Self Driving Cars: Legal and Policy Issues

State and Loc.

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Automated Vehicles Run on Data

- Current vehicles do too
 - But information remains in car or human memory
- "Autonomous" vehicles replace much of the human memory
- "Connected" vehicles collect and share data with other vehicles, and perhaps the infrastructure

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What Driving Tasks Must Self-Driving Vehicles Perform?



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Levels of "Control"

Less automation	Level 0	Level 1	Level 2	Level 3	Level 4	More automation
NAME	•"No-Automation"	• "Function-specific"	•"Combined Function"	• "Limited Self- Driving"	 "Full Self-Driving" 	
CONTROL	•Driver is in complete control at all times	•One or more control function are automated	•At least two primary control functions are automated and work in unison to relive driver of control in certain situations	•Driver can cede full control of all safety critical functions under certain conditions	•Vehicle performs all safety-critical driving functions	
OPERATION	•Driver is solely responsible for safe operation and monitoring the roadway	• Driver is solely responsible for safe operation and monitoring roadway but can cede primary control or be assisted in certain situations	•Driver is responsible safe operation and for monitoring road way and is expected to be available to take control at short notice	•Driver can rely heavily on vehicle to monitor for changes in roadway that require driver control. Driver is expected to be available for occasional control	•Vehicle monitors roadway conditions for an entire trip	



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Why Should We Care?

- Lack of certainty regarding how data will be handled can create privacy or other policy concerns which could constrain data collection.
- These issues may limit the deployment of otherwise socially beneficial technologies.



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Lessons From History

- Seat belt ignition interlock
 - Public outcry against "government" intrusion on civil liberties
 - Case for technology not established with public in advance
- Automated enforcement
 - Demonstrated safety benefit
 - Violation of privacy a main claim of opponents
 - Some states have prohibited or withdrawn programs due to opposition





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Lessons From History

- Increased safety or efficiency rationales only go so far to offset privacy concerns
- Public perception matters as much as legal reality
- Tackling data issues at the outset of technology development can reduce privacy and related deployment risks

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Cars and Privacy

- Federal law sets a floor of privacy protection (U.S. v. Knotts).
- State laws add varying levels of protection.

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Credit: BodHack

Data Case Law



Credit: Vissago

- City of Ontario v. Quon (2010)
- U.S. v. Jones (2012)
- Cases now before court examining right to access cell phone data, incl. location, w/o a warrant



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Present Setting

- More political, than legal questions
 - Pace of change outstripping existing policy and legal tools
 - Traditional legal categories surpassed by technology
- If public perception is unclear, legal reality may be non-existant



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Data (Privacy) Examples

- Privacy vs. Security
 - Ability to control movements of other vehicles
 - Law Enforcement (seizure)
 - Criminal (counter-terrorism)
- Event Data Recorders
 - Still tied to driver?
 - Was there any duty to act?
- Intoxication
 - Need to confirm inability to operate vehicle
 - Self-Implication?



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Issues ("Debate" Reprise)

- Who OWNS this data?
- Who should have access?
- Who has the right to share it?
- How long can / should they retain it?

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Participant Categories

- 1. Technology Developers:
 - Hardware & Software Developers
- 2. Transportation User:
 - Individuals, Companies
- 3. Government (not as data collector)
 - Roles: Defining/Protecting Privacy Rights, Regulator & Facilitator of Economic Activity
- 4. Data Collectors & Users
 - Public Sector, Private Sector (Insurance), Quasi-Public
- 5. Secondary Users
- Marketers, Litigants State and Local *M* Policy Program

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Unpacking The Relationships

• Types of Relationships

- Securing Benefits
 - Up-stream (e.g., data collectors, government)
 - Down-stream (e.g., transportation users)
- Harm Avoidance: Protecting Privacy
 - Direct: Transportation Users
 - Indirect: Data Collectors/Users
- Capacity to Inflict Privacy Harms
- Capacity to Regulate Privacy

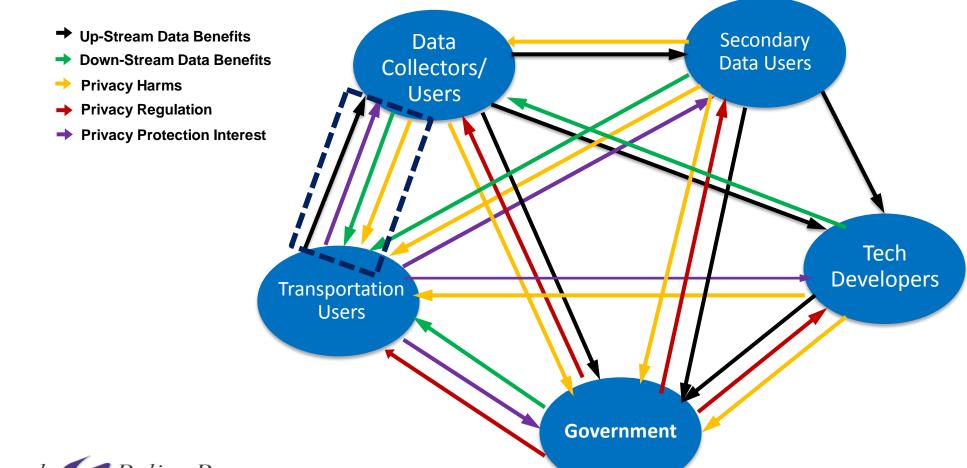


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Mapping Interests Among Participants



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Finding Common Ground

- A number of underappreciated congruent interests
- Leverage points to reduce privacy conflicts
- Key steps:
 - What is the transportation-related purpose of the data?
 - Is personal data necessary for that purpose?
 - Are there non-personal alternatives?
 - If personal data needed, how how should it be

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Some Tools For Common Ground

- Not collecting personal data when costs outweigh benefits
- Appropriate time limits for data retention
- Rules restricting secondary uses of data
- Privacy Policies:
 - Opt-in mechanisms;
 - Internal data practices
- "Privacy-by-design" approaches

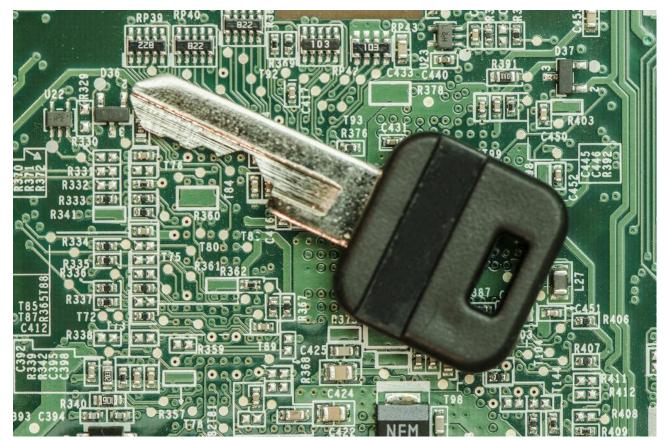
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How Can Privacy Protection Be Built into Self-Driving Vehicles?





Credit: perspec photo88

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Other Legal Questions:

- Child "drivers"
- Legal "driving" age
- Driving competence





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