EXECUTIVE SUMMARY

Sharing is Scaring: New Business Models Disrupting Mobility

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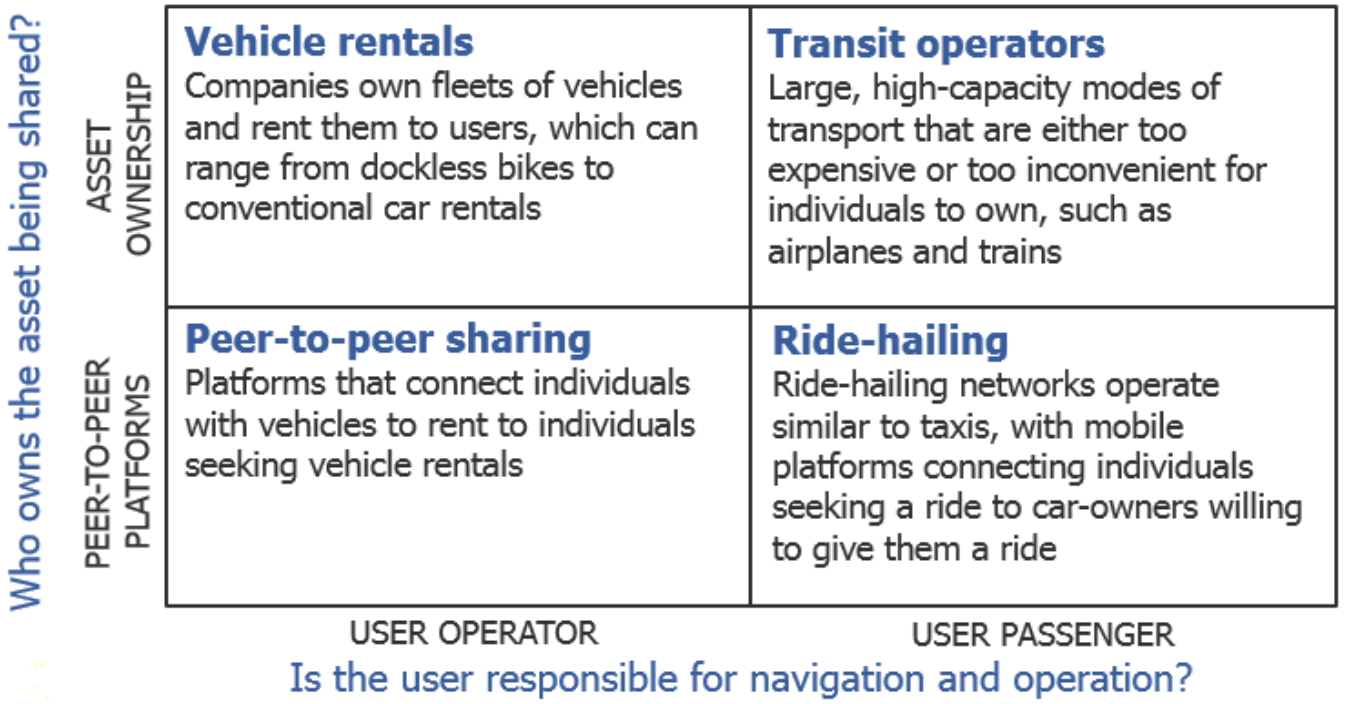
Lux Research

Executive Summary

The past century of mobility has mostly been defined by the automobile. Today, however, our relationship with the automobile is changing as new business models aim to replace conventional car ownership with a combination of ride-hailing and vehicle-sharing accessed through mobile apps – a trend we call shared mobility.

Recently, two key changes have been happening. First, shared mobility companies are no longer pursuing sharing one specific mode or service in one business model and instead are pursuing integration of many services into one platform. Second, the growth in the space is attracting a diverse array of competitors, including automakers, transportation network companies, and tech companies.

Lux's Shared Mobility framework highlighting different types of sharing-focused business models



This report presents several case studies to highlight how different sectors are developing strategies to develop shared mobility platforms, finding that no single industry is best-positioned to own this future. It also finds that autonomy and integration of public transport are two key differentiators in the future of shared mobility, which will ultimately help drive the sector to profitability.

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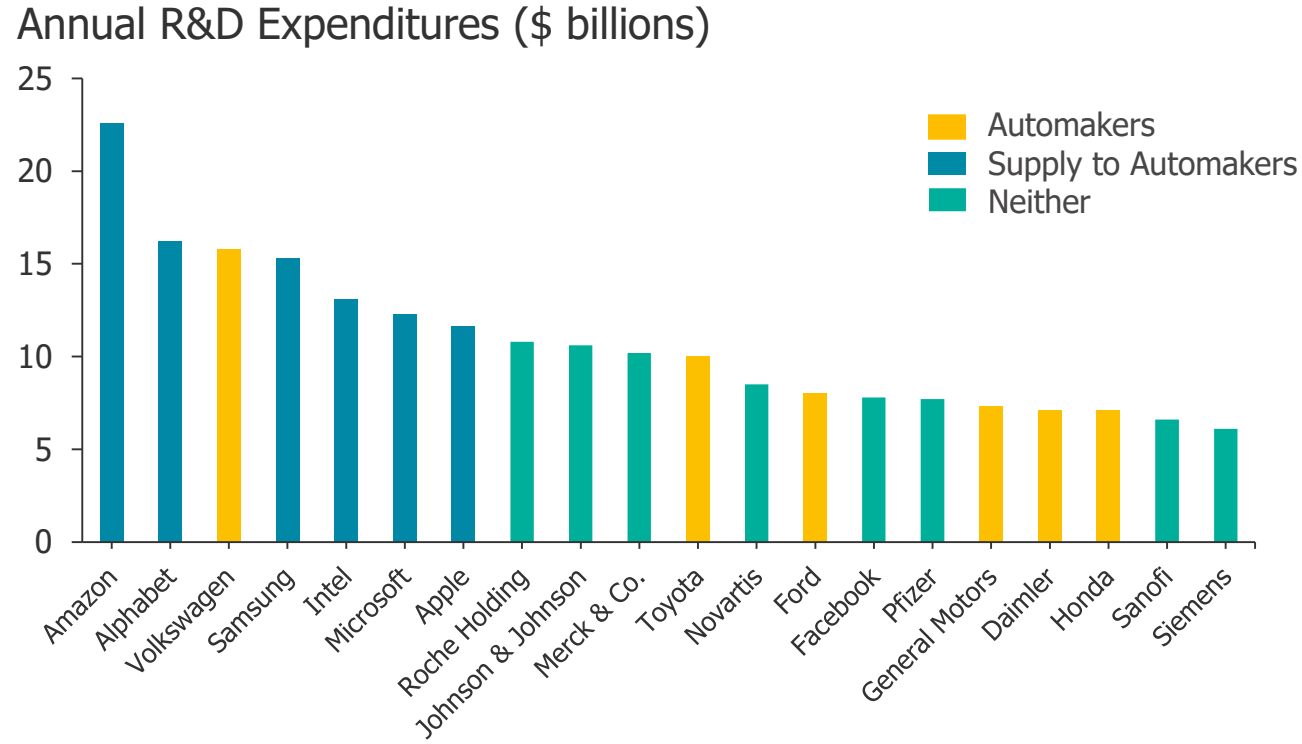
In the past century, cars have provided greater access to mobility than any other technology

The past century of mobility has mostly been defined by the automobile. Although rates of car ownership vary, most developed countries own roughly one car for every two people, in some countries like the U.S. and Australia are closer to one car per person. The flexibility and freedom of automobiles, paired with rapid expansion of highway networks, have led to the most rapid advancements in mobility in history.

Each year, more than 100 million vehicles are sold to people and commercial entities globally, generating trillions of dollars in revenue. Automakers, in an effort to out-innovate rivals and produce the most compelling product, have led most other industries in spending on research and development. Of the 20 companies with the largest R&D budgets globally, six are automakers, while others supply components to them.

Automakers have invested heavily in R&D. Six of the world's largest R&D spenders are automakers – with a combined budget of $55.3 billion – while many others supply components to them.



 Data Source: PWC's Global 1000

SHARED MOBILITY 1.0

An ecosystem of apps

The shared mobility landscape to date has consisted mainly of companies pursuing a single business model – e.g., Uber focused on ride-hailing, Car2Go on car-sharing, and Lime on bike-sharing. We call this Shared Mobility 1.0, an ecosystem of separate apps focused on sharing one vehicle or providing one service.

Who owns the asset being shared?

	USER OPERATOR	USER PASSENGER
ASSET OWNERSHIP	**Vehicle rentals** Companies own fleets of vehicles and rent them to users, which can range from dockless bikes to conventional car rentals	**Transit operators** Large, high-capacity modes of transport that are either too expensive or too inconvenient for individuals to own, such as airplanes and trains
PEER-TO-PEER PLATFORMS	**Peer-to-peer sharing** Platforms that connect individuals with vehicles to rent to individuals seeking vehicle rentals	**Ride-hailing** Ride-hailing networks operate similar to taxis, with mobile platforms connecting individuals seeking a ride to car-owners willing to give them a ride

Is the user responsible for navigation and operation?

TAXONOMIZING SHARED MOBILITY

Most people associate shared mobility solely with ride-hailing. Although it is the most popular shared mobility business model, other sharing-based business models exist that cater to different trip lengths or route flexibilities. In order to taxonomize the types of sharing-based business models, we consider two questions:

Who owns the asset being shared?

Conventional shared mobility business models involve a company owning assets to be shared, such as a taxi company or car rental agency. This is particularly effective when the asset is expensive and too large for individuals to operate, such as planes and trains. However, newer business models have emerged where companies don't own assets being shared, but only operate peer-to-peer platforms for users to share goods and services.

Is the user responsible for navigation and operation?

In some models like ride-hailing, users experience a high level of convenience, as they are not responsible for operation or navigation. These models are often higher-cost compared alternatives where users are expected to operate a vehicle and navigate to a destination.

SHARED MOBILITY 1.0

TNCs lead all others in funding and market traction

ASSET OWNERSHIP

PEER-TO-PEER PLATFORMS

Vehicle rentals

The first car rental agency, Sixt, was founded in 1912. Most newer startups using this business model focus on micromobility modes, including bikes and scooters.

Funding: $4.5B

Sum of money raised by the five largest startups since 2009

gogoro, CAR2GO, mobike, Lime, zipcar

Transit Operators

In this quadrant, there aren't any startup companies, as it is dominated by large incumbents. Companies fitting this description include airlines, train operators, and public transit operators.

Funding: N/A

Peer-to-peer sharing

Peer-to-peer sharing networks have failed to grow at the same rates as other shared mobility startups. This hasn't stopped the flow of funding, as nearly $1 billion has been poured into leading P2P mobility networks.

Funding: $750M

Sum of money raised by the five largest startups since 2009

Getaround, drivy, TURO, PP租车, HyreCar

Ride-hailing

These companies – also known as transportation network companies (TNC) – are the most well-known in shared mobility due to large valuations with billion-dollar funding rounds. Some, including Uber and Lyft, are now public.

Funding: $56B

Sum of money raised by the five largest startups since 2009

DiDi, lyft, Grab, Uber, GOJEK

USER OPERATOR

USER PASSENGER

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A shift from Shared Mobility 1.0 to Shared Mobility 2.0 is underway, defined by multimodality

The shared mobility landscape is undergoing a period of change. TNCs are no longer startups, as Lyft and Uber went public in 2019, and others like Didi are likely to do so in the coming years. These companies are no longer focused on expanding into new markets with ride-hailing services; most markets are already saturated with such options. Instead, multimodality – providing access to different modes of transport, such as bikes and cars, on their platforms – is now a key focus.

This transition marks a shift to Shared Mobility 2.0. Companies are no longer testing new sharing business models and new modes of transport, but rather focusing on integrating the right combination of services in each market into existing platforms. These platforms should be more convenient and useful for consumers – faster due to having access to different modes of mobility, and free of transaction friction thanks to integrated ticketing and payment.

However, as the shared mobility industry matures, it is attracting intense competition from incumbents – both those in the tech sector and incumbent automakers. Tech companies view Shared Mobility 2.0 as an opportunity to expand, leveraging their expertise in providing consumer services and developing software. Automakers are responding to a threat, as mass adoption of shared mobility services would mean the end of car ownership – an obvious problem for companies selling cars.

A rise in shared mobility opens opportunities for new entrants to challenge industry incumbents

Shared Mobility 2.0 is opening opportunities for new entrants to upset incumbent mobility providers like car companies, taxi operators, and even public transit operators. In this analysis, we present case studies of how companies from each industry – automakers, TNCs, and tech companies – are building the pieces of Shared Mobility 2.0 and highlight what advantages and disadvantages each industry faces in owning this future.

Automakers

As the incumbent providers of mobility in most regions, shared mobility presents a threat to their core business model. Most agree that shared mobility is not a fad, but strategies to tackle this market vary significantly.

Case study: DAIMLER

Transportation Network Companies (TNCs)

Ride-hailing companies disrupted the taxi business industry with improved convenience and lower prices. To justify billion-dollar valuations, many are turning to other mobility services for additional revenue.

Case study: Uber

Tech Companies

Aiming to leverage their position in software and connectivity, many tech companies view mobility services as not only a new growth engine, but also a way to engage users.

Case study: Alphabet

INDUSTRY: TRANSPORTATION NETWORK COMPANIES

Startups set their sights on disruption

Industry at a glance

The ride-hailing industry emerged over the past 10 years as a slew of startups emerged to connect drivers to people in need of rides, disrupting the taxi industry in the process. Although Uber was first entrant in the space, founded in 2009, most of the world's largest TNCs today were founded in the years following.

Regional consolidation began in 2015 as a result of the high costs of competition in some regions, particularly Asia. From this, regional superpowers have emerged: Uber North America and Europe, Grab and Go-Jek in Southeast Asia, and Didi Chuxing in China. These companies have not yet demonstrated financial success, but have succeeded in attracting investors, raising a total of more than $50 billion to bring these networks to fruition.

TNCs in shared mobility

TNCs reinvented the shared mobility space, introducing new digital-enabled platforms timed perfectly with growth in internet-connected mobile device sales. TNCs are also some of the most active in introducing new services onto their platforms, including food delivery and microfinancing among others. As opportunities to grow revenues by expanding into new territories is no longer available, adding new services and revenues streams is crucial for success.

Case studies in shared mobility: Uber

Founded in 2009, Uber was the first and most well-known company to pursue ride-hailing via mobile application. In the years since, it has added a variety of services, with the largest push coming in 2018, as it made platform acquisitions and formed valuable partnerships with transit agencies.

INDUSTRY: TRANSPORTATION NETWORK COMPANIES

Uber expands aggressively into multimodality in 2018

ASSET OWNERSHIP / PLATFORM DEVELOPMENT

Vehicle rentals

Uber entered this market aggressively in 2018, first partnering with Lime on integrating that company's scooters into its app and later acquiring JUMP. Uber is expected to launch its custom-designed bikes and scooters in late 2019. Although Uber has backed away from peer-to-peer sharing, it is planning a large expansion of these services.

Transit operators

Uber's activities in this quadrant are somewhat limited, but very important for the future of the company. This quadrant contains Uber's largest R&D focuses – Uber Elevate and its autonomous driving program – in which it would presumably own and operate these assets.

Peer-to-peer sharing

Uber's activities in this quadrant are notably low. It briefly offered peer-to-peer vehicle rentals on its platform in a small number of locations via a partnership with Getaround in 2018, but quietly shut down that service just six months later. It continued to offer rentals to drivers but shut that down, as it needs to "think through the best way to offer Uber customers access to rentals."

Ride-hailing

Uber was founded to occupy this quadrant, and ride-hailing still makes up the vast majority of Uber's revenue. Since its launch of this service in 2012, the company has focused on diversifying options for consumers, adding the option to request luxury vehicles, shared rides, and larger vehicles.

USER OPERATOR / USER PASSENGER

Uber

INDUSTRY: TRANSPORTATION NETWORK COMPANIES

Working with – not against – public transit agencies

Key strategic decision: Working with – not against – public transit agencies

Historically, Uber has been at best combative and at worst outright deceptive when working with cities. This changed in 2017, when Dara Khosrowshahi replaced the controversial Uber founder Travis Kalanick as CEO. Along with this change of leadership, Dara pledged the company would approach its work with cities differently, putting greater emphasis on working together. Uber's actions since then have backed up that rhetoric, as Uber formed partnerships with public transit agencies in Boston, Innisfil, Nice, and Cincinnati.

Uber's change of approach wasn't only altruistic. Recognizing the value, and necessity, in integrating public transit into its app, it adopted a different mentality in a partnership with Denver's public transit agency, RTD. For the first time, users will see public transit listed along with available ride-hailing options, with payment and ticketing integrated into Uber's app. Before this deal could be realized, a crucial partnership was formed. Masabi, which counts Mastercard and Keolis as investors, works directly with public transit agencies on integrating digital payment and ticketing.

LUX TAKE

Uber's partnership with Masabi is crucial, as the availability of mobile ticketing and payment processing remains one of the largest barriers to MaaS adoption. Uber can now approach cities with a solution that improves public transit, instead of entering as a competitor. Uber's Denver project will be crucial in generating valuable data – if a trend of decreasing ridership stops after Uber's integration, it will be strong positive indicator for Uber's outlook in other cities.

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KEY TAKEAWAYS

The push for Shared Mobility 2.0

Automakers will consolidate and partner on key areas of research and development.

Development of electric and autonomous vehicle technologies is expensive, leading to high-profile partnerships and proposed mergers. Partnerships are likely to extend to shared mobility services, as automakers seek to protect their position while sharing resources. Clients should expect more relationships like BMW and Daimler to form.

Integrating public transit is a significant differentiator.

In Shared Mobility 2.0, the integration of public transit is a crucial piece of multimodality as the necessary high-capacity backbone of transit in a city. Securing partnerships with cities, and overcoming barriers of mobile ticketing and payment processing in some areas, will be crucial to success.

No single industry will emerge a winner.

In our analysis, no single industry holds a distinct advantage over the others that makes it a clear-cut winner in the future of shared mobility. A winning strategy must include a thorough understanding of mapping which services are most useful for a particular city; all modes aren't effective in all cities, and selecting the right combination of services on a mobility platform is one of the few differentiators between platforms.

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