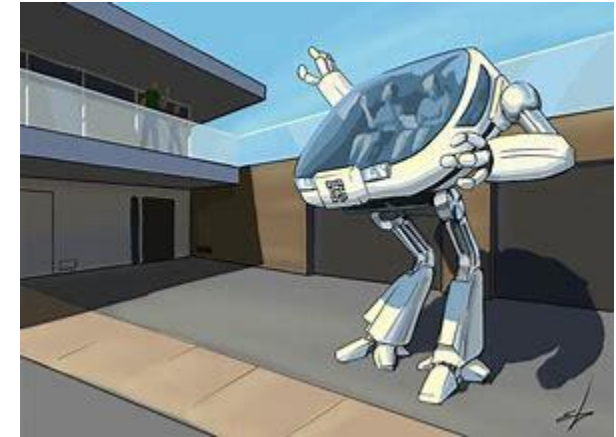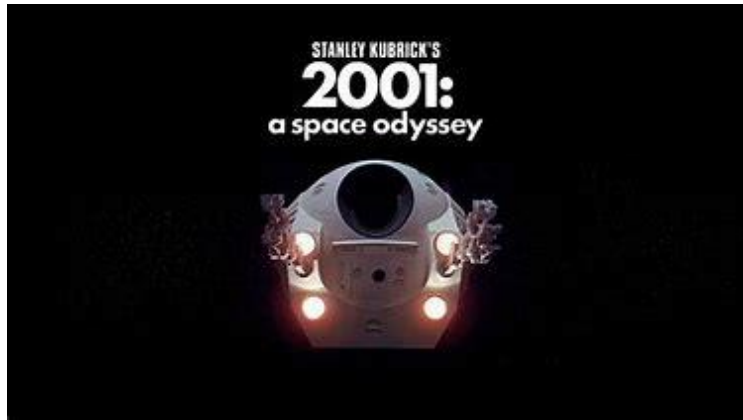# VDOT

Virginia Department of Transportation

MOBILITY AS A SERVICE

The Future of Transportation

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How Have People Envisioned the Future of Transportation Over the Years?

Current Trends

- **Urbanization is Growing**
  - Expected to grow by 2.5 billion by 2050; 66% of the world's population[1]
  - As an effect, congestion is also on the rise, along with environmental decline, and failing infrastructure
- **Technology Effectiveness and Use is Growing**
  - Navigation and congestion avoidance apps
  - Apps for transit services such as bus routes, bike share, etc
  - Rising reliance on technology, especially among younger population

Current Trends

- **Increase in Computing Power & Image Processing**
  - **Autonomous and "Smart" Vehicles On the Rise**
- **Increase in Multimodal Options**
  - **Variety of Travel Options**
- **Independence**
  - **"Usage Trumps Possession"[2]**
  - **Desire to Use Time Efficiently**
  - **Rising Expenses of Traditional Options and Increasing Convenience of Newer Options**

Mobility as a Service (MaaS)

- "The integration of various forms of transport…into a single mobility service accessible on demand" which provides "an alternative to the use of the private car that may be as convenient, more sustainable, help to reduce congestion and constraints in transport capacity, and can be even cheaper"[2]

- Is enabled by combining transportation services from public and private transportation providers through a unified gateway that creates and manages the trip, which users can pay for with a single account. Users can pay per trip or a monthly fee for a limited distance. The key concept behind MaaS is to offer both the travelers and goods mobility solutions based on the travel needs. MaaS is not limited to individual mobility; the approach can be applied to movement of goods, as well – particularly in urban areas[3, 4]

Goals of Mobility as a Service

- **Limit congestion, particularly during peak travel periods[2]**

- **Reduce car ownership, car usage & the number of vehicles on roads[2]**

- **Use existing infrastructure more effectively and create economies of scale[2]**

- **Ease pressure on the transportation network[2]**

- **Enable better traffic and capacity management[2]**

Goals of Mobility as a Service

- **Improve the customer experience by presenting the transportation network as an integrated system[2]**

- **Cater to all travelers, young and old, able and less able, wealthy and economically disadvantaged[2]**

- **Create a model that supports the funding of infrastructure[2]**

- **Lessen the overall environmental impact of transportation[2]**

- **Work in a driver-controlled and autonomous environment[2]**

Challenges

- **Governance, technology and conflicting stakeholder perspectives[2]**

- **Consolidating payment and reservation systems to one[2]**

- **Integration/marketing of monthly subscription versus "pay-as-you-go"[2]**

- **Data/ownership issues (PII)[2]**

- **Lack of standards/economic models[2]**

- **Finding a pricing system that incentivizes optimum use of the network[2]**

Examples of Possible Opportunities

- **Chicago's Ventra card integration with Divvy bike share[2]**

- **Los Angeles' TAP Metro bike share[2]**

- **Atlanta's MARTA connection to Lyft/Uber[2]**

- **Helsinki's WHIM app[2]**

- **Delivery options: UberEats, JustEat, DeliveryHero, Amazon[2]**

Connection to Land Use

- **Necessary infrastructure**
  - **ITS**
  - **Multimodal facilities**
  - **Clear, well-maintained traffic control devices**
  - **First mile/last mile**

- **Fewer parking spaces/lots needed?**

- **Others?**

Sources

[1]https://esa.un.org/unpd/wup/publications/files/wup2014-highlights.pdf

[2]"Mobility As A Service: Putting Transit Front and Center of the Conversation" by Matt Cole, President, Cubic Transportation Systems

[3]Jump up ^ "Google, Uber, and the Evolution of Transportation-as-a-Service". Stratechery by Ben Thompson. 2016-08-31. Retrieved 2016-12-13

[4]Jump up ^ Speculations, Great. "Self-Driving Cars: The Building Blocks of Transportation-as-a-Service". Forbes. Retrieved 2016-12-13