


Integrating Telematics Into Rating Plans

CAS Ratemaking and Product Management (RPM) Seminar
March 31st – April 1st, 2014

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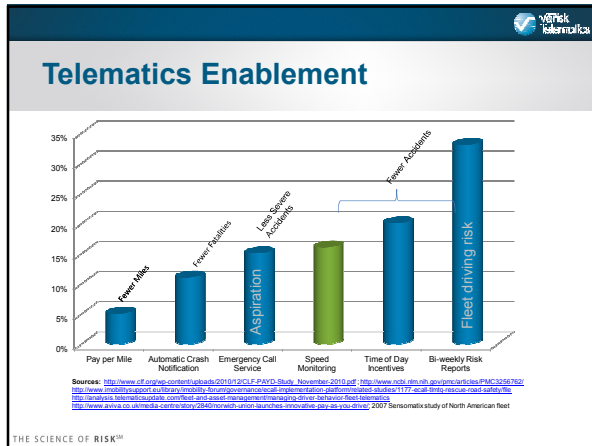


Project Greenlight



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Break-Even Concept

"Break-even" combined ratio improvement = $\frac{\$100 + (3 \times 12 \times \$5) + (\$800 \times 3 \times 10\%)}{\$800 \times 3} = 22\%$

Hypothetical example #1

- Single-device UBI program
- \$100 hardware cost
- \$5 monthly wireless
- 3-year service life (return period)
- \$800 annual premium before UBI
- 10% UBI discount

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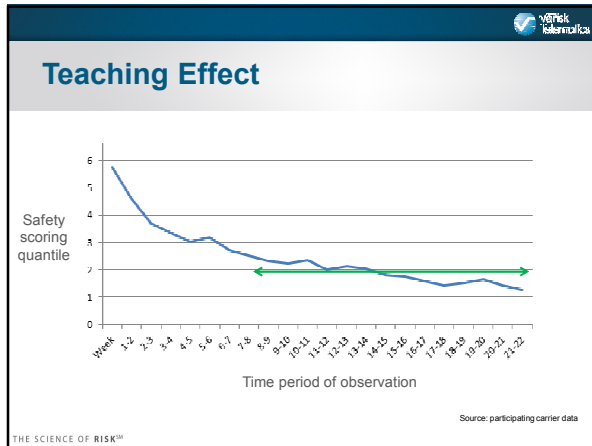
Device Rotations

"Break-even" combined ratio improvement = $\frac{\$100 + (3 \times 12 \times \$5) + (\$800 \times 1.75 \times 6 \times 10\%)}{\$800 \times 1.75 \times 6} = 13.3\%$

Hypothetical example #2

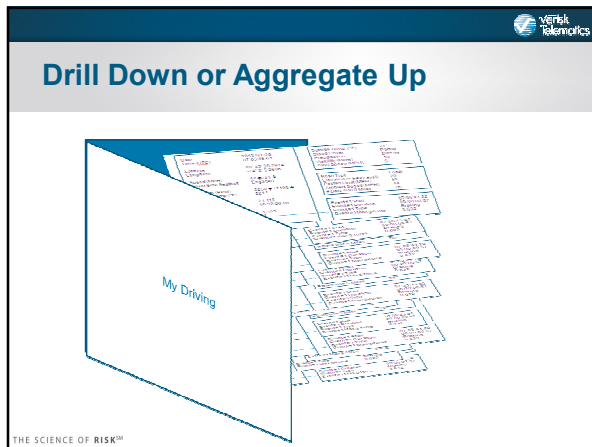
- Same facts as previous example
- Rotate device to new vehicle every six months
- Discount period of three years
- Total of six vehicles outfitted
- Average program enrollment = 1.75 years

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There's Some There Here

| | | | |
|----------------------|-----------------|-------------------------|-------------|
| Date | 2013 /01 /28 | Outside Temp. (°F) | 31° |
| Time (UTC) | 07:05:45.65 | Cloud Cover | Partial |
| Latitude | | Precipitation | Drizzle |
| Longitude | | Visibility (Miles) | 10 |
| | | Wind Speed (MPH) | 5 |
| Speed (MPH) | 44 ↑ / 41 ↓ | Road Type | Local |
| Driver Side Seatbelt | Engaged | Elevation (> Sea Level) | 20' |
| Perform. (RPM) | 2250 ↑ / 2100 ↓ | Posted Limit (MPH) | 35 |
| Engine Temp (°F) | 221 ° | Ambient Speed (MPH) | 44 |
| Trip Mileage | 21.115 | # Bars win 5 Miles | 76* |
| Trip Time | 00:32:29.08 | Event #1 Start | 07:05:43.22 |
| Trip Fuel (Gallons) | 1.105 | Event #1 Duration | 00:00:00.57 |
| Accel. Events | 1 | Event #1 Type | Braking |
| | | Event #1 Max g-force | 0.632 |



Data Considerations

- Granularity
- Credibility
- Homogeneity
- Scalability
- Analytics
- Alternatives


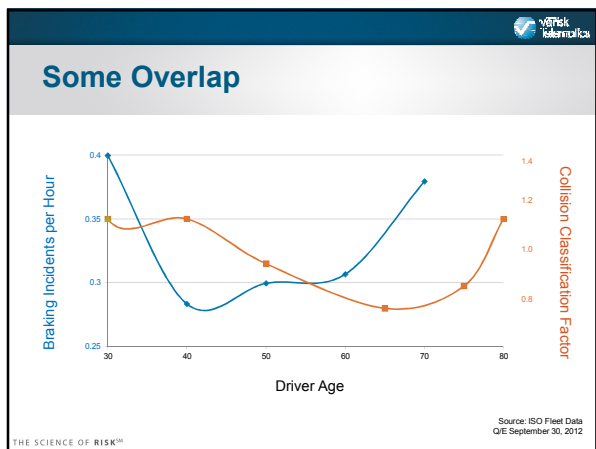
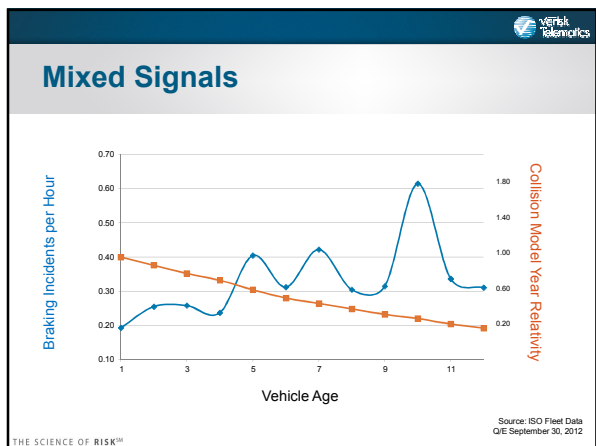
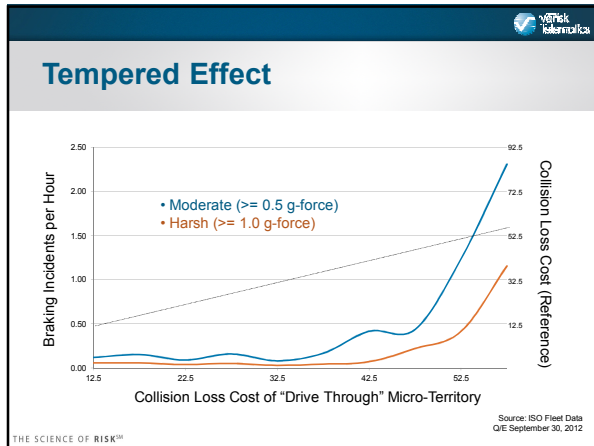


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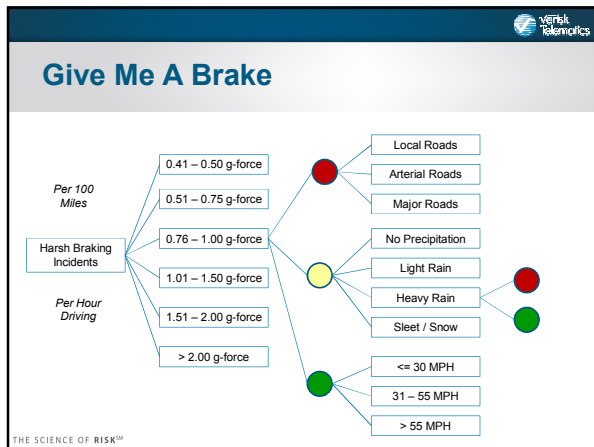


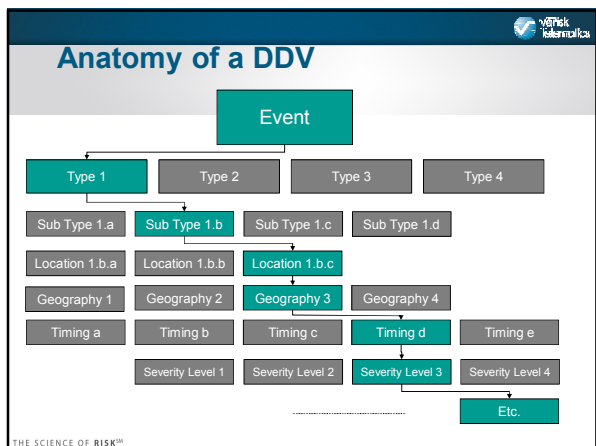
Correlations

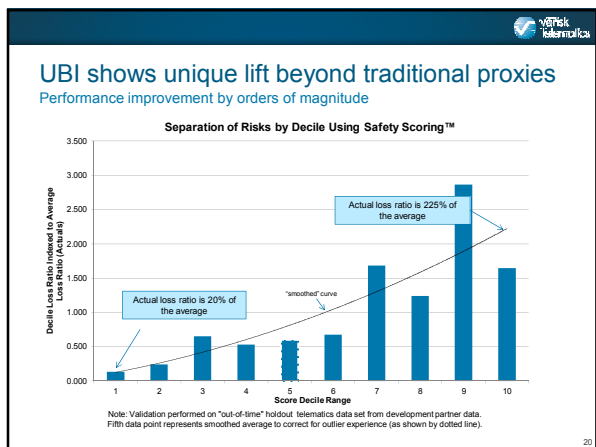
Example Correlation Matrix

| Variable | 1 | 2 | 3 | 4 | 5 |
|--------------------|------|------|------|------|-----|
| 1 Mileage | 1.0 | | | | |
| 2 Average Speed | 0.3 | 1.0 | | | |
| 3 Moderate Braking | -0.2 | -0.3 | 1.0 | | |
| 4 Severe Braking | 0.0 | -0.1 | 0.5 | 1.0 | |
| 5 Vehicle Age | 0.3 | 0.2 | -0.1 | -0.1 | 1.0 |

Source: ISO Fleet Data Q/E September 30, 2012







Post-Implementation

Metrics

- Loss Ratio
- Retention
- Behavioral Improvement
- Growth Rate

Challenges


- Lack of Data
- Long Term Return Period
- Volatility
- Hawthorne Effect

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Questions and comments

Contact jweiss@iso.com or 201.469.2216.
www.verisk.com/telematics

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