PRIVATE EYE: Intelligent Transportation Systems and Personal Privacy

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Overview

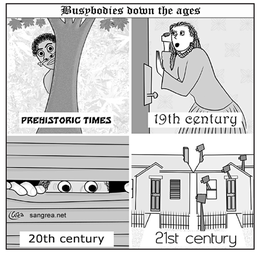
Intelligent Transportation Systems (ITS) hold great promise to address economic, environmental, and social problems but also raise significant issues with respect to personal privacy. ITS depends on gathering, analyzing, and acting on large amounts of individualized data to, for instance, personalize navigation and to forecast travel behavior. Many modern technologies collect personal information, but ITS is unique in its public nature and its potential to collect information about travelers as well as their position and movement, who may not be fully aware of how intrusive ITS data collection can be. Such information can now be combined with other personal information about travelers to reveal a great deal about individuals, their activities, and travel in a manner that may be viewed by many as a gross invasion of privacy.

However, the increasingly prodigious production and consumption of data on vehicle movement has outpaced the evolution of laws governing the collection, ownership, availability, and use of such data, raising important privacy questions. To date, there is very little in the way of legal guidance regarding the ever-greater volumes of information being generated about the movement of people, goods, and vehicles. Moreover, little attention has been paid to the tradeoffs between the transportation benefits from collecting such personal information and the dangers from its possible disclosure and/or subsequent misuse. The lack of accepted universal privacy standards may ultimately make consumers more reluctant to accept those benefits and could even inhibit further development and deployment of ITS technology.

Research Goals

How much privacy do consumers demand? What can be done to protect information from disclosure or misuse? What should be done in cases where that trust is violated? What level of privacy protection is needed for consumers to accept and even contribute to the collection of these data? What rights should they have regarding what information is collected, who has access to it, how long it is stored, and what use is made of it? These important questions that sit at the junction of transportation engineering, law, and public policy are the focus of this research. In this research we aim to:

- Review existing guidance on privacy protections for ITS technologies
- Articulate a schema for determining the necessary level of privacy protection
- Provide recommendations for ITS implementers



Current State of the Law

Existing Privacy Law is anemic and lags behind other countries. The US is ripe for privacy law but there are many political roadblocks.

- Privacy Act only applies to federal government
- Case law only robust in criminal context
- FTC de-facto regulator due to its consumer protection
- Existing privacy legislation Sui Generis legislation (ex, HIPAA)
- No ITS-Specific Legislation

There is No Universally "Correct" Level of Privacy Protection

Privacy is Subjective

People differ on what they consider a privacy violation. Personally Identifiable Information (PII) is often used as a bright-line rule, but it is problematic because people can be identified without PII. People are additionally willing to exchange privacy for other benefits but the benefits of ITS (safety, time-saved) are difficult quantity and increase exponential as network size grows.

Desire for Privacy is Changing Over Time

As technologies in our daily lives increasingly gather information about us there is both:

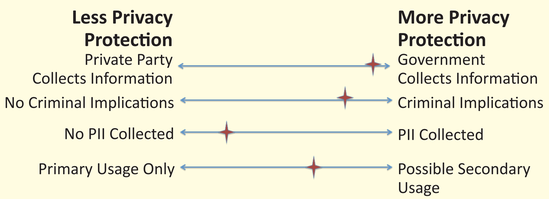
- Growing awareness and concern about privacy violations
- Acquiescence to privacy invasion as a way of life

The Desire for Privacy is Situational

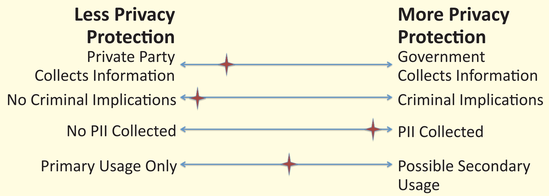
The level of privacy desired is based on the following situational attributes:

- Who is collecting the information?
- Are there criminal implications to data collection?
- Is Personally Identifiable Information being collected?
- Will the data be reused for a secondary purpose?

Ex: Traffic Cameras



Ex: Travel Behavior Research



Improving Privacy Protections in ITS

Two types of Privacy Protection. Best Solutions Include Both.

- **Privacy by Design -** Technical protections built into the product
- **Privacy by Policy -** Allowing consumer choice over data collected, limiting re-use of data

Legal Recommendations

Federal legislation would be the best, though politically difficult and unwieldy. Should include input of industry group model laws. In lieu of legal certainty:

- Manufacturers should allow for flexibility for state variations and changes in privacy law.
- Researchers should onsider privacy from the very beginning of the process and work it into design. Tailor your research to collect the minimum amount of data necessary.
- Municipalities must increase public awareness and manage perception.

Conclusions

- The ultimate liability schema for ITS technologies is likely to depend heavily on the liability issues that arise out of the technologies in place today.
- Uncertainty abounds, and we conclude that ITS liability decisions made in the near term will undoubtedly affect, and could possibly even halt, the deployment of intelligent transportation systems for many years to come.
- Federal legislation is the preferred legal schema but unlikely in the near future.
- In the mean time, case law will develop and industry self-regulation is likely.

Acknowledgments

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