Public and Private Collaboration for New Mobility
by Siegfried Mortkowitz

The new, disruptive mobility ecosystem currently being created depends on an unprecedented collaboration between public authorities and private mobility companies, such as car manufacturers and mobility service providers. Cities need to make themselves more liveable to attract residents and, especially, tax-paying businesses. A primary goal, then, for municipal and regional authorities is to reduce road congestion and fossil-fuel pollution. And to accomplish those ends, they need the technology now being developed in the private sector, to find alternative mobility solutions to replace the private automobile. On the other hand, as car sales start to slow, carmakers need the public authorities as paying customers.

"The public-private interdependence is becoming very, very clear," says Lukas Neckermann, managing director of Neckermann Strategic Advisors and author of the book *Smart Cities, Smart Mobility: Transforming the Way We Live and Work*.. "One can't operate without the other, and certainly can't operate against the other. Any time Uber has had a problem with a city, it's only because they tried to operate against the city, rather than with the city."

As urban centres move to transform themselves into "smart cities" through the integration of new mobility services, to reduce the number of privately owned cars on their streets, it is inevitable that public authorities work hand in hand with private mobility service providers. Ultimately, as these systems become more complex, it is inevitable that the question of who manages the mobility network will be raised. In this context, the white-labelling of the moovel app may be a significant indication of the trust placed in a city's public transport network; even while moovel provides the data, the transport system remains in the hands of the KVV.

"In the future, who a city's primary mobility service provider will be will depend on the brand that people trust." Neckermann says. "If you had one app that made your life easier, you would probably just use that app. Maybe someday that will be Siri or Alexa, where you just say, 'Hey, Alexa, I want to get to the office', and Alexa will figure out how to get you to the office. In other cases – such as in the case of KVV and moovel – the front-end may still be the local operator. It's a battle for the front end, and the front end is whoever provides the reliable, easy- to-use, trustworthy service."

In the press release announcing the launch, KVV CEO Alexander Pischon said the joint pilot project with moovel marked the first step in the city's effort to transform its transport system into a mobility network. "In the future, we plan to incorporate more mobility service providers into the system, so that our customers will be able to get from A to B even more flexibly," he was quoted as saying.

In addition, Daimler and the city of Hamburg recently signed a Memorandum of Understanding for a broad mobility partnership that will include the electrification of all modes of urban mobility in the city and other collaborative projects built on mobile platform solutions such as moovel.

Daimler is not the only carmaker paddling hard to catch the new mobility wave. Other examples include VW's launch in December 2016 of its own mobility services company, MOIA. The company

recently announced a collaboration with Hamburg's main public transport provider, Hamburger Hochbahn, to develop an on-demand shuttle service with electric vehicles by 2018. This collaboration is the result of a strategic partnership agreed between the city and the Volkswagen Group in August 2016.

Furthermore, Toyota has invested $10 million in the bold Finnish mobility service provider MaaS Global. And, in a striking management change, Ford recently replaced its CEO Mark Fields with the man originally hired to oversee its autonomous car project, Jim Hackett, signalling a desire not to be left behind by the mobility transformation.

Jan Hellåker, programme director at Drive Sweden, a strategic innovation program launched by the Swedish government, says that legacy car manufacturers wishing to remain viable need to adapt to the new mobility ecosystem, and for that they need to regard cities and public transport authorities as their future customers.

"Almost all car-OEMs are pursuing a dual path right now," he explains, "where the one path is to just keep making their products more advanced and self-driving, whereas in most cases they have also established their own mobility services brands. It may well be that those [two streams] are not fully coordinated. I think they actually need to have some competition between them internally. But, clearly, the legacy brands, to the extent they want to become mobility service providers, they need to talk with public authorities of all kinds. It's natural that this is easier in their home markets."

In countries without domestic OEMs that situation is reversed. "As they want to advance new mobility solutions, progressive countries around the world look to establish relations with foreign vehicle manufacturers," he adds. "We see that happening in Singapore and Dubai, for example, often with substantial financial incentives."

The Smarter Mobility competence hub at the Helsinki Metropolia University of Applied Sciences has been at the forefront of new mobility research inspired by the needs of public transport authorities. Harri Santamala, Smarter Mobility's project director, says however that it is not always the public authorities who define the project. "We do have a lot of projects with Helsinki's offices working with or indirectly with the public transport authority, but sometimes the focus group could be end users, for example."

A recent, much-publicized two-year project overseen by Santamala involved running autonomous shuttles on public roads. Shuttles appear to be the entry transport mode for European cities embarking on the path to a new transport ecosystem. "It seems that almost every big city in Europe has its own shuttle project," Santamala says. "The mobility service they promise to do, of which they are not fully capable yet, but close to it, is something very compelling for cities: to introduce a new mode in public transportation, for the first and last mile, with very cost-efficient technology. I suppose they also see it as a first step towards automation internally. And last mile as a concept means that you are driving in an area that is not that big, and the speeds are lower, because the traveling distances are not that long."

For its own shuttle project, he explains, the university issued a request for tender for the vehicles, and selected the French company EasyMile. "We had a lot of companies interested," he says. "This was

the first open road experiment for [EasyMile], so they learned a lot about their technology. And they got good visibility in this area."

Santamala notes that the university just closed another public procurement offer, for a company to supply an autonomous bus for open-road testing. "Nobody knows what last-mile traffic and business will exactly be like," he says. "We are trying to convince public authorities of the viability of the technology. Unfortunately, we have funding for only one bus where a fleet would be required for a full-scale pilot."

Countries, such as Finland, that have no domestic vehicle manufacturer have no choice but to acquire research vehicles via public procurement. That's not the case for countries that have domestic carmakers, such as Sweden. However, that advantage vanishes when it comes to commercial deployment.

"On a research level, it's easy for countries to favour local suppliers," explains Drive Sweden's Jan Hellåker. "But when it comes to purchase agreements, it's not so easy. We see that already with buses. For example, one of the first fully electric buses in Europe was developed in a collaboration between the city of Gothenburg and Volvo Bus. it was a huge success and 10 vehicles are currently commercially operating. But moving from a local collaboration to a full deployment cannot easily be done with the current regulations. It would have to go through an open procurement process."

The procurement process will be different from city to city, Neckermann believes. "Each city will have a different model. There are places where you have an extremely centralised approach. If you look at Switzerland as a whole, you can get ride sharing, car sharing, hailing, buses, trams, trains, all in one entity, so they have it all and they are offering it centrally. On the flip side, in the UK, you have a very decentralized model where even the trains are owned by different companies and the operators are very different. You have Transport for London, which manages trams, buses and the Tube, but you still have a highly fragmented private car hire, and rental car, and Uber, and car-sharing. It's very, very fragmented, although apps like Citymapper provide some multimodal information. It really depends on how a city is structured geographically, how it's structured politically, and also economically."

Some observers see a potential danger in the growing collaboration between public authorities and private mobility service providers: the possible absence of commercial competition. "I hope we don't have a monopoly of public transport from one selected partner. It should be the customer who will decide," says Harri Santamala.

According to MaaS Global founder and CEO Sampo Hietanen, "The biggest problem for us is that in some city the public and private players get together to make mobility as a service happen for the citizens. It would be a public project with a tender. That's a sure way to kill the whole thing – a project where the public authority chooses one winner. It's a waste of tax money to try to compete against car ownership with a one-provider solution. Think of it from the end user's perspective. He will have one provider for city mobility against the freedom of choice that car ownership provides. It's never going to work. This public and private getting together might even slow things down if it's done the wrong way. The consumer must have a choice or it will not work."

Hietanen's anxiety is understandable. His company is currently developing a solution that he hopes represents the future of mobility as a service – a solution that requires access to all transport modes and many mobility service providers in order to give the user a mobility experience as seamless as that provided by his car. The solution is based on his belief that it is not enough to reduce the number of cars on public roads; you must offer mobility that equals the freedom of having your own vehicle.

He says the service "tries to answer the question, what would be as good or better than owning your own car? We try to combine everything that we can buy as a [mobility] service, meaning all public transport, all taxis, car shares, car rentals, bike shares, home deliveries, to eventually get to a point where we can say that the product that we have will get you there anywhere, anytime, without the necessity of owning your own car."

The service would be available by monthly subscription, like Netflix, and accessible via a single app. The subscription price would entitle the user to use all mobility services available on the app without additional payment. For this to work, an open ecosystem is necessary.

"You need an open ecosystem because no one within their own ecosystem can have enough for the end user to have the same service level that car ownership provides," Hietanen says. "We have to have all the modes [of transport] really easily accessible. We need so much supply to be able to guarantee people that they will have a seamless experience going from A to B."

For the service to work as intended, it needs as much public transport data as possible and payment agreements with the public transport authorities. "We need to be able to do the purchasing because I want to give people the idea that as a basic part of your subscription you can do that," he explains. "That's what owning a car does: You pay for it, and then you can go anywhere."

At the moment, MaaS Global's Whim app is available in the Helsinki region and will go live in the UK's West Midlands region and the Dutch capital Amsterdam soon. Hietanen expects the service to be available throughout Europe by 2020. "I want to give you the opportunity that in your subscription you have at least the whole of Europe, and you can walk into any bus, any train; it's embedded in your subscription," he says.

As cities and regions build up their new mobility systems and deepen their collaboration with carmakers and mobility service providers, it is inevitable that the question of who runs the mobility network will be raised.

Lukas Neckermann says that the white-labelling of the moovel app is significant, in that it means that control of the city's transport system remains in the hands of the KVV. However, that is probably not a model for the future.

"In the future, who will be the [city's] mobility service provider will depend a little bit on the brand that people trust," he says. "moovel white-labelled itself in the city of Karlsruhe because in that city people apparently trust the public transport operator to be the primary point of contact. But if you had one app that made your life easier, you would probably just use that app. Maybe someday that will be Siri or Alexa, where you just say, 'Hey, Alexa, I want to get to the office', and Alexa will figure out how to

get you to the office. It's a bit of a battle for the front end, and the front end is whoever provides the reliable, easy- to-use, trustworthy service."

However, Lidia Fabian, senior communications manager at Berlin-based mobility startup door2door, says that, for now at least, it is best to let the city manage the mobility. door2door is scheduled to launch an on-demand shuttle service in two German cities, Freyung and Duisburg, in autumn. The project in Dusiburg will be run by the Duisburger Verkehrsgesellschaft (DVG), the local public transport operator, and integrated into the local public transport network.

"The reason we don't operate these [mobility] services ourselves is because we understand that cities want to do that themselves," she explains. "And the efficiency and scalability of new mobility services is much higher when the city is the decision-maker about mobility in the city. As a concrete example, when Uber started operating in Manhattan there were suddenly 50,000 more cars in the streets than before. Yes, there was a new mobility servicer, but it didn't help much in terms of traffic, congestion and levels of emissions. Several studies have shown that integrating ridesharing services in the public transport system, significantly reduces the number of cars in the street. Our platform enables cities to become the mobility platform and have the opportunity to integrate all other mobility services to that platform, for example, a private car-sharing service provider or other mobility services.

Harri Santamala of Helsinki Metropolia University has a different view. "The question is," he says, "who can get big enough to attract a large number of people, the way Uber did. Uber started from zero. The car-OEMs are not starting from zero. It is up to whoever can get past the critical mass first. Because the more customers they have, the better deals they will get from the mobility providers. The question is, who can scale up."