TSMO, MOD, MaaS and the Complete Trip

Systems Thinking

Shared Understanding: TSMO, MOD, MaaS

- **Transportation Systems Management and Operations (TSMO):** A set of strategies that focus on operational improvements that can maintain and even restore the performance of the existing transportation system before extra capacity is needed.
- **Mobility on Demand (MOD):** MOD is a concept based on the principle that transportation is a commodity where modes have distinguishable economic values. MOD enables customers to access mobility, goods, and services on demand.
- **Mobility as a Service (MaaS):** A mobility platform in which a traveler can access multiple transportation services over a single digital interface. MaaS primarily focuses on passenger mobility (and in some cases goods delivery) allowing travelers to seamlessly plan, book, and pay for a multimodal trip on a pay-as-you-go and/or subscription basis.
- **MOD Ecosystem:** An integrated and multimodal transportation operations management approach that can interact and/or influence the supply and demand sides of MOD. The supply side is comprised of the professionals, operators, and devices that provide transportation service (e.g., public and private mobility services, goods delivery services, transportation facilities, and information services). The demand side consists of the users of transportation services (e.g., all travelers, couriers, consumers, and modal demand).

- FHWA-JPO-20-792 - Mobility on Demand Planning and Implementation: Current Practices, Innovations, and Emerging Mobility Futures
- Susan Shaheen (UC Berkeley), Adam Cohen (UC Berkeley), Jacquelyn Broader (UC Berkeley), Richard Davis (UC Berkeley), Les Brown (ICF), Radha Neelakantan (ICF), Deepak Gopalakrishna (ICF)

The Complete Trip

1. Plan and Book a Trip

Andy uses a **pre-trip concierge application**.

2. Travel to Transit Station

An **automated shuttle** (rideshare service) is dispatched.

3. Ride the Bus

While on the bus, Andy receives direction on when to pull the Stop Request cord from his **wayfinding and navigation application**.

4. Cross the Street

As Andy approaches an intersection, his **safe intersection crossing application** communicates with the traffic signal.

5. Arrival at Destination

Andy safely arrives at his destination, while the **pre-trip concierge application** plans his return trip home.

Challenges/Opportunities

- Equity and Accessibility
- Sustainability
- Data Management
- Regulatory and Policy Barriers
- Integration (old and new technology, public vs private)

Role of State DOT

- Facilitating Partnerships
- Funding Pilots/Demonstrations
- Alleviating Risk/Bearing Burden
- Clearing Barriers
- Sharing Lessons Learned

Questions?

Jean Ruestman, Administrator
Office of Passenger Transportation
RuestmanJ@Michigan.gov