EIP

Mobility-as-a-Service – how will you travel?

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The taxi service industry has undergone huge disruption over the last decade with the proliferation of ride-hailing apps. The success of companies like Uber® and Lyft® is proof of a global willingness by travellers to interact with travel providers in new ways. In today's connected world, tech-savvy travellers desire more convenient and cost-friendly ways to book, pay for and complete their journeys. Companies such as Uber® and Lyft® are therefore diversifying their businesses to offer "mobility-as-a-service" (MaaS), which will cause widespread disruption to the entire travel industry.

What is Mobility-as-a-Service?

MaaS can be defined as "Multimodal and sustainable mobility services addressing customers' transport needs by integrating planning and payment on a one-stop-shop principle"(according to The MAASiFiE project consortium based in Europe). The general aim is to combine all travel options in one place so that "mobility becomes effortless and intuitive" and users do not need to purchase a vehicle of their own.

The COVID-19 pandemic caused a huge reduction in the number of people using public transport, with many people working from home or avoiding public transport. Governments are keen to ensure that this doesn't result in a corresponding increase in private car usage. According to the MaaS Alliance, MaaS aims to provide "an efficient and sustainable alternative to private car usage to reduce congestion, pollution and other local mobility issues", so may be the solution governments are looking for.

How can MaaS become a Reality?

In truth, it already is! The world's first MaaS platform, the app Whim®, was launched in Helsinki, Finland in 2017 and has so far facilitated over 16 million journeys. The app allows users to book travel by public transport, city bike, e-scooter, taxi, ferry and rental car via subscription service. Whim® is now available in a number of cities from Birmingham (UK) to Tokyo. The company behind Whim® is MaaS Global OY, which has raised over €53M in funding to further develop the platform. They have a family of pending patent applications in key countries such as the US, Europe and China and have trademarked the name Whim.

Uber® is also making moves in this field, offering users the option to purchase tickets for other modes of travel such as the Thames Clippers in London. Uber® has also acquired leading bike-share company Jump and made a significant investment in e-scooter company Lime®.

A key factor to making MaaS a success is the provision of publicly available micromobility solutions. For those who don't live within a short walk of public transport hubs, the complication, time and costs of integrating public transport with private transport in a single journey can be very off-putting. TIER, the UK's largest micro-mobility company, recently announced a partnership with Zipabout to offer a 'last mile' journey option to travellers in London and York. Rail passengers arriving in York and London will now be offered the option to hop on a TIER e-scooter or e-bike to finish the final leg of their journey. Initiatives like this may help reduce private car ownership in urban and suburban areas and encourage uptake in the use of other, more sustainable modes of transport.

Integrating on-demand use of micromobility devices with existing transport infrastructure generates technical challenges, but many companies are coming up with solutions. This is reflected by an increase in patent filings in this field; the patent class G01C21/34, related to route prediction, has seen a four-fold increase in filings in 15 years. Recent patent applications suggest real-time route planning will be based on many factors in the future and will combine different modes of transport to complete a trip.

MaaS could become a vital service, particularly if a provider can match suitable transport to that person and their current needs. An application by Lyft (WO2019/236758 A1) may mean that is a real possibility; the application describes a dynamic transportation

matching system, which matches a user to the most suitable type of transportation for their needs. The system may account for other factors such as 'route features, ambient conditions, and vehicle status' (e.g., whether a device's battery power levels are sufficient to complete the journey). "For example, a dynamic transportation matching system may match a user transporting a bulky package with a basket-equipped bike rather than a scooter without a basket".

Conclusions

A widespread roll-out of MaaS seems to be a few years off and most MaaS development focusses on urban environments. However, in those urban environments (in which over 50% of the world's population live) MaaS could conceivably change the way that millions of people travel. A growing concern over our impact on the planet is causing us to stop and think about our actions and technological developments in journey planning could ultimately make multi-modal journeys quicker and cheaper than the traditional car ride.

To provide a successful service, a great deal of collaboration will be required between the MaaS provider, government (either national or local), existing transport providers and vehicle fleet managers. There will likely be lengthy negotiation on legislation, cost and user safety, but despite these challenges, to me at least, MaaS is an exciting inevitability.