobility companies (10 of 13) indicated that some federal requirements—if applicable to a certain partnership—can impact these partnerships and in some cases, make them more challenging to undertake. Table 2 below shows four categories of requirements cited as having the potential to impact partnerships, along with examples of stakeholder views on their potential impacts. Although some stakeholders identified these requirements as potentially impacting partnerships, they did not agree that the requirements should be waived to facilitate partnerships. For example, officials from two local transit agencies told us that requirements related to providing accessible and equitable transportation are important to

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<sup>32</sup>81 Fed. Reg. 26621, 26622-23 (May 3, 2016).

<sup>33</sup>These FTA officials also told us that due to the nascent nature of some on-demand services, some legal issues remain unclear. For example, they said that some legal questions related to ridesourcing companies—such as whether these should be required to have liability insurance and driver drug and alcohol testing—would be a responsibility for policymakers at the state and local levels. According to several research studies, some state and local governments have begun to enact certain requirements for ridesourcing companies.

maintain even if they could deter partnerships. However, FTA designed the MOD Sandbox grant application process so that the applicant local transit agencies could choose their private mobility partners using a noncompetitive process, bypassing the procurement requirements that normally require a full and open competition. One MOD grantee told us that their ability to bypass a competitive process was helpful and expedited their project planning efforts.

**Table 2: Federal Requirements Cited That Could Impact Partnerships**

Requirement	Description	Stakeholder Views on Impact on Partnerships
<b>Procurement requirements</b>	<p>Recipients of FTA assistance, such as local transit agencies, are required to procure any goods or services in accordance with all applicable federal requirements.<sup>a</sup> For example, FTA grant recipients must conduct all procurement transactions in a manner that provides full and open competition.</p>	<p>Officials from 5 of 16 local transit agencies and representatives from 7 of 13 private mobility companies told us that these requirements could impact partnerships. For example:</p> <p>Officials from two transit agencies estimated that these requirements add at least 6 months to timeframes.</p> <p>Representatives from 7 companies said that these requirements were challenging, for example, because the bidding process is onerous.</p>
<b>Drug and alcohol testing</b>	<p>Public transportation operations that receive financial assistance through FTA’s Urbanized Area Formula Grants, Fixed Guideway Capital Investment Grants, or Formula Grants for Rural Areas must conduct drug and alcohol testing of public transportation employees responsible for safety sensitive functions.<sup>b</sup></p> <p>According to FTA officials, these requirements apply to contractors performing a safety sensitive function on behalf of a local transit agency, such as taxicab operators.</p> <p>However, FTA has determined that these requirements do not apply in cases when the customer selects from two or more companies that can provide the requested ride.<sup>c</sup> FTA has previously granted this so called “taxicab exception” to taxi companies that provide transit services, and according to officials, it is now applying this exception to ridesourcing companies.</p>	<p>Officials from 3 local transit agencies and representatives of 3 companies said that these requirements could impact partnerships. For example:</p> <p>Officials from two of three selected ridesourcing companies said that it is not feasible to conduct such testing for their drivers, who are independent contractors.</p>
<b>ADA</b>	<p>DOT’s regulations implementing the ADA require, among other things, that private entities, such as ridesourcing companies, which purchase or lease certain vehicles for use or in contemplation of use in fixed route or demand responsive service under contract with a public entity, acquire accessible vehicles in all situations in which the public entity would be required to do so.<sup>d</sup></p>	<p>Officials from 10 local transit agencies and some private company partners (6 of 13) opined that ADA requirements could impact partnerships. For example:</p> <p>Ridesourcing company representatives told us that it can be costly to purchase wheelchair accessible vehicles.</p>

Requirement	Description	Stakeholder Views on Impact on Partnerships
Title VI	Title VI prohibits, among other things, the exclusion from participation in, denial of benefits of, and discrimination under any program or activity receiving federal financial assistance on the ground of race, color, or national origin. <sup>e</sup> For example, according to DOT officials, public transit agencies receiving federal financial assistance have an obligation under Title VI to ensure that alternative methods of payment and reservations are available to communities of color, which, according to officials are comprised of disproportionately low-income individuals who do not own smartphones and/or who do not have credit cards or bank accounts.	<p>Officials from 8 local transit agencies and representatives of 2 companies said that Title VI requirements could impact partnerships. For example:</p> <p>Two MOD Sandbox grantees told us they had to switch from their original ridesourcing partner to another company because the original partner could not provide a call center or cash payment options to meet the Title VI requirements.<sup>f</sup></p> <p>Representatives of one ridesourcing company told us that it is difficult to provide alternative payment methods besides a credit card, for example, due to fears about drivers handling cash, which increases the risk of theft.</p>

Source: GAO analysis | GAO-18-539

<sup>a</sup>FTA has two documents providing guidance on the procurement process. FTA C4220.1 (March 18, 2013); FTA, Best Practices Procurement & Lessons Learned Manual (Oct. 2016).

<sup>b</sup>49 U.S.C. § 5331(b); see also 49 C.F.R. part 655.

<sup>c</sup>66 Fed. Reg. 41996, 41999 (Aug. 9, 2001).

<sup>d</sup>49 C.F.R. § 37.23(b).

<sup>e</sup>Pub. L. No. 88-352, Title VI, 78 Stat. 241, 252 (July 2, 1964) (codified as amended at 42 U.S.C. §§ 2000d et seq.).

<sup>f</sup>These grantees told us the original partner also could not meet ADA requirements since it could not provide a sufficient number of accessible vehicles.

As FTA has gained more knowledge about such partnerships, the agency has sought to clarify how some of these requirements apply to such partnerships. For example, in December 2016, shortly after announcing MOD Sandbox grantees, FTA issued documentation clarifying various aspects of transit partnerships, as well as certain federal requirements.

- FTA issued a “*Dear Colleague*” letter to local transit agencies which addressed how certain ADA and Title VI requirements apply when a local transit agency enters into a partnership with a ridesourcing company.<sup>34</sup>
- FTA published a dedicated webpage of frequently asked questions (FAQ) about shared-mobility partnerships. This website supplements subject-specific FAQs already available on FTA’s website that also may apply to these partnerships; it includes FAQs on Civil Rights and ADA requirements.<sup>35</sup>

<sup>34</sup>FTA, Dear Colleague Letter (Dec. 5, 2016).

<sup>35</sup><https://www.transit.dot.gov/shared-mobility>



In addition, FTA provides clarifying information to local transit agencies upon request, according to FTA and several local transit agency officials.

However, officials from most (14 of 16) selected local transit agencies told us that additional information from FTA would be helpful, especially examples of how local transit agencies are structuring their partnerships to ensure they meet federal requirements. As noted above, FTA has issued various documents for local transit agencies about how federal requirements, such as Title VI requirements, apply to emerging partnerships. Nonetheless, officials from some local transit agencies told us that without examples, they were unclear about how such partnerships could ever meet requirements. For instance, one transit official told us he was unaware FTA has determined that local transit agencies may use ridesourcing companies without requiring that these contractors undergo drug and alcohol testing—the aforementioned “taxicab exception”—if riders are able to select from multiple providers for their on-demand rides. In another example, officials from one agency told us that they had tried to look at the NTD database to find peer local transit agencies with similar on-demand programs to ask these agencies for advice, but could not find any peers using that method. These officials wanted to know how other local transit agencies were dealing with customers without bank cards in their on-demand services. They told us that having more examples from FTA of how various local transit agencies are structuring their transit partnerships to comply with federal requirements could be especially helpful.

Selected local transit agencies with ridesourcing partners described approaches that they believe help to ensure compliance with the drug and alcohol testing, ADA, and Title VI requirements, including using a taxi company, a paratransit company, or both. For example, transit officials managing four of the 11 selected projects involving a ridesourcing company told us they had added a taxi or paratransit company as an option for riders to comply with requirements. According to two taxi representatives we interviewed and research studies, taxi companies already have procedures for fulfilling federally-required drug and alcohol tests. Several local transit officials told us that taxi companies usually have call centers and accept cash payments, making it easier to ensure that the services comply with Title VI. In addition, according to taxi representatives and research reports, taxi companies may have experience complying with the ADA since some of DOT’s implementing regulations may already apply to them.

Gathering and disseminating more information on partnerships corresponds with best practices for collaboration with external parties identified in prior work by GAO and others. For example, as we have previously reported, if federal agencies can identify and share best practices, this can help the entities that federal agencies oversee—such as local transit agencies in this case—make changes to successfully adapt to changes in the environment.<sup>36</sup> Additionally, a recent industry report argues that local transit agencies seeking to form transit partnerships will strongly benefit from learning directly from peer agencies with relevant experiences in the emerging area.<sup>37</sup>

As discussed above, FTA has gathered local transit partnership information from its MOD Sandbox projects. However, the majority of local transit agencies that participate in partnerships are not in the MOD Sandbox program; and many of their projects may already be underway or complete. Gathering information from those local transit agencies would provide FTA with more information about how partnerships are meeting federal requirements. It would also likely provide FTA with more examples to disseminate to all local transit agencies interested in pursuing partnerships to help those agencies structure their partnerships in accordance with federal requirements. Finally, additional information on these partnerships would better position FTA to respond to changes in the transit industry that could impact its own efforts and goals, such as planning for future MOD grants and improving the efficiency of transit services overall.

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### Selected Transit Agencies Reported Confusion about Whether and How On-Demand Project Data Should Be Entered into the National Transit Database

To track its progress toward achieving its goals, such as increasing the efficiency of public transit services, FTA can use data from NTD. According to FTA officials, NTD is its primary source for information and statistics on U.S. transit systems. As we have previously reported, NTD is intended to provide timely, accurate information to help Congress and

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<sup>36</sup>GAO, *Transportation Safety: Federal Highway Administration Should Conduct Research to Determine Best Practices in Permitting Oversize Vehicles*, [GAO-15-236](#) (Washington, D.C.: February, 2015).

<sup>37</sup>Eno Transportation Center, *A Bid for Better Transit, Improving Service with Contracted Operations* (September, 2017).

FTA apportion funding and assess the continued progress of the nation's public transportation systems.<sup>38</sup> A key goal of the NTD is to gather information from local transit agencies, such as financial and operating data, to inform public transportation service planning. All recipients and direct beneficiaries of grants from the Urbanized Area Formula Program and Rural Area Formula Program—such as local transit agencies—are required to report certain data to NTD.<sup>39</sup> For example, in 2016, over 950 urban transit agencies and others reported into NTD,<sup>40</sup> and FTA encourages transit agencies not receiving urbanized area and rural area grant funds to report voluntarily so that NTD can be more complete. Additionally, according to FTA officials, FTA uses certain NTD data to apportion certain grant funds to local transit agencies nationwide, including data on passenger miles traveled and vehicle revenue miles.<sup>41</sup>

Each year, urbanized area and rural area formula grant recipients and beneficiaries are required to submit an NTD package with many different types of data, including:

- financial information, including operating expenses and funding sources,
- asset inventory data, such as numbers of transit stations and maintenance facilities, and
- services supplied, including the number of passenger trips that year, and miles traveled by passengers.

To help local transit agencies with this reporting, FTA issues NTD manuals annually that are updated with new information, as needed. These manuals describe how to report all the various NTD data

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<sup>38</sup>GAO-13-17.

<sup>39</sup>49 U.S.C. § 5335(b).

<sup>40</sup>According to FTA, the NTD separates urban and rural recipients and beneficiaries into two reporting groups: urban reporters and rural reporters. In 2016, 953 urban transit agencies, 54 States, 1,277 sub-recipients and 127 Tribes reported data to the NTD program.

<sup>41</sup>FTA officials explained that complex formulas are used to apportion urbanized area and rural area formula funds. See 49 U.S.C. §§ 5311, 5336. They explained that for urbanized area formula funds, the main factors in the apportionment calculation for non-rail entities are census bureau data; vehicle revenue miles (i.e., total mileage a vehicle traveled while in service); operating expenses; and passenger miles travelled (i.e., total mileage passengers actually traveled).

requested, including how to report services that the transit agency provided based on the transportation mode, divided between rail and non-rail, with non-rail including demand response services, potentially provided by private mobility companies.<sup>42</sup>

According to FTA officials, some data that local transit agencies would need to report on-demand project data into NTD and to measure project outcomes—such as whether the targeted riders are using the on-demand rides to get to and from transit stations—would be tracked by the private mobility companies involved in the project. For example, to report data about services supplied into NTD, the local transit agency would need certain data such as: the numbers of trips and riders taken, distances traveled in miles, time spent travelling, and the days of the week when the services are offered. In the case of on-demand rides offered through transit partnerships, much of that data would be tracked by the private mobility company and potentially shared with the local transit agency for NTD entry.

Although FTA has made some information available that could facilitate these transit partnerships—including updated NTD manuals—local transit agencies in our selection reported the following issues:

- confusion regarding whether and how to report on-demand service data into NTD, and
- difficulties gathering data for NTD reporting from ridesourcing companies.

#### Confusion Regarding Whether and How to Report Data about On-Demand Services into NTD

According to FTA officials and the most recent NTD manual, transit agencies only report data to the NTD for services provided that meet the statutory definition of public transportation. Under the statute, public transportation means regular, continuing shared-ride surface transportation services that are open to the general public or open to a segment of the general public defined by age, disability, or low income. However, public transportation does not include intercity passenger rail

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<sup>42</sup>See FTA, *National Transit Database: Policy Manual* (Washington, D.C.: January 2017) and *National Transit Database Annual Reporting 2017 User Manual* (Washington, D.C.: January 2017).

transportation provided by Amtrak, intercity bus service, charter bus service, school bus service, sightseeing service, courtesy shuttle service for patrons of one or more specific establishments, or intra-terminal or intra-facility shuttle services.<sup>43</sup> FTA officials told us that for a transportation service to be considered “shared-ride” the service must have the real possibility of being offered on a shared-ride basis. According to FTA officials, for a transportation service to be “open to the general public” it cannot be limited to a specific group (except those groups specified in the definition), and neither the driver nor passenger can deny another person on board. For example, a service provided by a ridesourcing company in which a passenger or driver can refuse additional passengers would not be considered “open to the general public,” according to FTA officials. Furthermore, FTA officials told us that a time-limited pilot providing transportation service is not considered “regular” and “continuing.”

Additionally, FTA officials told us that, even if a transportation service meets the statutory definition of public transportation, the local transit agency may not be required to report the associated data if that agency did not directly provide the transit service. For example, according to FTA officials, whether or not a local transit agency would have to report transportation service provided by a private partner would depend on the contract between the local transit agency and the private partner.<sup>44</sup> Also, according to FTA officials, a local transit agency cannot report data about service provided by a private partner if it is a voucher program, because those services are not considered “shared ride” and thus do not meet the statutory definition of public transportation. If the service provided by the private partner meets the statutory definition of public transportation and is considered a service provided by the local transit agency, then FTA officials told us most services provided through these partnerships should be reported under the *Demand Response* or *Demand Response-Taxi* transportation modes.

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<sup>43</sup>49 U.S.C. § 5302(14).

<sup>44</sup>According to FTA officials, a local transit agency can only report data into NTD for services that it provides directly or services provided on its behalf by another provider through a full cost contract. The officials noted that all other service data must be reported directly into NTD by the service provider. Some of our selected transit partnerships offered services at a discounted rate. Officials in these partnerships often described them as voucher and / or subsidy projects. We did not verify whether these projects were in fact voucher or subsidy projects for NTD reporting purposes.

Despite available NTD manuals that discuss the statutory definition of public transportation, officials from most (10 of 16) selected local transit agencies expressed confusion about NTD reporting for on-demand projects, such as about which types of on-demand rides qualify as “public transportation” for NTD reporting purposes and how qualifying rides should be entered into NTD.<sup>45</sup> These officials told us that further clarification is needed from FTA about this issue. For example, three projects in our review offered similar on-demand paratransit rides—through ridesourcing or taxi company partners—but officials from the three local transit agencies involved had different views on whether and how these rides should be entered into NTD.

- Officials from the first local transit agency told us that they were planning to report these rides into NTD and had met with the FTA officials responsible for maintaining NTD to ask them how to report them. These FTA officials had told them it should theoretically be possible to enter those rides into NTD, but they did not clarify how to do so.
- Officials from the second transit agency told us that if they extend the dates of their current partnership with two ridesourcing companies, then they will need more clarification from FTA about the information that should be reported into NTD, such as passenger miles traveled. These officials also noted that they already use an extensive process for entering paratransit information into NTD, including tracking vehicle hours and passenger miles of all vehicles used to provide such services.
- Officials from the third local transit agency told us that they did not intend to report these rides into NTD. In these officials’ opinion, these rides should not be entered into NTD since they do not meet the definition of public transportation in the NTD policy manual.<sup>46</sup>

Selected transit agencies in our review seem to be interpreting the information about whether and how to enter data from their partner-provided on-demand services—as outlined in NTD manuals—differently,

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<sup>45</sup>Officials from the remaining 6 local transit agencies did not provide views on this issue. Two of these agencies had no experience with NTD reporting. According to FTA officials, transit agencies must only report to NTD data from “services” that qualify as public transportation; however, our selected local transit agency officials, when discussing their NTD reporting confusion, often used the word “ride” instead of “service.” Accordingly, we will refer to “rides” when describing selected transit officials’ views.

<sup>46</sup>The 2017 NTD *Policy Manual* restates the statutory definition of public transportation.

leading to inconsistencies in whether and how these agencies planned to enter data. For example, one local transit agency's project offered shared microtransit services on-demand through a technology company partner. In our interview, officials from this local transit agency told us that they intended to report these rides into NTD, but had received unclear and seemingly incorrect advice from the regional FTA staff on how to do so. According to these officials, the regional FTA staff had told them to include these microtransit rides with the agency's demand-response paratransit rides, since some of the riders of this on-demand service were also qualified for paratransit. The local transit officials told us that they hesitated to report to NTD in the way instructed because it seemed inaccurate. In this local transit agency's response to follow up questions, the local officials said they were no longer planning to report data on their on-demand service into NTD. We asked FTA officials if this type of service provided by a private partner qualifies as public transportation, and thus should be entered into the NTD by the local transit agency, and FTA officials said it seemed to qualify for entry. In another example, one transit official managing a first- and last- mile voucher project told us that she planned to report these rides into NTD. However, FTA officials told us services provided through voucher programs generally do not meet the definition of public transportation and therefore do not qualify for NTD entry.

Federal internal control standards state that agencies should use quality information to achieve the entity's objectives. To ensure that quality data are used to track progress toward achieving objectives, agencies should obtain relevant data from internal and external sources in a timely manner, according to the standards. Further, the standards state that agencies should use an iterative and ongoing process to identify what information is needed. As changes to the agencies' objectives occur—or as external events occur that impact such objectives—the standards indicate that agencies should change information requirements as needed to meet these modified objectives.<sup>47</sup>

The above examples of local transit agencies' confusion about NTD reporting requirements raise questions about whether NTD data accurately reflect the status of the U.S. public transportation system, a key goal of the NTD. According to officials, FTA is considering issuing

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<sup>47</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September, 2014).

more information clarifying required NTD reporting for on-demand services provided through partnerships. They explained that rather than change any reporting requirements, this new information would clarify how emerging on-demand services fit into current NTD reporting requirements. These officials also told us that local transit officials with questions related to NTD reporting can call an FTA NTD help desk or they can direct their questions to the designated NTD analyst. Officials said that they would consider issuing a document on frequently asked questions about NTD reporting for these partnerships, but that thus far FTA had received few relevant questions from transit agencies. Specifically, FTA officials told us that their NTD office had received relevant questions from two local transit agencies (both of which are in our selection), both about what types of ridesourcing services would be reportable to the NTD. According to FTA officials, they responded to these inquiries by explaining that all services entered into NTD must be shared and meet the statutory definition of “public transportation.”

While FTA officials told us that only two local transit agencies had contacted them about NTD reporting confusion, this did not include some other agencies in our selection that had contacted their regional FTA offices for clarification. This raises the possibility that more transit agencies nationwide with such partnerships might have confusion about NTD reporting than the FTA headquarters office was aware of. FTA officials also told us that, in the longer-term, they are considering developing a separate NTD reporting category—or transportation mode—for shared ridesourcing services that qualify as public transportation. However, FTA officials did not commit to taking action on this issue.

Without clarified information from FTA on whether services provided through on-demand projects qualify as public transportation, and how to enter data about these services into NTD, some local transit agencies will likely remain confused, potentially leading to inaccurate data in the NTD. Also, according to FTA officials, without accurate NTD data, (1) FTA will not be able to effectively track its own progress toward achieving goals—such as improving the efficiency of transit systems, and (2) the apportionment of certain grant funds to local transit agencies could be affected.

### Difficulties Gathering Data from Some Ridesourcing Partners

Selected local transit agencies reported difficulties obtaining some data from their ridesourcing partners—such as the total miles travelled with passengers on board—and according to some stakeholders, local transit



agencies nationwide have faced similar challenges. Some of these data may be needed for NTD reporting but they could also be useful to local transit agencies in tracking the outcomes of their on-demand projects. Specifically, officials from six selected local transit agencies that had partnered with ridesourcing companies had experienced issues obtaining data from them, mostly due to these companies' concerns about rider privacy and proprietary data. For example, one local transit official told us that she requested, but did not receive, data needed for NTD reporting from a ridesourcing company, including miles travelled with passengers on board.

While representatives from most selected private mobility companies we spoke to (11 of 13) expressed no issues with sharing data, representatives from the two large ridesourcing companies did. Specifically, Uber and Lyft representatives said their companies are uncomfortable with sharing riders' personally identifiable information, such as the exact destination and origin addresses of their ridesourcing trips, with a public entity without riders' previous consent because they believed the data would be subject to Freedom of Information Act (FOIA) requests.<sup>48</sup> Representatives of two industry associations and a researcher told us that issues gathering data from ridesourcing companies is a broader challenge faced by local transit agencies in such partnerships. However, representatives of the two ridesourcing companies stated that they are working with local transit agencies and FTA to figure out how to provide data to local transit agencies for NTD reporting while still protecting privacy.

FTA officials told us they have reached an informal agreement with ridesourcing companies participating in the MOD Sandbox program, including Uber and Lyft, for the collection of one category of data. According to FTA officials, that agreement relates only to certain data needed to assess the ADA equivalent level of service requirement. If the

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<sup>48</sup>Representatives from one ridesourcing company expressed concerns about sharing consumers' personal data, even if that data has been de-identified (i.e., the personally identifying information, such as names and addresses, have been removed), because of the potential for such data to be re-identified. As we have previously reported, there are concerns about whether it is possible to de-identify personal data. For example, in 2014, we found that some methods of de-identification can allow for an individual to be re-identified, and that different de-identification methods and data retention practices may lead to varying levels of consumer protection. See [GAO-14-81](#), *In Car Location-Based Services: Companies Are Taking Steps to Protect Privacy, but Some Risks May Not Be Clear to Consumers*, (Washington, D.C.: January, 2014).

local transit agencies participating in the MOD Sandbox program need additional data for NTD reporting, FTA officials told us it is up to those local transit agencies to obtain it from the ridesourcing companies. In addition, FTA officials told us that local transit agencies partnering with ridesourcing companies outside of the MOD Sandbox program would not benefit from this informal agreement.

To help address data collection issues, officials from some (5 of 16) selected local transit agencies suggested that FTA could play a greater role in encouraging ridesourcing companies to provide some minimum level of data needed for NTD reporting. For example, several transit officials suggested that FTA could circulate effective practices for data sharing, such as a template contract between a local transit agency and a private mobility company that includes data sharing obligations. Several transit officials discussed how such additional information from FTA could be helpful for local transit agencies in pursuing or maintaining their partnerships. For instance, officials from one local transit agency argued that FTA information in this area could help the many local transit agencies that are too small to have sufficient market power to get the needed NTD data from ridesourcing companies.

The above examples of local transit agencies seeking templates of data sharing agreements suggest that these and other local transit agencies could benefit from more communication from FTA on this issue. If local transit agencies could use such data sharing templates from FTA to gather more complete and accurate data from their ridesourcing partners, this would in turn help ensure the accuracy and completeness of NTD data.

As noted above, the internal control standards instruct federal agencies to use quality data. If FTA communicated more information about practices for data sharing, this would assist local transit agencies and also help FTA be better poised to track its overall progress in furthering its goals, including promoting efficient public transit systems.<sup>49</sup>

However, FTA officials told us that they do not track information about partnerships that did not receive funding through the MOD Sandbox program, such as details of data sharing agreements, and so could not

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<sup>49</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September, 2014).

disseminate examples of how those local transit agency partnership participants are handling data sharing issues. However, local transit agencies with partnerships that are outside of the MOD Sandbox program may still be required to report data into the NTD and could benefit from additional information. FTA officials explained that they want to avoid duplicating the work of other groups that are gathering and sharing information about partnerships. For example, SUMC gathers some information about such partnerships nationwide in a public database<sup>50</sup> and has sponsored conferences to facilitate information sharing about local transit agencies' experiences with their partnerships. However, SUMC's public database of partnerships does not include details about how all partnerships are handling data sharing issues. Further, because FTA oversees local transit agencies, the documents that it issues may be viewed as more authoritative than those of a contracted agency such as SUMC.

As FTA continues its efforts to address data sharing with the ridesourcing companies involved in the MOD Sandbox program, the agency could also develop broader information on best practices for data sharing agreements—in collaboration with the MOD Sandbox grantees and possibly also with SUMC—and share that information so it would be available for interested local transit agencies. By sharing such gathered information on partnerships, FTA could in turn help transit agencies make sound decisions regarding the data needed from their private mobility partners, and about various options for structuring partnerships to achieve that end.

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<sup>50</sup><http://maps.sharedusemobilitycenter.org/sumc/>.

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## Considerations Impacting the Future Prevalence of Transit Partnerships Include Industry Changes, Available Funding for Local Transit, and Access to Services, Among Others

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### Roles of Local Transit Agencies and Private Mobility Companies Could Change as the Broader Transportation Industry Evolves

The transportation industry as a whole is rapidly evolving, with more on-demand services being offered, which could increase the use of transit partnerships. According to SUMC, the U.S. is currently experiencing a seismic shift in transportation, as breakthroughs in mobile technology, an influx of new mobility options and changes in travel behavior have significantly altered today's transportation landscape, a trend likely to accelerate in the years ahead.<sup>51</sup> Most selected local transit agencies (15 of 16) and private mobility companies (12 of 13) agreed that the industry is changing, and some discussed how transit agencies' roles and operations are changing as a result. For example, officials at five local transit agencies told us that the transit industry is shifting to offer more mobility on-demand services. Some of these stakeholders predicted that as local transit agencies increasingly use contracted services, these agencies will increasingly become "mobility managers" rather than direct service providers. Officials from three agencies said they are already making or planning for this shift.

The increasing automation of vehicles is another key industry change that could impact local transit agency operations and partnerships,<sup>52</sup> but the timeframes needed for full automation remain unclear. As we have reported, automated vehicles promise transformative benefits such as reducing crashes and fatalities and increasing mobility, but such vehicles

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<sup>51</sup>Shared-Use Mobility Center, *Shared-Use Mobility Reference Guide* (2015).

<sup>52</sup>Automated vehicles range from those that assist drivers with some driving tasks to those that are fully self-driving. DOT classified these based on a scale from the Society of Automotive Engineers, where 0 means completely manually controlled by drivers to 5 which means totally self-driven by the vehicle. Vehicles on the road today include some which assist drivers with functions like lane changes and parking, which are classified as a 2.

also pose challenges for policymakers, such as assuring safety and addressing data privacy and other issues. We also reported that these technologies are rapidly evolving, but there is no consensus about the time needed for their full deployment.<sup>53</sup> According to a recent study, vehicle automation could result in significant changes to transit agencies' operations.<sup>54</sup> For example, FTA has reported that automated transit vehicles could be used to address first- and last-mile issues, which could in turn decrease the need for local transit agencies to partner with private mobility companies to fill such gaps.<sup>55</sup>

According to several stakeholders and research reports, some automakers and others have started investing in automated vehicle technologies and in private mobility companies in response to the projected rollout of *shared automated* vehicles in the near future. If these entities continue making such investments, this could help address challenges related to private mobility companies' long-term sustainability, which could increase such companies' ability to enter into partnerships.<sup>56</sup> Of the 13 private mobility companies in our review, representatives of 5 told us that they receive significant financial support from an automaker.<sup>57</sup> In addition to a car-share company, recipients of such support included, for example, three technology companies and a bike-share company. Representatives from two of these companies told us that such support helps ensure their long-term sustainability or provides them with the flexibility to try different business models and enter into transit

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<sup>53</sup>See GAO, *Automated Vehicles: Comprehensive Plan Could Help DOT Address Challenges*, [GAO-18-132](#) (Washington, D.C.: November, 2017).

<sup>54</sup>National Academy of Sciences, *NCHRP Research Report 845: Advancing Automated and Connected Vehicles: Policy and Planning Strategies for State and Local Transportation Agencies* (Washington, D.C.: 2017).

<sup>55</sup>FTA has plans to research the concept of automated busses as part of its near term research. See for example FTA, *Strategic Transit Automation Research Plan Roadmap*, (Washington, D.C.: 2017).

<sup>56</sup>Carla Bailo, K. Dzikzek, B. Smith, A. Spulber, Y. Chen, and M. Schultz, Center for Automotive Research, *The Great Divide: What Consumers Are Buying Vs. The Investments Automakers and Suppliers Are Making in Future Technologies, Products & Business Models* (February 2018).

<sup>57</sup>We are defining "significant" financial support to include when the automaker or other entity acquires the private mobility company or makes it a subsidiary or brand, or makes a comparable investment. This definition does not include the contract payments made by local transit agencies to their private mobility partners for the on-demand services provided in transit partnerships.

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partnerships without worrying about each being profitable. Such investments from well-established companies may also help address some local transit agency concerns about whether some private mobility companies would be reliable partners, thereby increasing partnerships. For example, according to a recent industry report, some transit officials have questioned the long-term financial viability of the ridesourcing business model, citing high driver turnover rates and other factors as concerns.<sup>58</sup>

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### Available Local Transit Funding and Transit Ridership Levels Will Impact Transit Partnerships

All 16 selected local transit agencies and most private companies (10 of 13) told us that local transit agencies' constrained budgets will impact transit partnerships, and most transit officials agreed that this would encourage partnerships. For example, officials from one local transit agency told us that they first began researching partnerships several years ago, when they felt compelled to look for other viable alternatives to certain bus routes after a local referendum to pay for increased bus services failed.

According to several transit officials, if the current decline in public transit ridership continues, this could increase partnerships. For example, local transit agencies may seek to maintain their transit riders by, for example, offering first- and last-mile connections to make accessing transit services more convenient. Based on GAO analysis of FTA data, overall transit ridership decreased by about 1 percent between 2012 and 2016, but ridership changes varied greatly by metropolitan area. For example, since 2010, some larger metropolitan areas have experienced more significant ridership decreases, such as Los Angeles (over a 9 percent decrease) and Washington, D.C. (over a 9 percent decrease). However, ridership grew by more than 10 percent in several areas, including Seattle (24 percent increase), and Nashville (12.5 percent increase). According to recent reports, it remains unclear if the recent decline in public transit ridership, after a decade or more of growth, represents a long-term

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<sup>58</sup>Transit Center, *Private Mobility, Public Interest: How public agencies can work with emerging mobility providers*, September 2016.

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change in rider behaviors or a short-term cycle related to factors such as lower gas prices in recent years.<sup>59</sup>

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## Extent of Marketing and Outreach about On-Demand Services Can Impact Partnerships' Success and Increase Access to Services

Most stakeholders we interviewed agreed that sufficient marketing and outreach to target rider populations is critical for the success of new on-demand services, and this also impacts the overall success of the partnerships. Most selected local transit agencies (12 of 16) and companies (10 of 13) cited marketing as a significant factor impacting new service use. For example, officials at several local transit agencies told us that they dedicated resources for outreach to target riders to ensure these riders understood the new services being offered. One agency advertised its new on-demand taxi services for paratransit-eligible customers through phone calls to customers and residential mailings, and also encouraged the taxi companies involved to separately advertise these services.

Even with outreach and marketing to target riders, some potential riders—particularly the elderly and low-income earners—may not be able to easily access some on-demand services. For example, the current ridesourcing model generally requires riders to have a smartphone and a bank card to request a ride, which could exclude some riders.<sup>60</sup>

- According to recent reports, less than one-third of Americans over age 65 own a smartphone<sup>61</sup> and only 4 percent had used a ridesourcing service as of 2016.<sup>62</sup> However, according to literature, older Americans will be a key demographic for transit providers to target in

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<sup>59</sup>S. Feigon and C. Murphy. 2018. Transportation Research Board, *Broadening Understanding of the Interplay Between Public Transit, Shared Mobility, and Personal Automobiles*. Pre-publication draft of TCRP Research Report 195 (2018).

<sup>60</sup>Representatives of one ridesourcing company told us that the main reason their drivers do not accept cash payment is due to the risk of theft.

<sup>61</sup>TRIP, *Preserving the Mobility and Safety of Older Americans*, Washington, D.C., March 2018.

<sup>62</sup>Pew Research Center, *Shared, Collaborative and On Demand: The New Digital Economy* (May 2016).

coming years, since their numbers are projected to grow significantly and some will stop driving their own vehicles in the near future.<sup>63</sup>

Reflecting similar concerns, several officials from local transit agencies (4 of 16) told us that it can be challenging for older residents in their communities to learn to use the smartphone apps that are needed to access some on-demand services.

- According to a 2016 Pew Research Center report, of those surveyed with household incomes greater than \$75,000, 86 percent had heard of ridesourcing services and 26 percent had used them. For those surveyed with incomes less than \$30,000, however, only 51 percent had heard of these services and 10 percent had used them.<sup>64</sup>

According to a recent report, those with lower incomes could particularly benefit from more on-demand services, especially since reliable access to transportation can help people acquire and keep better jobs.<sup>65</sup>

Several selected transit and private mobility stakeholders had efforts underway to address such access issues. For example, two local transit agencies had done targeted outreach to senior communities to educate them about using the new services, including instructions for using the smartphone apps. According to transit officials involved, these efforts had increased the use of these on-demand services by elderly riders. In addition, one ridesourcing company offers gift certificates to offer an option for those without bank cards, which can be purchased with cash and used to redeem rides. In another example, staff at a bike-share company said that their company already offers some options for those without bank cards. Staff at a technology company told us they have plans to offer more such payment options in the future.

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## Conclusions

As the sharing economy continues to grow, local transit agencies may increasingly look for opportunities to leverage emerging technologies to

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<sup>63</sup>TRIP, *Preserving the Mobility and Safety of Older Americans*, Washington, D.C., March 2018.

<sup>64</sup>Pew Research Center, *Shared, Collaborative and On Demand: The New Digital Economy* (May 2016).

<sup>65</sup>National Academy of Sciences, Special Report 319: *Between Public and Private Mobility: Examining the Rise of Technology-Enabled Services* (Washington, D.C.: 2015).



extend their services, address first- and last-mile and other issues, and provide additional options for riders by partnering with private mobility companies. Since the sharing economy is a relatively recent phenomenon, FTA has an opportunity to proactively facilitate and share information about ongoing transit partnership projects, including how projects are meeting federal requirements related to accessibility and equity. In addition, FTA could improve the quality of NTD data by advising transit agencies on which on-demand services qualify for NTD entry and how to accurately report about qualifying services. Without clearer instructions on whether and how data from new on-demand services should be reported into NTD, local transit agencies may remain confused, potentially resulting in inconsistent reporting. Further, without more consistent and complete data on partnership activities, including projects that were not funded through the MOD Sandbox program, FTA may lack key information needed to track progress in achieving its goals of promoting more integrated and efficient transit systems. In the absence of a clear statement from FTA about the minimum data needed from private partners for entry into NTD, some local transit agencies will likely continue encountering challenges getting needed data from partners. Finally, absent more sharing of information on partnerships by FTA, including how such partners are addressing data sharing issues, local transit agencies will be poorly positioned to navigate ongoing changes in the transit industry.

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## Recommendations for Executive Action:

We recommend that FTA take the following three actions:

- Gather and publicly share information on transit partnerships, including those that did not receive funding through the MOD Sandbox program, to include examples regarding how various local transit agencies complied with federal requirements—such as procurement, drug and alcohol testing, ADA, and Title VI requirements—while offering new on-demand services in partnerships. (Recommendation 1)
- Determine which on-demand services qualify as “public transportation” based on the statutory definition and disseminate information to clarify whether and how to report data from such services into NTD. (Recommendation 2)
- Gather and publically share information on transit partnerships, including those that were not part of the MOD Sandbox program, to

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include: information on how the local transit agencies and their private mobility company partners are facilitating data sharing, and minimum data needed from a private partner to facilitate NTD reporting. (Recommendation 3)

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## Agency Comments:

We provided a draft of this report to DOT for review and comment. We received written comments from DOT, which are reprinted in appendix II. DOT concurred with our three recommendations. The department stated that, in line with these recommendations, it will continue its proactive efforts related to the Mobility on Demand program, and continue to share information about public transit partnerships. DOT also provided technical comments, which we incorporated in the report as appropriate.

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

If you or your staff members have any questions about this report, please contact Mark Goldstein at (202) 512-2834 or [GoldsteinM@gao.gov](mailto:GoldsteinM@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.



Mark Goldstein  
Director, Physical Infrastructure Issues

# Appendix I: Descriptions of Selected Transit Partnership Projects That GAO Reviewed

**Table 3: Selected Transit Agency Partnership Projects**

Transit agency, location of project	Partner(s)	Project description
1 Livermore Amador Valley Transit Authority (LAVTA), Dublin, CA	Uber, Lyft, Desoto cab	From January 2017 through June 2018, LAVTA's GoDublin Project provided first- and last-mile service for trips that begin and end within the city limits of Dublin, CA. LAVTA paid half of the fare of a ridesourcing ride, up to a maximum of \$5.00. The service included a service option for paratransit-eligible riders. The overall goal of the pilot project was to see if rideshare programs reduce congestion and parking issues in Dublin.
2 City of Centennial, CO	Lyft Line, Via Mobility Services, Denver South Transportation Management Association, Conduent (formerly Xerox)	GoCentennial, a demonstration project that operated from August 17, 2016 through February 17, 2017, was intended to increase rail ridership by providing first- and last-mile Lyft Line rides (microtransit) and accessible transportation service to and from the Denver Regional Transportation District rail station located in Centennial, CO. The service included a transportation option for paratransit-eligible riders.
3 Washington Metropolitan Area Transit Authority (WMATA), Prince George's County, and Montgomery County, MD	Regency Taxi, Silver Cab	Beginning in September 2017 WMATA's Abilities Ride program provides riders that are eligible for WMATA's Metro Access paratransit program the option to use on-demand taxi service for trips that originate and end in WMATA's Maryland service area at a discounted rate. The Metro Access customer pays the first \$5 of the fare; then WMATA pays up to the next \$15. For a trip requiring a Wheelchair Accessible Vehicle, WMATA pays an extra \$10 to the vendor for that trip.
4 Pinellas Suncoast Transit Authority (PSTA), Pinellas County, FL	Lyft, United Taxi, Care Ride, Wheelchair Transport Services, Liberty Wheelchair Transport	Beginning in December 2017, PSTA's Mobility on Demand Sandbox project provides same day, on-demand door-to-door service to a small subset of paratransit-eligible customers in Pinellas County, FL.
5	Uber, United Taxi, Wheelchair Transport Services	Beginning in February 2016, PSTA's Direct Connect program provided first- and last-mile service, initially within two pilot zones. PSTA expanded the program to eight zones in Pinellas County in January 2017. As of April 2018, users can travel to or from 24 locations throughout Pinellas County. PSTA pays the first \$5 of the ride and the customer pays the rest. The service includes a transportation option for paratransit-eligible riders.

**Appendix I: Descriptions of Selected Transit Partnership Projects That GAO Reviewed**

<b>Transit agency, location of project</b>	<b>Partner(s)</b>	<b>Project description</b>	
6	Uber, United Taxi, Care Ride	Beginning in August 2016, PSTA's TD Late Shift program has provided service between home and work for lower-income riders from 10:00 pm through 6:00 am when PSTA's regular service does not operate. The service includes a transportation option for paratransit-eligible riders.	
7	Metropolitan Atlanta Rapid Transit Authority (MARTA), Atlanta, GA	Uber and Lyft	MARTA partnered with Uber for a promotional partnership to provide first- and last-mile transportation in 2015, then again after a bridge collapsed on Interstate 85 on March 30, 2017. MARTA currently has informal partnerships with both Uber and Lyft in which they advertise one another's services.
8	Chicago Transit Authority (CTA), Chicago, IL	Chicago Department of Transportation Divvy, Cubic Transportation Systems	CTA is partnering with the Chicago Department of Transportation and Divvy bike-share to integrate Divvy rentals into Ventra. Ventra is CTA's central fare payment system that is accessible by Smartphone application, through a Mobility on Demand Sandbox project. CTA expects to launch the updated Ventra app in summer 2018.
9	Massachusetts Bay Transportation Authority (MBTA), Boston, MA	Uber and Lyft	From October 2016 through June 2018, MBTA operated a pilot program with Uber and Lyft to offer on-demand paratransit service to customers that are eligible for MBTA's The Ride, MBTA's regular paratransit service.
10		Curb Mobility <sup>a</sup>	Once launched in summer 2018, MBTA will partner with local taxis on Curb's platform to provide on-demand paratransit service to customers that are eligible for MBTA's The Ride, MBTA's regular paratransit service.
11	Kansas City Area Transportation Authority (KCATA), Kansas City, MO	Bridj	From March 2016 through April 2017 KCATA partnered with Bridj, a company offering microtransit services, to offer riders services within and between two zones around downtown Kansas City, MO during weekday rush hours. The service included a transportation option for paratransit-eligible riders.
12		TransDev	From May 2017 through April 2018, KCTA partnered with local taxi companies owned by TransDev to provide subsidized on-demand service for paratransit-eligible customers. Customers that are not eligible for paratransit could also use the service, but KCATA did not subsidize the cost of the ride.
13	Rabbit Transit, serving 10 counties in central and southern Pennsylvania.	Uber and Lyft	Rabbit Transit has used demand-responsive service from Uber and Lyft to fill gaps during peak travel periods when the agency's regular services are running late.
14	King County Department of Transportation Metro Transit Division (King County Metro) & Central Puget Sound Regional Transit Authority (Sound Transit), Seattle, WA	Via	King County Metro and Sound Transit will be partnering with Via to provide rides for customers traveling to and from bus and rail stations in the Seattle, WA area as a sub-recipient of the Los Angeles County Metropolitan Transportation Authority's Mobility on Demand Sandbox partnership. Expected launch of the service is late 2018.
15	King County Department of Transportation Metro Transit Division (King County Metro), Seattle, WA	ReachNow and Car2go	King County Metro has dedicated four parking spaces at its Northgate Transit Center Park & Ride to free floating car-share vehicles to increase the number of options for customers to connect to transit, including customers who do not own a personal vehicle. The car-share spaces are also intended to enable more customers to ride transit by increasing parking turnover at this overcrowded lot.

**Appendix I: Descriptions of Selected Transit Partnership Projects That GAO Reviewed**

<b>Transit agency, location of project</b>	<b>Partner(s)</b>	<b>Project description</b>	
16	To be determined	King County Metro will be operating a pilot program to provide on-demand first and last mile service to customers within a 2-mile radius of the Eastgate, Northgate, and South Renton park & ride lots. The service also will include a transportation option for paratransit-eligible riders. Expected launch of the service is August 2018.	
17	Los Angeles County Metropolitan Transportation Authority (LA Metro), Los Angeles, CA	Via	Through its Mobility on Demand Sandbox project, LA Metro will be partnering with Via to provide first- and last-mile rides to and from locations where customers can board an LA Metro bus or train, in an effort to increase transit ridership. LA Metro will provide vehicles that can accommodate customers that need additional assistance or customers in wheelchairs as well as a call center for customers without smartphones. LA Metro aims to launch the service in September 2018.
18		Uber	LA Metro partnered with Uber for two weeks in May 2016 to provide rides to and from Metro Expo Line stations. Customers received a \$10 discount on these Uber rides.
19	Regional Transportation Authority (RTA) of Pima County, Tucson, AZ	Ruby Ride Metropia	Through the Adaptive Mobility with Reliability and Efficiency (AMORE) Mobility on Demand Sandbox project, the Regional Transportation Authority (RTA) of Pima County, AZ will offer riders the ability to request services from Ruby Ride, a ridesourcing company, via a phone app, for first- and last-mile transportation. According to an RTA official, this project seeks to provide more services to outlying areas, which previously had either infrequent fixed routes or no service. The RTA and Metropia—a technology company involved in the project— also plan to offer riders incentives, such as discounted services, to change their travel behavior, such as changing their travel times to when roads are less busy. The phone app will also include a carpool matching service that will dynamically recommend potential driver/rider combinations to customers. RTA plans to launch this service in fall 2018. The service will include a transportation option for paratransit-eligible riders.
20	Research Triangle Regional Public Transportation Authority (GoTriangle), Research Triangle Park, NC	TransLoc	From January through June 2018, GoTriangle partnered with TransLoc, a technology company, to provide first- and last-mile Go OnDemand shuttle service (microtransit) in Research Triangle Park and surrounding areas. Riders were able to hail GoTriangle's shuttle service from their phone or online using the TransLoc Rider app.
21	Greater Dayton Regional Transit Authority (RTA), Dayton, OH	Lyft, Anton's Transportation (taxi), and Secure Transportation	From June 2017 through June 2019, the Greater Dayton Regional Transit Authority (RTA) is partnering with Lyft and two other providers to provide on-demand rides from designated RTA Connect stops in underserved areas of the Greater Dayton service area to a transfer point where riders can access fixed-route bus service. The on-demand service has replaced fixed-route bus service that was eliminated due to low ridership.

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**Appendix I: Descriptions of Selected Transit Partnership Projects That GAO Reviewed**

<b>Transit agency, location of project</b>	<b>Partner(s)</b>	<b>Project description</b>
22 Capital Metro, Austin, TX	Via	Capital Metro partnered with Via Transportation, Inc. (Via) to provide first- and last-mile on-demand microtransit service from June 2017 through June 2018 to an area of Austin with few fixed route options. Riders were able to book rides with Via, whose service has no fixed routes or fixed schedules. The buses used for the project were able to accommodate two wheel-chair riders and up to nine seated occupants.

Source: GAO analysis | GAO-18-539

<sup>a</sup>Curb Mobility was formerly known as Verifone Taxi Systems.

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# Appendix II: Comments from the Department of Transportation



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**Appendix II: Comments from the Department  
of Transportation**

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**U.S. Department of  
Transportation**

Office of the Secretary  
of Transportation

Assistant Secretary for Administration

1200 New Jersey Avenue SE  
Washington, DC 20590

JUL 16 2018

Mark Goldstein  
Director, Physical Infrastructure Issues  
U.S. Government Accountability Office (GAO)  
441 G Street NW  
Washington, DC 20548

Dear Mr. Goldstein:

The Federal Transit Administration (FTA) sees significant potential in partnerships between transit agencies and private mobility providers. FTA's Mobility on Demand (MOD) Research program tests, assesses, and explores these partnerships through a series of projects. Since October 2016, FTA has invested over \$8 million in MOD Sandbox demonstration grants. In addition, FTA's MOD Research program includes cooperative agreements with non-profit organizations to provide technical assistance to the transit industry in developing partnerships with private mobility companies. Technical assistance includes data-gathering, disseminating promising practices, and facilitating peer-to-peer information exchanges among MOD Sandbox grantees and associated partners.

To date, FTA has successfully implemented the following actions regarding the MOD Research program:

- Expanded options for communities and transit agencies to provide MOD-based partnerships;
- Enhanced transit capacity and readiness to adopt MOD solutions;
- Developed a better understanding of innovative business models that deliver high-quality, seamless, and equitable mobility;
- Adopted policies on shared mobility that better support transit agencies and communities; and
- Provided support for development of traveler-centric, effective transportation systems that are reflective of MOD guiding principles of system integration, facilitation of partnerships, innovation, and equity.

A key strategy for FTA's MOD Research program is continuous learning. As the research discovery process unfolds, FTA will continue to broadly share and promote results. The agency currently promotes results through webinars, workshops, newsletters, and presentations at conferences. FTA also provides support for the Shared Mobility Policy Database, an online resource with a searchable database of information on partnerships between transit agencies, local governments, and private mobility providers to include solicitation documents, contracts, data sharing provisions, and marketing materials. Further, FTA coordinates and collaborates with the Shared Use Mobility Center and Intelligent Transportation Society of America in a number of MOD activities.

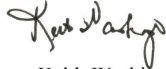
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**Appendix II: Comments from the Department  
of Transportation**

Upon review of the GAO draft report we concur with the recommendations. We will provide a detailed response to each recommendation within 60 days of the final report's issuance.

FTA will continue its proactive efforts to identify the benefits and challenges of MOD and share information with its public transit partnerships. We appreciate the opportunity to respond to the GAO draft report. For additional information and assistance, please contact Madeline M. Chulumovich, Director, Audit Relations and Program Improvement at (202) 366-6512.

Sincerely,



Keith Washington  
Deputy Assistant Secretary for Administration

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# Appendix III: GAO Contacts and Staff Acknowledgments

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## GAO Contact

Mark L. Goldstein, (202) 512-2834 or [GoldsteinM@gao.gov](mailto:GoldsteinM@gao.gov)

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## Staff Acknowledgments

In addition to the contact above, Heather MacLeod (Assistant Director); Jessica Bryant-Bertail (Analyst-in-Charge); Lacey Coppage; Delwen Jones; Terence Lam; Bonnie Pignatiello Leer; Josh Ormond; Oliver Richard; and Kelly Rubin made key contributions to this report

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# Appendix IV: Accessible Data

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## Agency Comment Letter

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Accessible Text for Appendix II: Comments from the  
Department of Transportation

Page 1

Office of the Secretary of Transportation

Mark Goldstein

Assistant Secretary for Administration

1200 New Jersey Avenue SE

Washington, DC 20590

JUL 16 2018

Director, Physical Infrastructure Issues

U.S. Government Accountability Office (GAO)

441 G Street NW

Washington, DC 20548

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- Developed a better understanding of innovative business models that deliver high-quality, seamless, and equitable mobility;
- Adopted policies on shared mobility that better support transit agencies and communities; and
- Provided support for development of traveler-centric, effective transportation systems that are reflective of MOD guiding principles of system integration, facilitation of partnerships, innovation, and equity.

A key strategy for FTA's MOD Research program is continuous learning. As the research discovery process unfolds, FTA will continue to broadly share and promote results. The agency currently promotes results through webinars, workshops, newsletters, and presentations at conferences. FTA also provides support for the Shared Mobility Policy Database, an online resource with a searchable database of information on partnerships between transit agencies, local governments, and private mobility providers to include solicitation documents, contracts, data sharing provisions, and marketing materials. Further, FTA coordinates and collaborates with the Shared Use Mobility Center and Intelligent Transportation Society of America in a number of MOD activities.

## Page 2

Upon review of the GAO draft report we concur with the recommendations. We will provide a detailed response to each recommendation within 60 days of the final report's issuance.

FTA will continue its proactive efforts to identify the benefits and challenges of MOD and share information with its public transit partnerships. We appreciate the opportunity to respond to the GAO draft

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report. For additional information and assistance, please contact Madeline M. Chulumovich, Director, Audit Relations and Program Improvement at (202) 366-6512.

Sincerely,

Keith Washington

Deputy Assistant Secretary for Administration

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