Technology driving tomorrow’s cars
Autonomous mobility and the new transportation ecosystem

By Lissa Franklin
Vice President, Business Development and Marketing, Bestmile

Cities around the world are rapidly outgrowing their transportation infrastructures. Population growth is causing increased congestion and emissions, and as cities grow it can be extremely costly to extend services to new areas. Autonomous mobility services using electric vehicles have the potential to create personalized, convenient transit systems that get travelers from door to door more efficiently and at lower costs than conventional services, ultimately reducing or eliminating the need for personal vehicles and in the process reducing congestion and pollution.

“Project ‘SmartShuttle’ has been so successful that PostBus is expanding the service.”
The benefits of autonomous mobility don’t lie solely in autonomous vehicles, but in what they can offer when they’re operated and managed collectively in an integrated ecosystem. Developing mobility solutions that can manage multiple vehicle types and services and that integrates seamlessly and with existing transit systems are key to these services realizing their potential to improve existing transportation services.

Success in Sion, Switzerland

For example, in the city of Sion, Switzerland, PostBus, the country’s largest bus transit company, was looking for a way to cost-effectively extend transportation service to areas not currently served by its famous yellow buses. Autonomous shuttles can help public transportation operators expand service areas with minimal new infrastructure, using electric fleets to reduce traffic and improve air quality. PostBus also wanted to validate customer acceptance and gain insights into the challenges of integrating autonomous shuttles into public transit.

PostBus and Bestmile worked together to create an autonomous shuttle service for the system’s desired routes and schedules. The service consists of a 2-mile/3.2 km fixed-route loop with multiple stops in neighborhoods with narrow cobblestone streets shared by autos and pedestrians. Just seven months after announcing Project “SmartShuttle,” the service was introduced to the public to support daily service throughout the city.

The Bestmile Mobility Services Platform provided PostBus with a turnkey solution to deploy, manage, and optimize autonomous shuttles. Bestmile’s platform manages vehicles and service delivery and provides an operator dashboard and field agent applications to monitor and optimize services, along with a complete set of white label traveler applications. In just a few months, PostBus became the first public transit operator in the world to deploy autonomous shuttles for passenger transportation on public roads.

Public acceptance has been strong – the vast majority of autonomous shuttle travelers expressed “no or very minor concerns” about the service – a much higher acceptance level than before the system was implemented. Thousands of travelers have made the shuttle a part of their regular transportation routine. Project “SmartShuttle” has been so successful that PostBus is expanding the service to connect with the city’s train station and is planning to implement autonomous shuttles in four more cities.
Integrating into existing systems

The primary challenges that transit agencies face in deploying autonomous mobility at scale have to do with managing diverse fleets of vehicles, integrating new fleets with existing transportation systems, and connecting multiple modes of human-driven and autonomous vehicles as new mobility services mature.

Many different businesses are developing autonomous vehicles, and thus far most are working independently of one another. Each is using different technology stacks to guide and communicate with vehicles. Managing the many types of vehicles and the technologies they use poses a significant challenge.

Many cities already have advanced public transit systems and it is unreasonable to expect agencies to abandon existing systems. It is critical that new mobility services are easily integrated into existing operator systems and co-managed to synchronize services and to minimize operational complexity. For example, autonomous shuttles can be aware of train and bus schedules and coordinate arrival times to streamline service for travelers.

The shift to autonomous mobility is unlikely to be swift. There will be a transition period where human-driven vehicles and services co-exist with autonomous mobility. Managing human-driven and autonomous vehicles and services in concert requires management solutions that can communicate with vehicles and drivers regardless of the type of vehicle or mode of operation being used.

A Vehicle agnostic approach

What is needed is a mobility management platform that can overlay any vehicle brand or type to manage multiple types of vehicles and fleets, that connects seamlessly with existing transit operator systems to provide a coordinated service delivery, and that supports both human-driven and autonomous services. This makes it easy for any service provider, new or existing, to create new mobility services or to integrate these services into existing service offerings in synchronization with surrounding transportation options for multi-modal mobility solutions.

Bestmile projects

Bestmile is working with the leading mobility service providers, vehicle manufacturers, and autonomous technology companies to build the ecosystem needed to enable new mobility services to achieve their potential to improve the quality of life in cities around the world. The platform makes it easy for new and existing mobility service providers to deliver autonomous shuttle, ridehailing, robotaxi, and micro-transit transportation solutions. Current projects include autonomous vehicle systems carrying passengers on four continents, and new solutions are in the works to enable providers to manage human-driven services alongside autonomous vehicles with the ability to transition to full autonomy when appropriate.