Mobility as a Service

Technological advancements are changing the way people get from A to B. While the modes available have not shifted substantially, the delivery and means of accessing them has. Currently, many cities have programs that help people share cars, rides, bicycles and even electric scooters. Shared mobility expanded rapidly in Minnesota, and in particular the Twin Cities metro area. Modern car and bike sharing began locally over ten years ago.[1] To better understand the role mobility as a service might play in Minnesota's future, it is important to better grasp shared mobility innovation, its presence outside the region, and future trends in the market.

RIDESHARING

Perhaps the most disruptive innovation in shared mobility today is ridesharing,[2] which pairs riders using online platforms with drivers who use personal, non-commercial vehicles.[3] Ridesharing companies such as Uber and Lyft, also called transportation network companies (TNCs), gained international attention for their recent influence on the transportation system. Uber currently operates in 68 countries[4] while Lyft operates in Canada and the U.S. only.[5] Ridesharing gives drivers the opportunity to make money for their service and riders new options for getting around. Many private vehicle owners have made ridesharing their full time job, while others simply drive when they are able.[6] Rideshare companies are, in many ways, simply an app with a back-end (or "cloud-based") dispatch service instead of a traditional taxi cab dispatch.

Ridesharing has grown rapidly since Uber began testing the service with three cars on the streets of New York City in January of 2010.[7] Cities have raised concerns about vehicle regulation, driver insurance, and data privacy. However, it is still unclear how these concerns affect the popularity of ridesharing.[8]

CARSHARING

"Carsharing" is the marketing term for modern short-term car rental services. There are a number of different types of carsharing. However, they all rely on mobile information technology to streamline user experience. Mobile technology allows the customer and company to avoid the hassle of repetitive contract negotiations and inconvenient car pick-up and drop-offs that are common in traditional vehicle rentals.[9]

Carsharing is not designed to replace traditional rental cars, which primarily serve tourists and business. This may change as services continue to evolve. Carsharing is also unlikely to be cost-effective as a replacement for daily commute trips. However, if other modes like walking, biking or taking transit to work are available, carsharing may be an option to replace owning a car or second car for other trips. Successful carsharing is related to parking costs. Generally speaking, carsharing is less promising in

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[1] "Car sharing - Good for drivers and for cities," Star Tribune: Newspaper of the Twin Cities (Minneapolis, MN), March 12, 2005: 20A, accessed January 26, 2016, http://infoweb.newsbank.com/resources/doc/nb/news/108DC3D28B19D39A?p=NewsBank.

[2] The service is often labeled as ride sourcing, while traditional ride sharing refers only to carpooling and vanpooling. This paper will consider the services provided by companies similar to Uber and Lyft as ride sharing.

[3] Shared Use Mobility Center, 2016

[4] Uber.com/cities

[5] lyft.com/rider/cities

[6] TheRideShareGuy

[7] Chokkattu, 2014

[8] Rodriguez, 2016

[9] Levinson, D. et al. "The Transportation Futures Project: Planning for Technology Change." , Minnesota Department of Transportation Research Services & Library, 2016.

areas with plentiful free parking,[10] where there is no extra cost of storing your vehicle. However, in areas where free parking is limited, people don't want to own a personal vehicle and constantly have to pay for parking. Carsharing provides users access to cars when they need them without the hassle of car parking/storage.

BICYCLE & SCOOTER SHARING

Bicycle sharing, as the name suggests, is any sort of system or supporting infrastructure that allows users to rent bicycles. These systems gained popularity in the past 10 years thanks to real-time information technology, which allows balancing the bicycle availability across the system.[11] More recently, electric scooter rentals, modeled after traditional bikeshare services, leapt into the national spotlight, albeit controversially.

Bikesharing can function as an extension of transit service, where transit riders transfer to a bike, then ride to a bikeshare dock nearer to their final destination. In Minneapolis, for instance, over 14 percent of survey respondents claim bikesharing increased their usage of bus and light rail.[12] Government agencies and newer bike and scooter share companies struggle to cooperate and bring well-implemented mobility services. On one side, sharing companies claim agencies are slow and not transparent in accommodating mobility innovation.[13] Companies have recommended agencies assign "mobility Czars", or experts dedicated to managing mobility trends. Many cities have attempted to stay ahead of the curve by publishing strategic plans and regulations aiming to accommodate future mobility trends. Seattle DOT, for instance, highlights 20 'first moves' to ensure 2-way dialogue between mobility services and government practices.[14] These moves hope to ensure mobility services are implemented equitably and intelligently through 'nimble' city regulations and adaptable transportation funding schemes.

[10] Levinson, D. et al. "The Transportation Futures Project: Planning for Technology Change." Minnesota Department of Transportation Research Services & Library, 2016.
[11] Shared Use Mobility Center, 2016
[12] Martin, E.W., and S.A. Shaheen. "Evaluating Public Transit Modal Shift Dynamics in Response to Bikesharing: a Tale of Two Cities." *Journal of Transport Geography*, 2014.
[13] Shared Use Mobility Center, 2016
[14] Seattle DOT, *New Mobility Playbook*. 2017.