

## **Telematics: The New Auto Insurance Paradigm**

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**Steven H. Bayless, Senior Director, Telecommunications and Telematics**  
**Intelligent Transportation Society of America**  
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Steven H. Bayless is the director of telecommunications and telematics at the Intelligent Transportation Society of America. He is responsible for providing guidance to ITS America's board of directors and senior staff on matters involving new technologies, wireless services and evolving automotive platforms, intelligent transportation infrastructure, operations, and customer services.

Steven previously served as staff advisor and presidential management fellow in the Secretary of Transportation's policy office at U.S. Department of Transportation headquarters. Steven had cabinet-level lead in policy related to research and development, spectrum management, and telecommunications policy.

Steven's career also includes tenure as a management consultant with American Management Systems in Washington, D.C., and as a project coordinator for DuPont Europe in Budapest, Hungary. Steven holds a master's degree in international security studies and business from the Fletcher School at Tufts University. His bachelor's degree is in economics and foreign affairs from the University of Virginia. He has also completed graduate work at Harvard Business School and MIT Sloan School of Management in Cambridge, Mass., and at Eötvös Loránd University in Budapest, Hungary.

**Matt Clifford, Senior Consultant**  
**Deloitte**  
**New York, N.Y.**

Matt Clifford is an insurance industry practitioner in Deloitte Consulting's strategy and operations practice. He has experience across the life and property/casualty sectors. Matt's work focuses on implementing operational, organizational, and technological change to help companies execute their growth strategies. Most recently, Matt has been on Deloitte's insurance telematics team, where he has helped build Deloitte's auto insurance telematics solution and has driven market intelligence and business development across Deloitte's usage-based insurance offerings. Prior to joining Deloitte, Matt held sales and staff roles in the life insurance industry. Matt also served in the U.S. Navy as a nuclear reactor operator. He received his MBA from Cornell University in 2012.

**Allen Greenberg, Senior Policy Analyst  
Federal Highway Administration  
Washington, D.C.**

Allen Greenberg has more than 20 years of experience in analyzing and advocating for sustainable U.S transportation policy at the national and regional levels from inside and outside government. For the last thirteen years, Allen has been employed as a senior policy analyst at the Federal Highway Administration, where he plays a leadership role with the Value Pricing Pilot Program and the Urban Partnership Program, soliciting and managing transportation pricing pilot initiatives related to usage-based auto insurance, variable and transparent demand-based parking pricing, and new forms of vehicle-use pricing and services.

Prior to joining FHWA, Allen spent two years at the U.S. Environmental Protection Agency Office of Policy, where he directed the Transportation Partners Program, which provided grants and technical assistance to national nonprofit organizations, promoting local sustainable transportation initiatives. Allen has authored seven peer-reviewed research papers covering a very broad array of issues related to pay-as-you-drive insurance. Allen holds a master's degree in urban and regional planning from the University of Virginia and a bachelor's degree in public policy and management from Carnegie Mellon University.

**Brooke Stringer, Financial Policy/Legislative Advisor  
National Association of Insurance Commissioners  
Washington, D.C.**

Brooke Stringer joined the National Association of Insurance Commissioners in March 2012 as a financial policy and legislative advisor. Based in the regulatory body's Washington, D.C., office, Brooke represents the NAIC before Congress and federal agencies on insurance regulatory issues, focusing on property/casualty insurance, life insurance and annuities.

Prior to joining the NAIC, Brooke worked for 10 years in the United States Senate, including positions on the Appropriations Committee and the Committee on Homeland Security and Governmental Affairs and in the office of U.S. Sen. Susan Collins. While working on the Appropriations Committee, Brooke served on the Financial Services and General Government Subcommittee that oversees funding for such agencies as the Department of the Treasury, the Securities and Exchange Commission, and the Commodity Futures Trading Commission.

Brooke received a Bachelor of Arts in international relations from Middlebury College in Middlebury, Vt.

**Session Description:**

Automotive companies are increasingly embedding telematics in vehicles in order to monitor system failures and vehicle performance while also meeting user demand for wireless connectivity. By the end of 2018, the proportion of new vehicles sold with embedded telematics is likely to reach 80 percent of vehicles on the road in the United States and 46 percent globally, according to iSuppli. Auto insurers will need to consider new business models to meet this user demand for usage-based insurance. Meanwhile, the development of insurance products that make use of this emerging technology will no doubt give rise to calls for new forms of regulation. This panel will examine possible regulatory responses to the new auto insurance paradigm.

# Telematics—The New Auto Insurance Paradigm & Public Policy Response

Allen Greenberg  
U.S. Department of Transportation  
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Government Affairs Conference of the  
National Association of Mutual Insurance Companies  
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## What is PAYDAYS Pricing and its Relationship to Usage-Based Insurance (UBI)?

- Pay-as-you-drive-and-you-save (PAYDAYS) pricing converts hidden and lump-sum costs of auto ownership and usage to transparent, variable costs.
- Such costs may relate to insurance, but also to parking, vehicle taxes and fees, or to the car itself through car sharing.

## Why PAYDAYS Pricing?

- Most of the costs of owning and operating a vehicle are fixed.
- The financial incentive not to use personal vehicles heavily is relatively small.
- Many households, especially low-income ones, would prefer variable costs to fixed ones.
- Various studies project substantial driving reductions, public policy benefits, and consumer savings resulting from PAYDAYS pricing.

## UBI Is Not a New Concept (But Tools to Offer It Are New)

- As early as 1929, virtues of charging for car insurance by the mile were recognized.
- Concept promoted by Nobel economist William Vickery in his 1968 work: “Automobile Accidents, Tort Law, Externalities and Insurance.”

## Results of UBI

- Cuts vehicle miles traveled
- Curtails crash claims in excess of driving reductions
- Relieves congestion at a rate greatly exceeding driving reductions
- Diminishes air pollution and carbon emissions
- Lowers infrastructure costs
- Strengthens cities and lessens urban sprawl
- Provides substantial consumer savings
- Increases insurance company profits

## Features of UBI To Maximize Driving Reductions (An Objective of Some Federal Grant Funding)

- Direct and transparent per-mile or per-minute-of-driving pricing—avoid rebates
- In-vehicle graphic displays of “insurance pricing meter” with e-mail and Web summaries
- Frequent billing without automatic bill payment
- Transit pass discounts for UBI customers or bundling transit passes with a few free miles of insurance
- Individualized assistance to identify alternatives
- Peer comparisons and “regret lotteries” to encourage continuous mileage reductions

## Research Provides Actuarial Justification for UBI Pricing

- Research from Massachusetts that combines vehicle mileage and loss cost data shows a compelling relationship ( $R^2$  rises 0.15 to 0.72).
- Host of mostly small instrumented vehicle studies consistently shows a strong linkage between certain driving habits and crashes.
- Actions of insurance companies also suggest actuarial underpinnings for UBI.

## Instrumented Vehicle Studies Support UBI Pricing

- “100-Car Naturalistic Study” in No. VA found that the 12.5% most dangerous drivers had over 100X the crash risk of the 12.5% safest drivers.
- An Israeli 103-vehicle monitoring study found that aggressive drivers were responsible for 16.6X the crash costs of the safest drivers.
- A 95-driver test of incentives to reduce speeding in Sweden led to a decline in speeding frequency from 15% to 8% of driving time.

## Typical Company Approach to Introduce UBI Pricing— Premium Discounts for Data

- Willing participants are likely lower risk
- Gets data that companies need to offer an attractive UBI product
- Pricing power comes with data control

## No Long-term Solution

- Customers will ultimately gain control of their data and use it to get competitive price quotes, as they do today for non-UBI policies.
- Why? Because customers have smart phones and their vehicles have OEM-installed telematics, the data will be theirs to share.
- A “green brand” comes from an external credible source (e.g., CERES/NRDC/EDF *PAYD Insurance Product Rating System*; State Climate Action Plan UBI goals tied to driving reductions).



## Evolutionary UBI Products Fail with Revolutionary Demographic Changes

- Changes noted in Zogby's "The Way We'll Be," CCC Info Services "Crash Course 2012," etc.:
  - Young people delay licensure (75% of 19 year olds in 2008 v. 87% in 1983 in the U.S.), own fewer cars, live in cities, and take transit
  - "Automobility" increasingly met through car sharing (beginning on college campuses) and "dynamic ridesharing"

## Insurance Industry Failings

- Auto companies respond with car sharing partnerships; insurance companies are unresponsive.
- Instead of looking at peer-to-peer carsharing as a business opportunity, insurance companies threaten or hide (NY Times, 3/17/12).
- Consumer Federation of America Report—Low-income households forced to pay high insurance rates.

## Insurance Company and Regulator Flexibility Needed

- Be a leader and problem solver, not the problem.
- Don't over-price new risks; find constructive approaches to reduce exposure and price.
- Adopt to new markets—car owners want to rent their cars to their neighbors and some renters will become owners; build business relations now.
- Take heed of behavioral economics and U.S. Federal pilots.

## Federal Government Actions to Watch

- A range of Federally-supported UBI projects, including an actuarial study, are slowly moving forward; results will be published.
- 2,500-vehicle Naturalistic Driving Study is underway.
- Government transportation funding shortfalls lead to tests of mileage-based road user fees; could, as NYC is doing, combine with UBI tests.

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# Thank you!

- Allen Greenberg

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## Agenda

- Overview of Usage-Based Insurance and Telematics
- Telematics and Insurance Regulation
- Potential Regulatory Issues
- State Laws and Regulations
- NAIC Activity
- Other Developments

## Usage-Based Insurance and Telematics

- **Usage-based insurance aligns driving behaviors with premium rates**
  - Mileage and driving behaviors are tracked using in-vehicle telecommunication devices (telematics)
- **Telematics is the latest tool for insurers in underwriting and rating insurance policies**
  - Measures miles driven; time of day; where the vehicle is driven; rapid acceleration; hard breaking; hard cornering
- **Potential benefits**
  - Incentives for reduced and safer driving; reduced accident frequency and severity yielding reduced loss costs
- **Potential challenges**
  - Privacy; cost; consumer acceptance

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## Telematics & Insurance Regulation

- **Telematics can be viewed as the next evolution of risk classification**
- **As a relatively new technology, it presents unique challenges when first introduced**
  - Privacy issues
  - Use of data for claims purposes
  - Ownership of the telematics data
- **State insurance regulators are working through various regulatory implications**

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## Potential Regulatory Issues

- State insurance regulators review rates to ensure they are not excessive, inadequate, or unfairly discriminatory
- Questions that regulators may need to consider:
  - Overall is this a rate increase?
  - Will this raise rates in certain areas?
  - Will this be mandated in the future?
  - Are the rates actuarially justified?
  - Are the rates unfairly discriminatory?

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## State Laws and Regulations

- Most state laws are silent on telematics usage-based insurance
- States rely on current rate filing laws
  - Cancellation and nonrenewal laws; public access laws; and laws limiting risk classification factors
- In 2012, Washington State adopted a law concerning usage-based auto insurance
  - Exempts certain usage-based insurance rate information from public inspection
  - Collection, use, retention, and sales of information from a recording device is limited

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## NAIC Activity

- **At this time, there are no proposed NAIC model laws related to telematics or usage-based insurance**
- **Other activity**
  - The NAIC Advisory Organization Licensing (C) Subgroup reviewed the activities of Towers Watson related to usage-based insurance
  - The NAIC is planning an upcoming event to discuss “The Future of Automobile Insurance” on December 16 from 11:00 am - 1:00 pm during the NAIC’s Fall National Meeting in Washington, D.C.

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## Other Developments

- **In April 2013, Insurance Services Office (ISO) announced it filed its first vehicle telematics-based rating rule with insurance regulators in 33 states and received approvals in 19 states**
  - The rule uses information collected via telematics to award discounts.
  - Assesses the risk of an insured vehicle based on actual driving locations while “respecting the privacy of the insured”

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