

TRANSPORTATION RESEARCH BOARD

January 2020 Executive Committee Artificial Intelligence in Transportation Policy Session

Rapporteur Report
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Key Themes

- Transportation is new domain for AI:
 - AI not new - but new computing / big data making it relevant - here to stay
 - AI is a toolbox - need right tool for right problem - AI not for everything
 - Lot of myths and mystery, but AI is math and computer code
 - Need training / workforce development /collaboration
 - Transportation = people (i.e. behaviors) - makes it interesting but challenging
- Data is key:
 - Volumes, Veracity, Velocity
 - Companies hesitant to share; Privacy and Cybersecurity must be addressed;
- Complexity:
 - Growing in transportation, simple answers hard to find, too many variables - can AI help?
- Unintended Consequences (but any diff. than today?):
 - Equity, take into account the outliers
 - “black box” a concern; but interpretability can be built into design

Potential Actions

- Identify transportation problems and data sets AI can help address (e.g. sensor data maintenance)
- Convene Computational Scientist with Transportation Domain experts
- Some research exist now on congestion, airport system optimization, real time system management - create more visibility and demos?
- Create Public Entity (have data) / Researcher (have capability) partnerships to find benefits & show value of data sharing
- Research on the Common Good vs Individual benefit trade-off
- What does Equity look like in Transportation AI? What constraints to use in models?
- Human behavior models for transportation & apply to AI
- Develop transportation “benchmark solutions” (both simple problems and complex problems)