

Telematics: What an Actuary Should Know

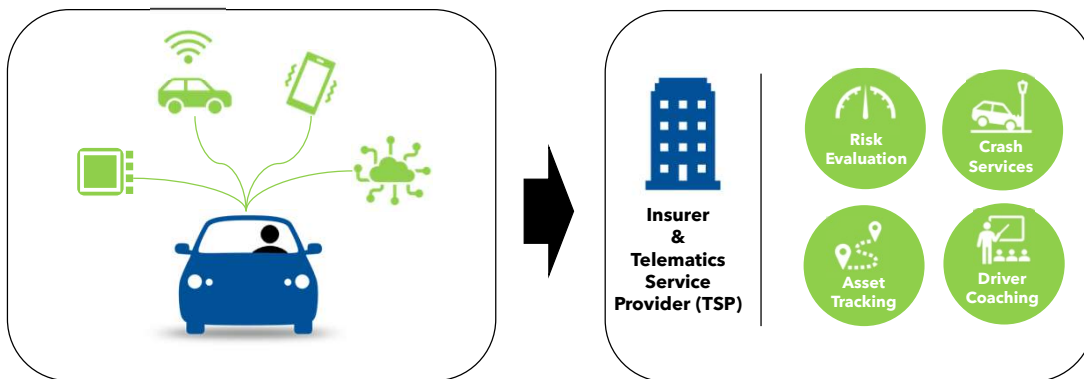
CAE Conference
September 2023

Presenter: Geoff Werner

©2023 Werner Advisory LLC

1

What is motor insurance telematics?



©2023 Werner Advisory LLC

2

2

Werner Advisory 




Why Telematics?





3

3

Why telematics?

Werner Advisory 

Enables disruptive innovative digital insurance products

-  Accurate, fairer and controllable pricing
-  Fast claim resolution
-  Improve drivers
-  Social values

©2023 Werner Advisory LLC

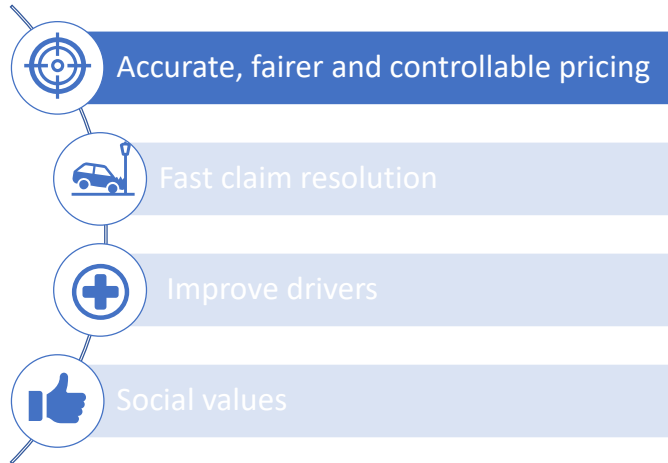
4

4

Why telematics?

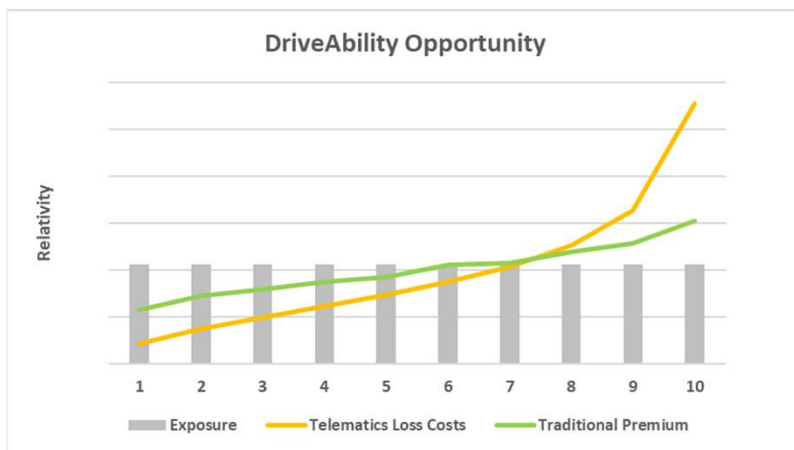


Enables disruptive innovative digital insurance products



5

How powerful is the data?



Source: DriveAbility® Program, Octo Telematics

Decile	% Diff
1	-63%
2	-49%
3	-38%
4	-30%
5	-21%
6	-17%
7	-3%
8	6%
9	27%
10	83%
Abs(Avg)	34%

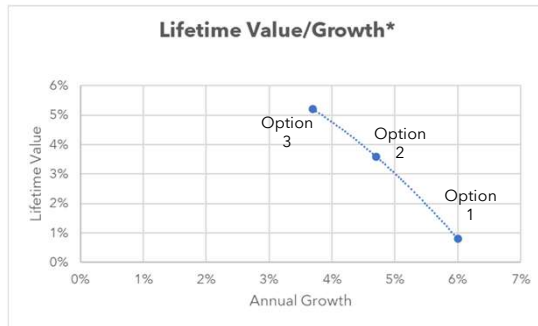
6

Price to meet your goals



Emphasize profit, growth or both through the pricing decisions you make

Tier	Option 1	Option 2	Option 3
1	-25%	-35%	-50%
2	-20%	-25%	-31%
3	-15%	-20%	-16%
4	0%	+0%	0%
5	0%	+20%	+38%







*Profit and growth based on a cohort over 5 years

7

Why telematics?



Enables disruptive innovative digital insurance products

-  Accurate, fairer and controllable pricing
-  Fast claim resolution
-  Improve drivers
-  Social values

8

Telematics-based crash data example



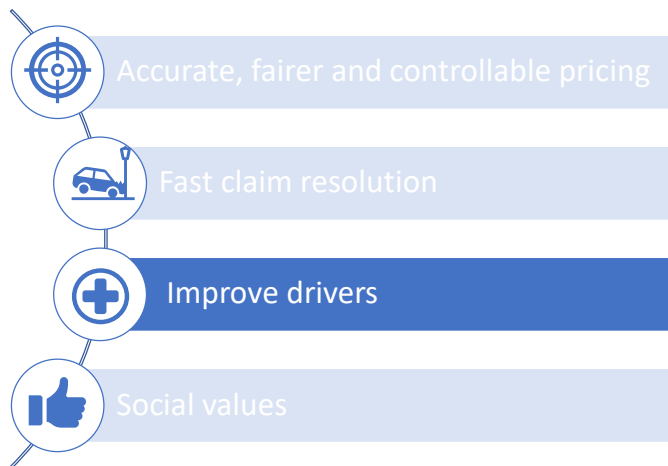
Source: Cambridge Mobile Telematics

9

Why telematics?

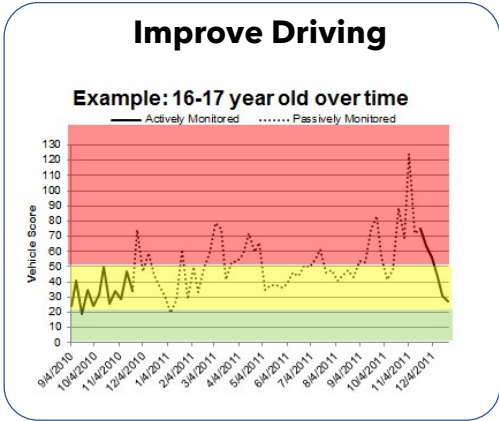


Enables disruptive innovative digital insurance products



10

How can we keep families safe?



Discovery Insurance Realized Dramatic Results

Used behavioral economics, rewards and telematics to create a cutting-edge behavioral change program

- Customers' accidents reduced 24%
- Engaged drivers improved 15X more
- 32% increase in good drivers

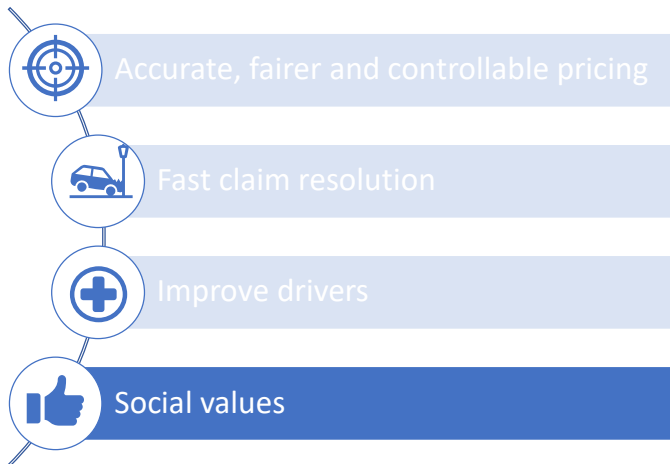
Companies who offer these programs can improve their brand while reducing indemnity costs

11

Why telematics?



Enables disruptive innovative digital insurance products



12

Consistent with social causes



Protect the Planet

Reduce emissions

- Fewer miles
- Smooth driving



Promote alternatives

- Mobility options
- Carpooling

Social "Fairness"

Traditional

Telematics

Credit Score

Violations

Occupation

How

How Much

When

Where



13

Why telematics?



Enables disruptive innovative digital insurance products



Accurate, fairer and controllable pricing



Fast claim resolution





Improve drivers



Social values


14



What should an actuary know?

15

15



Key topics for actuaries

- Product and actuary must collaborate for best results
- Model granular data to maximize results
- Impacts of timing and portability of telematics data
- Biggest future challenge: non-uniform data from many sources

©2023 Werner Advisory LLC

16

16

Product & Actuary collaboration



Telematics-insurance varies and drives analytical requirements and application

Example 1: PPM v UBI

Device	Rating	Mileage
Short-term UBI	Prospective in perpetuity	Maybe
Continuous UBI	Prospected adjusted regularly	Maybe
PPM	Retrospective Monthly	No

Example 2: Different Sensors

Device	Tracks	Missing Mileage
Smartphone App		
Connected Car		
App + Tag		

©2023 Werner Advisory LLC

17

17

Analyze data at "right" level



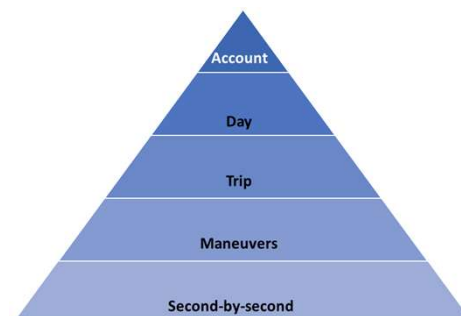
Account level analysis

- Temptation to convert telematics into account features (e.g., late-night driving)
- Feels appropriate given current modeling approach
 - Easy to match with existing records
 - No additional claims matching required

Multi-level analysis

- Analyze at all levels
 - Better results with less data
 - Requires claims at "moment" of occurrence
- Actually, consistent with current data aggregation

Telematics data has multiple levels



©2023 Werner Advisory LLC

18

18

Impact of data timing/portability

Limited POS data/No Portability

POS Data Available

Post POS Telematics Modifier

Traditional Factors

Traditional Factors

Telematics Factors

Carriers who can optimize the use of traditional and telematics data will have a competitive advantage. Those who cannot will face adverse selection

©2023 Werner Advisory LLC

19

19

Data consistency in the future

Single Source Constant Data

Varied Data from Many Sources

Carriers who can use data from many sources will have a competitive advantage. Those who cannot will face adverse selection

©2023 Werner Advisory LLC

20

20



Questions for me?



Geoff Werner
Managing Member
Werner Advisory

Email: g.werner@werneradvisory.com
Phone: 210.269.8633