

Transit Strategies

MOBILITY AS A SERVICE

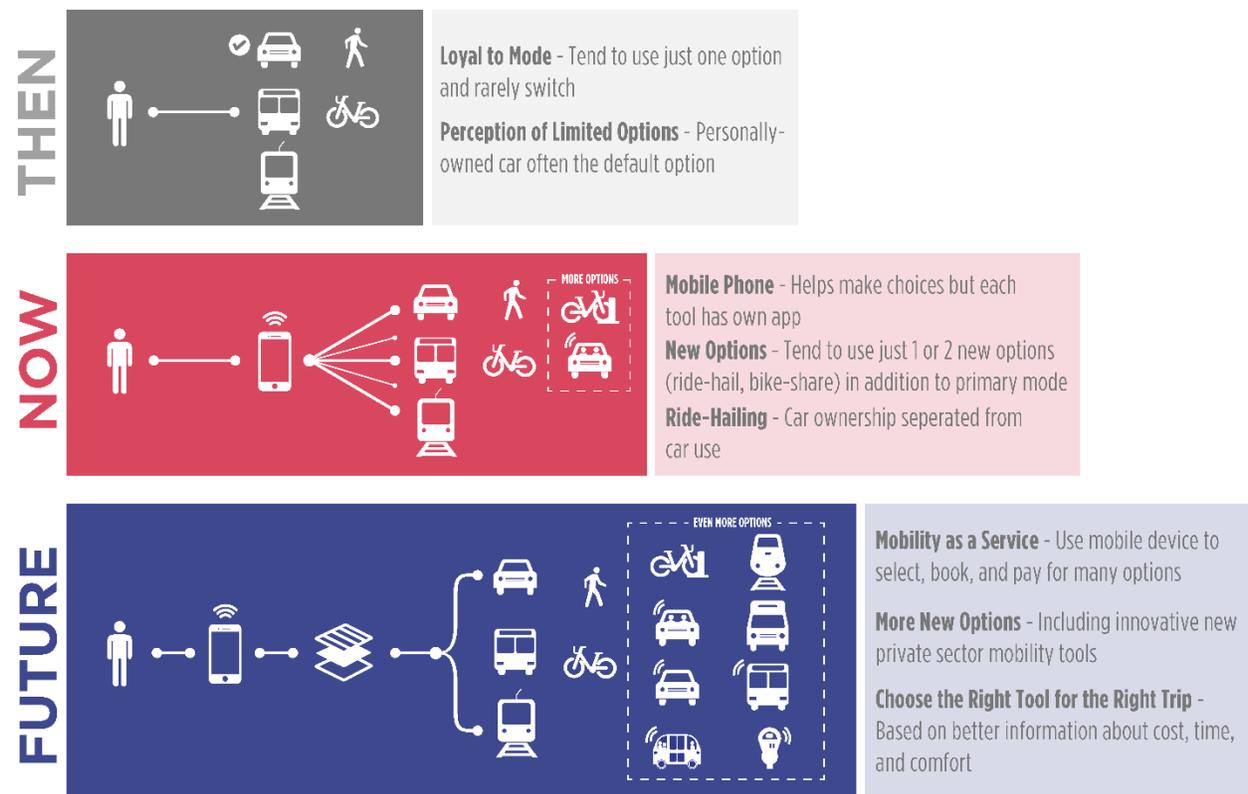


Mobility as a Service integrates various forms of transportation services into a single platform to provide flexibility and convenience for travelers.

People increasingly make trips using multiple modes – for example, a bus to a downtown station and then bikeshare to their final destination and maybe Lyft back in the evening if the weather is bad. At present, this usually means that travelers must learn about these options from many different sources and pay separately. Mobility as a Service, or MaaS, is an approach that provides the ability to plan, book, and pay for different options using a single smartphone app.

MaaS is very much an emerging technology that is still in its infancy. At present, many apps that focus on a single service are starting to provide information on other services. Other efforts are starting from the ground up.

Mobility as a Service combines payment and routing for many types of providers



MaaS simplifies and automates the basic components of trip making, which are planning, booking and paying, and real-time information.

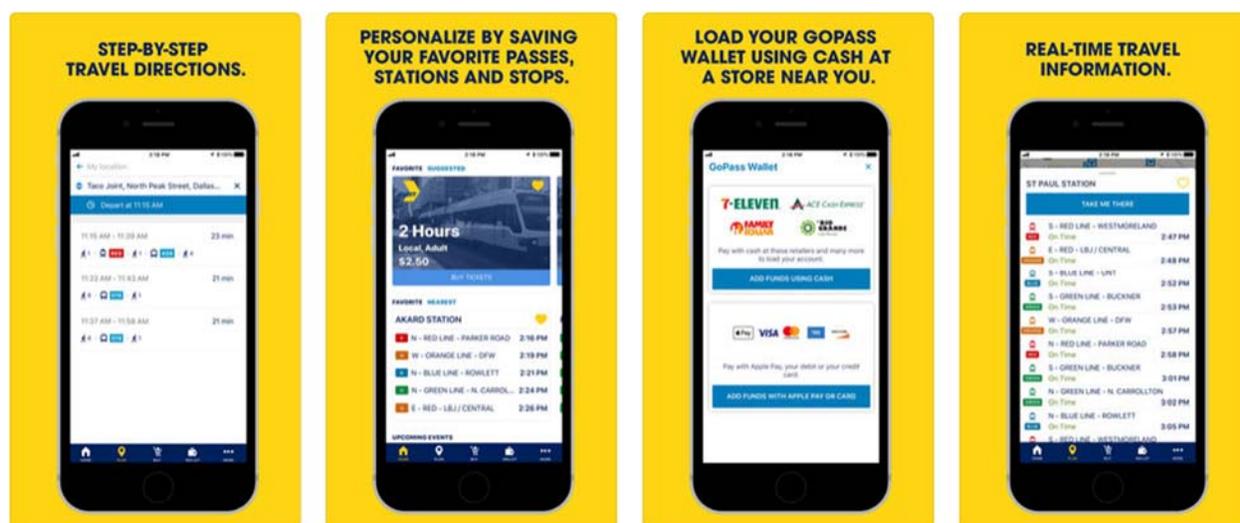
Components of MaaS

COMPONENT	FEATURES
Multiple Options	Ability to combine and choose among many different options including transit, shuttles, bikeshare, scooter-share, ride-hail, and more
Planning	Advanced trip planning that provides information on all available options, including costs.
Booking and Paying	<p>Purchase tickets for all options via the app and use phone to enter transit or unlock shared vehicles.</p> <p>Purchase short and long-term subscriptions that combine multiple transportation modes</p> <p>Provision of demand-based pricing including “surge” pricing and discounts</p>
Real-Time Information	Provides real-time information and/or availability information for all options

Many of today’s transit related apps are moving in the direction of MaaS, but none have all or even most of the parts. Current apps range from:

- **Standalone apps** with no modal integration. This is still the case with most transit system apps and most private service apps (for example, Uber, Lyft, and Zipcar). This is still the most common type of transportation app.
- **Integration of information on available services but no booking or payment capabilities.** Examples include Google Maps, which provides information on driving, transit and walking, and the Transit app, which provides information on transit, rideshare, bikeshare, and scooter-share in many cities.
- **Integration of information on some available services plus booking or payment capabilities.** One example is the Trinity Metro/DART/DCTA GoPass app, which provides trip planning and fare payment for all three transit operators plus links to Uber, Lyft, and Bird scooters.

Trinity Metro/DART/DCTA GoPass



MaaS works best when all components are integrated, and this presents technical, operational and competition-related challenges:

- On the technical side, one entity must be responsible for developing and managing the app. This can be a third party that combines and presents all of the information as a profit-making venture (in a similar manner as Expedia and Travelocity for air travel and hotel bookings). An example of this type of approach is Transit App, which is described below. Another option is for a transit system to contract with an app developer for the development of a local app. Moovel, which is also described below, is an example of this approach.
- Beyond development of the app, all included service providers must be able to provide and use data, information, fare payment, and other systems in ways that are compatible with the app. Transit systems will likely need to develop new tech capabilities that they do not currently have.
- Some private companies do not want their information presented in the same place as their competitors. For instance, Southwest Airlines wants its customers to book directly through them, and will not allow their prices to be presented on third-party sites such as Expedia and Travelocity. As MaaS matures, competing systems will likely emerge and transit systems may be forced to choose between competing platforms.

Examples of MaaS Implementation

As described above, MaaS is still in its infancy. However, a number of significant efforts are underway in certain markets.

Whim (Helsinki, Finland)

Whim (whimapp.com) provides users in Helsinki, Finland the ability to plan, book, and pay for transit, car rentals, taxis, and bikeshare. Users can either pay as they go for single trips or purchase subscriptions. These include “Whim Unlimited,” which is marketed as an alternative to owning a car, and “Whim Urban 30,” which is designed for those who primarily use transit and bicycles.

The service launched in late 2016, and after one full year of operation:

- 73% of Whim users use public transit (versus 48% for Helsinki overall)
- 93% make trips involving transit, bikes, and walking (versus 62% for Helsinki overall)
- Whim users are three times more likely to combine taxis with public transit trips
- Whim users frequently combine travel by transit and bicycles (more than 40% of bike share trips are immediately before or after public transit trips)

In addition, the availability of rental cars in the Whim Unlimited plan has helped some users to forego car ownership.



Whim Urban 30

€49

/ first 30 days (reg. €62)

30-day HSL ticket, City bike, and €10 taxis.

read more



Whim Unlimited

€499

/ month

Unlimited access to car, taxi, public transport, and city bike.

read more



Whim to Go

Pay as you go

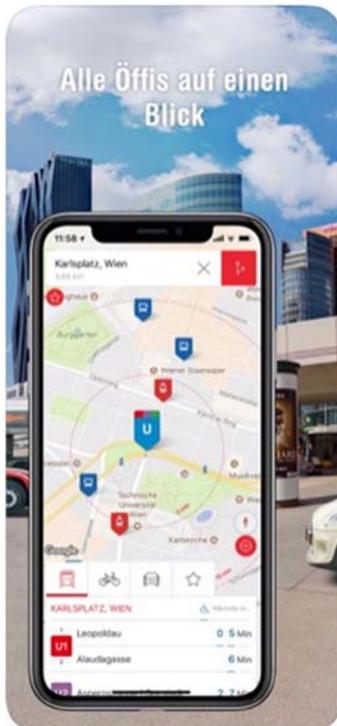
Each trip is paid separately with no subscription fee.

read more

WeinMobil (Vienna, Austria)

The WeinMobil app in Vienna, Austria (www.wienerlinien.at) provides trip planning information on a wide variety of transportation options. It also provides booking of taxis and fare payment for public transit.

WeinMobile App



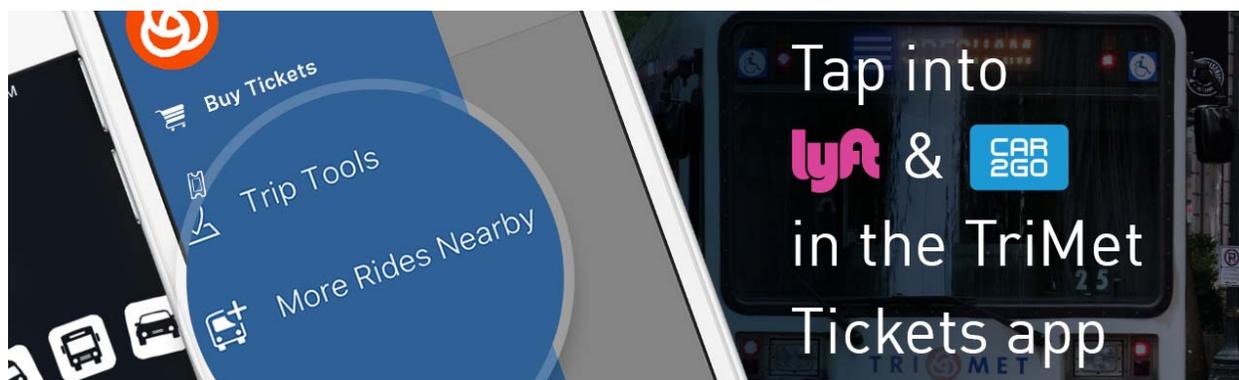
WeinMobil Capabilities

Option	Plan	Book	Pay
Vienna Public Transport	Trip Planning		Yes
car2go	Vehicle availability		
DriveNow	Vehicle availability		
Europcar	Vehicle availability		
Taxi 40100	Yes	Yes	
Taxi 31300	Yes	Yes	
WiPark	Space Availability		
Zipcar	Vehicle Availability		

WeinMobil was developed through a partnership between Vienna’s power utility, Vienna Public Transport, and Austria’s railway.

RideTap (Portland, OR)

In 2016, TriMet in Portland, OR, added “RideTap” to their mobile ticketing app that also provides information on Lyft and Car2go alternatives. By clicking the “More Rides Nearby” button, users can request a Lyft or book a Car2Go car-share. The app also displays the distance or number of minutes the ride is away, enabling travelers to make informed decisions. This app was developed for TriMet by MaaS developer moovel.



There were plans to add other modes such as bikeshare. However, TriMet also introduced a new “Hop” fare payment system that is much more flexible than RideTap. The Hop system also works on C-Tran and Portland Streetcar services and features fare capping (a system in which all rides are free after riders spend a certain amount). That system has been much more popular than RideTap, and as a result, TriMet plans to discontinue RideTap.

Izuko (Izu, Japan)

Izu, Japan just launched the Izuko app (itunes.apple.com/de/app/izuko/id1452587394), which provides information on public transit, rental bikes, rental cars, and on-demand ridesharing. It also provides for fare payment on trains and buses. A unique extra feature of the app is that it also

displays information on local tourist sites with the ability to book and pay. This app was developed by moovel.

Izuko Capabilities

Option	Plan	Book	Pay
Train and Bus	Trip Planning	Yes	Yes
Hello Cycling (bike rental)	Link to website		
Izu Potter (bike rental)	Link to website		
JR Rent-A-Car	Link to website		
Marai-Share Free Shuttles	Yes	Yes	NA
Tourist Sites	Yes	Yes	Yes

MaaS Developers

A number of companies are actively working to develop MaaS systems. Two include moovel and Transit App.

moovel

moovel is a mobility technology company providing MaaS-related services to public, including:

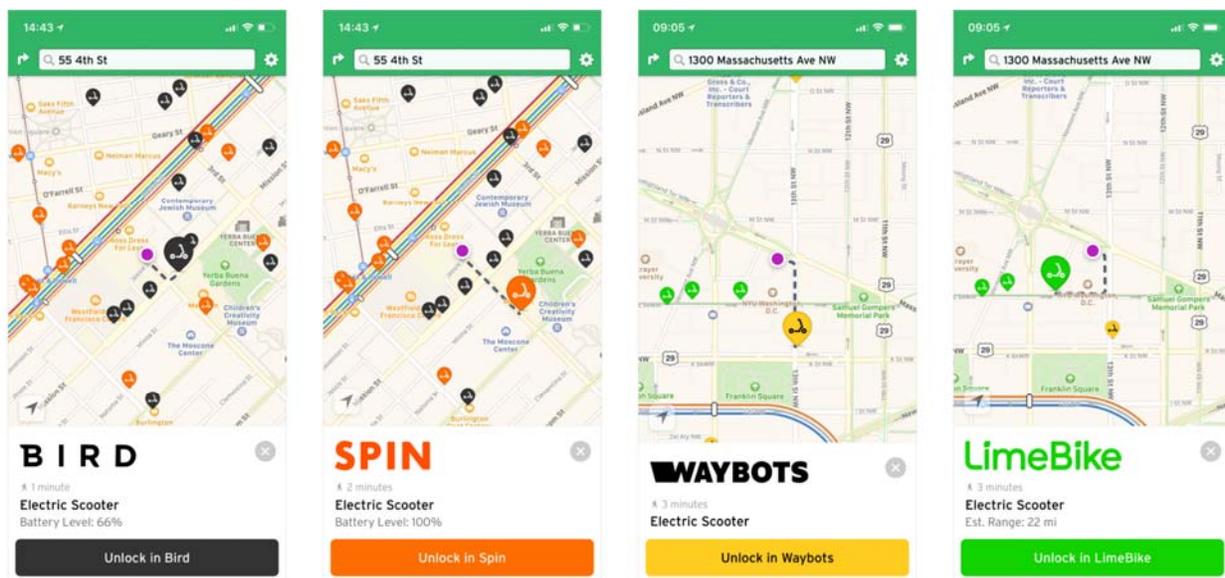
- Custom-branded mobile apps, with trip planning, next time arrivals, multi-modal integration, and mobile payment options
- A hub for managing transportation benefits such as reduced fares and discounts
- An app or add-on for on-demand ridesharing
- Fare purchase
- A transactions and operations management system to provide customer insights and improve customer service
- Mobile contactless validation platform

Cities and transit agencies can contract with moovel to create a platform for MaaS. The project sponsor and other partners can then collaborate to determine which components to include and the look and feel of the app.

Transit App

Transit App is a consumer-oriented mobile app that aggregates transit, bikeshare, scooter-share and ridesharing information. As its name implies, it was originally developed with a focus on transit trip planning and real-time information. The company has since branched out to bikeshare, scooter-share, and ridesharing. Transit App was the first aggregator to provide real-time locations of dockless shared bikes, which launched in Seattle and Washington, DC in 2017.

More recently, Transit App has partnered with the mobile payment vendor Masabi to provide payment capabilities. As this capability is being developed, and while the app does show availability for many options, users then directed to the mode's specific app (e.g. Bird scooters app) for booking.



Mobility as a Service in Rhode Island

Like other major agencies and cities, Rhode Island has standalone apps that could become components of MaaS. These include:

- **RIPTA Flash Pass App:** This new beta app allows users to buy fare products with a credit or debit card in advance. These tickets can then be activated when getting on a bus and used as the fare. The fare products currently include: single trip tickets, 5-trip and transfer bundle, day passes, and 7-day passes.
- **Transit App:** Integrates trip planning and real-time information for RIPTA and MBTA, as well as ride-hail and JUMP bike-share.
- **Moovit:** Integrates trip planning, real-time arrivals, and service alerts for all transit services in the area.
- **Ride Mobile App:** Coordinates paratransit services through an app.

RIPTA is currently upgrading its fare system, and the new Flash Pass App is a part of this endeavor. The Flash Pass App, however, only includes fare capabilities, and no trip planning, maps, or integration of other mobility services. RIPTA and its partners could expand the capabilities of this app to move closer to MaaS, or shift to an entirely new app that may provide the technology for additional elements, potentially through contracting with a company like moovel. RIPTA can also work with companies like Transit App to move towards the ability to purchase RIPTA fares on third-party apps.

Another approach would be for Rhode Island or Providence to develop a more state-focused app that includes information on RIPTA services, MBTA commuter rail, seasonal ferry services, and other alternative modes, plus automobile-related options such as information on public and private parking locations and availability, parking payment, and carshare. Whatever approach is pursued, it should be understood that MaaS is still more of a concept than a product. While significant advances are being made and the potential is great, the development of MaaS will be an incremental process that will involve many challenges.