Mobility as a Service

Terminology and definition are still evolving around Mobility as a Service (MaaS). The following terms and definitions will be used for the purpose of this ENTERPRISE project and were excerpted from SAE International *J3163 Taxonomy and Definitions for Terms Related to Shared Mobility and Enabling Technologies* revised September 2018, and FHWA *Mobility on Demand Operation Concept Report* dated September 2017.

Mobility as a Service (MaaS) emphasizes mobility aggregation, smartphone and app-based subscription access, and multimodal integration (infrastructure, information, and fare integration). MaaS tends to emphasize the integration and convergence of passenger mobility services, mobile devices, real-time information, and payment mechanisms.

Mobility on Demand (MOD) is an innovative transportation concept where consumers can access mobility, goods, and services on demand by dispatching or using shared mobility, courier services, unmanned aerial vehicles (UAVs), and public transportation solutions.

Shared Mobility – The shared use of a vehicle, motorcycle, scooter, bicycle, or other travel mode; it provides users with short-term access to a travel mode on an as-needed basis.

Mobility Applications – Mobility applications include an array of services that assist users in planning or understanding their transportation choices and may increase their access to alternative travel modes. There are eight subcategories of mobility apps, including:

- **Business-to-Consumer (B2C) Sharing Apps** – Sell access to shared transportation vehicles, equipment, and services from a business to an individual consumer, including one-way and roundtrip sharing.
- **Mobility Tracker Apps** – Track a traveler's speed, direction, and elapsed travel time. These apps often include both wayfinding (guided directions) and fitness functions that are colored by metrics, such as caloric consumption while walking.
- **Peer-to-Peer (P2P) Sharing Apps** – Enable private owners of transportation vehicles or equipment (e.g., vehicles, bicycles, scooters, etc.) to share with other users generally for a fee.
- **Real-Time Information Apps** – Provide users with up-to-date travel information across multiple modes, including current traffic data, public transit wait times, carsharing, bikesharing, and parking availability.
- **Ridesourcing Apps** – Provide a platform for sourcing rides. This category is expansive in its definition and includes "ridesplitting" or "pooling" services, in which fares and rides are split among multiple strangers who are traveling in the same direction.
- **Trip Aggregator Apps** – Route users by considering multiple travel modes and providing users with optimal travel times, connection information, distance, and trip cost.

Travel Modes – Shared mobility includes various travel modes to meet the diverse needs of users. Examples of shared travel modes that are a part of the shared mobility ecosystem include:

- **Bikesharing** – Provides users with on-demand access to bicycles at a variety of pick-up and drop-off locations for one-way (point-to-point) or roundtrip travel. Bikesharing fleets are commonly deployed in a network within a metropolitan region, city, neighborhood, employment center, and/or university campus.
- **Carsharing** – Offers members access to vehicles by joining an organization that provides and maintains a fleet of cars and/or light trucks. These vehicles may be located within neighborhoods, public transit stations, employment centers, universities, etc. The carsharing organization typically provides insurance, gasoline, parking, and maintenance. Members who join a carsharing organization typically pay a fee each time they use a vehicle.
- **Microtransit** – A privately or publicly operated, technology-enabled transit service that typically uses multipassenger/pooled shuttles or vans to provide on-demand or fixed-schedule services with either dynamic or fixed routing.
- **Ridesharing (also known as carpooling and vanpooling)** – The formal or informal sharing of rides between drivers and passengers with similar origin-destination pairings. Ridesharing includes vanpooling, which consists of 7 to 15 passengers who share the cost of a van and operating expenses, and may share driving responsibility.
- **Ridesourcing (Ridehailing)** – Services are prearranged and on-demand transportation services for compensation in which drivers and passengers connect via digital applications. Digital applications are typically used for booking, electronic payment, and ratings.
- **Scooter Sharing** – Allows individuals access to scooters by joining an organization that maintains a fleet of scooters at various locations. Scooter sharing models can include a variety of motorized and non-motorized scooter types. The scooter service provider typically provides gasoline or charge (in the case of motorized scooters), maintenance, and may include parking as part of the service. Users typically pay a fee each time they use a scooter. Trips can be roundtrip or one way.
- **Shuttles** – Shared vehicles (typically vans or buses) that connect passengers from a common origin or destination to public transit, retail, hospitality, or employment centers. Shuttles are typically operated by professional drivers, and many provide complimentary services to the passengers.
- **Taxis** – Provide prearranged and on-demand transportation services for compensation through a negotiated price, zone pricing, or taximeter (either traditional or GPS-based). Passengers can schedule trips in advance (booked through a phone dispatch, website, or smartphone app), street hail (by raising a hand on the street, standing at a taxi stand, or specified loading zone), or e-Hail (by dispatching a driver on-demand using a smartphone app).