The Post-Autonomy Future

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The Post-Autonomy Future

• Let’s suppose that autonomous cars arrive

  • They really work

  • Then what?
Autonomy-enabled transportation systems

- **Social acceptance factors**
  - How do people want to interact with the vehicles?
  - What quality of service is necessary?

- **Economic viability**
  - How does need to amortize additional vehicle cost over multiple users affect deployment model?
  - What is the business model?

- **Technological challenges arising from use case?**
  - Scheduling, coordination, logistics
  - New autonomy-related challenges

- **New Technical Challenges + Operations**
- **Social Acceptance Factors**
- **Autonomy Capabilities**
- **Business Model**
Data-driven approach

- Simulations
- Studies
- Surveys, Lab-scale exper.

Real-World Data
Real world?

- Idea: Build and deploy 5 vehicle *operational* transportation system.
  - Initial pilot at Mcity
  - North campus last kilometer?
  - VA hospital <-> UM Medical?
- Pick a small course
  - “Cheat” on the autonomy
- Deploy within 18 months

HOW?
How? We’re almost there.
Timeline

Year 1
- Scale fleet from 1-5
- Initial Study

Year 2
- Mcity Pilot
- Human subject experiments?
- Market analysis, Needs and Revenue
- Initial Study

Year 3
- Operational Phase
  Experiment design across all three thrusts

Social Factors
- Initial Study

Economics/Business
- Initial Study
- Market analysis, Needs and Revenue

Fleet
- Scale fleet from 1-5
- Mcity Pilot
Building a Team

• Need help assembling a team!
  • Social acceptance factors
  • Human factors
  • Economic factors
  • The thing that you do?

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Budget Sketch

- 5 vehicles @ $40k : $200k
- FTE engineer for 3y: $225k
- Social Factors Thrust: $275k
- Economic Factors Thrust: $275k
- Technology Thrust: $275k