

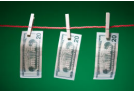





Effectively Utilizing Vehicle Telematics Data
THE SCIENCE OF RISKSM

Effective Roadblocks

What is the greatest obstacle to effectively utilizing vehicle telematics data?

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Dream Big



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Enter Reality

Obs.	(1) Date (UTC)	(2) Time (UTC)	(3) Degrees Latitude (Decimal)	(4) Degrees Longitude (Decimal)	(5) Cumul. Time (sec.)	(6) Cumul. Distance (Mil.)	(7) Cumul. Fuel (Gal.)	(8) Speed (MPH)	(9) Accel. or Decel. (g-force)
1	4/8/2012	14:45:30	-27.117	-109.367	0.00.00	0.000	0.000	0	0.000
2	4/8/2012	14:46:30	-27.118	-109.364	0.01.00	0.000	0.050	0	0.000
3	4/8/2012	14:47:30	-27.117	-109.371	0.02.00	0.080	0.055	20	0.030
4	4/8/2012	14:48:30	-27.150	-109.379	0.03.00	0.552	0.060	50	0.060
5	4/8/2012	14:49:30	-27.109	-109.388	0.04.00	1.499	0.078	65	-0.100
6	4/8/2012	14:50:30	-27.098	-109.398	0.05.00	2.538	0.091	59	0.010
7	4/8/2012	14:51:30	-27.093	-109.410	0.06.00	3.234	0.105	40	-0.070
8	4/8/2012	14:52:30	-27.084	-109.409	0.07.00	3.916	0.124	35	-0.015
9	4/8/2012	14:53:30	-27.076	-109.409	0.08.00	4.445	0.143	0	0.000

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Start Close to Home


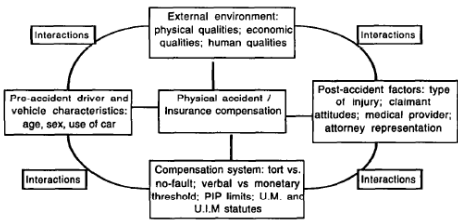


Image Credit: ©iStockphoto.com/Luca Di Filippo

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Make Room for Telematics



Source: *Personal Automobile: Cost Drivers, Pricing, and Public Policy* (Conners and Feldblum)
Casualty Actuarial Society (CAS) Forum, Winter 1997, page 317-341

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Go Outside the Box

- Roads and Traffic
- Demography
- Weather
- Laws and Regulations




Image Credit: ©iStockphoto.com/Walter Galt

Be Aware of Difficulties Establishing Linkage

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Less = More




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- Less Controversial
- More Standardized
- Less Costly
- More Straightforward

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Minimize the Pain

- Clearly-Defined Objectives
- Field Selection
- Cost-Effective Technologies
- Eliminate Redundancy
- Strategic Licensing or Partnerships



Image Credit: ©iStockphoto.com/Michael Pettigrew

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Preserve Location Privacy

$\{ (\$50 \times 0.5 \text{ mi}) + (\$25 \times 1.0 \text{ mi}) + (\$75 \times 2.0 \text{ mi}) + (\$100 \times 0.5 \text{ mi}) \} 4.0 \text{ mi} = \62.50

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Get Large Numbers

- Independent but Highly Similar Obs.
- Units of Driving
- Conditions and Events
- Shared or Publicly Available Databases

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More Familiar Terrain

Raw Data, Observation #4:

Vehicle John's Car	Term Apr - Oct, 2011	Status Driving	Date Weekday	Time AM Peak
LC Band 3	Road Type Freeway	From Garage 0 - 5 Mil.	Weather Overcast	Visibility Good
Speed (mph) 47.5 - 52.5	vs. Limit (2.5) - 2.5	vs. Flow (7.5) - (2.5)	Fatigue 0 - 5 mins.	Fuel Econ. 30 - 40 mpg
Mileage 177	Time (mins.) 250	Fuel (gals.) 2.88	Harsh Accel. 3	Harsh Brake 5

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Model the Effects

- Associate Insurance Data
- Frequency and Severity Modeling
- Pure Premium or Loss Ratio Modeling
- Unearth Interactions

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Go Live




- Score, Classify, or Tier?
- Those Other Cost Drivers
- Legal and Regulatory Issues

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Demystify Telematics

- Fit Telematics into the Puzzle
- Invest for the Future
- Find Optimal Granularity
- Standardize *and* Differentiate
- Get Your Head in the Game




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Questions and Comments



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