

Advanced Technologies: Using Telematics to Monitor and Modify Driver Behaviors

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Learning Objectives

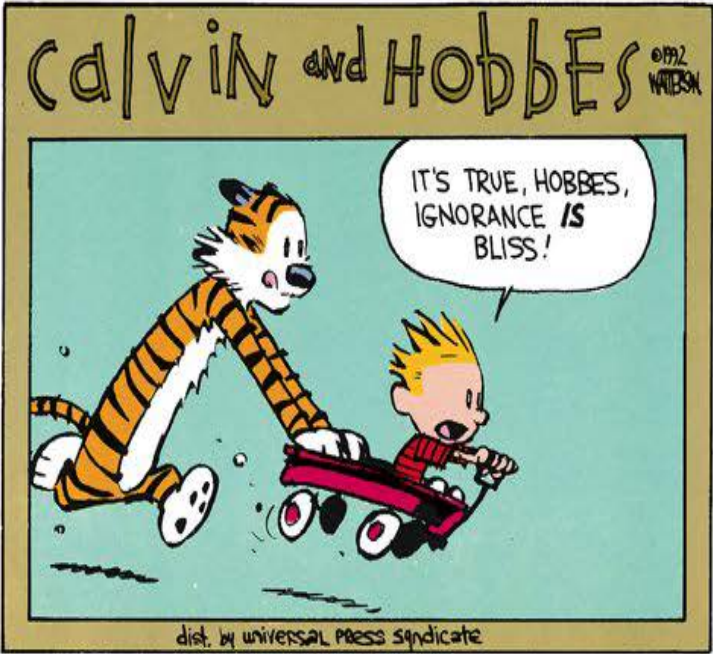
Vehicle Telematics: How Much Information Is Too Much?

Learning Objectives

At the end of this session, you will:

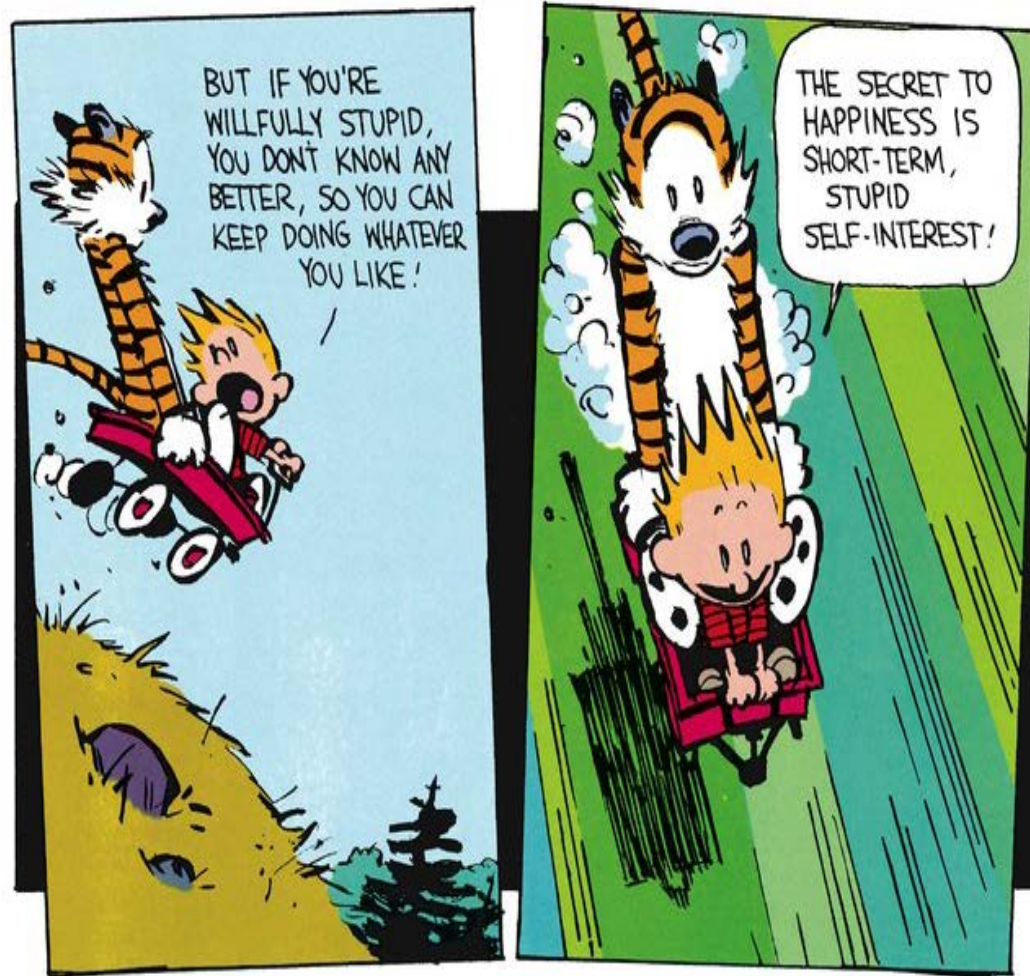
- Create a plan to use telematics data as an integral part of your fleet safety management program.
- Identify forms of telematics data others are using to monitor driver performance and complete predictive modeling.
- Determine which telematics data you want to capture and use to foster your fleet safety results.
- Understand how to avoid data overload, use data effectively, and avoid potential liabilities from negligent use of data.

Fleet Safety Management



Source: <http://www.gocomics.com/calvinandhobbes/2012/05/20/>

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Why Integrate Telematics Into Your Risk Management Activities?

Current State of Fleet Risks

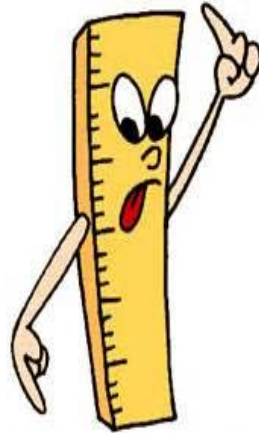
- Vehicle collisions are a leading cause of workplace fatalities.
- Collision rates (including fatalities) are rising at an alarming pace.
- Cost of collisions are increasing.
- Insurance rates and retentions are increasing as insurers are scrutinizing fleet safety exposures.
- Nuclear verdicts continue to plague fleets.
- Driver shortage is for real.
- Difficulty managing drivers (“the lone worker”) may be a real challenge.

“I’m full of good news!”

Why Integrate Telematics Into Your Risk Management Activities?

“You can’t manage what isn’t measured.”

“People will only respond to what they are held accountable to.”



Telematics data and analytics are integral to addressing these philosophies.

Telematics

- Capturing vehicle performance and movement data.
- Means of monitoring driver behaviors.



Telematics

Two Types of Telematics

- **Integrated** Vehicle Telematics Systems
 - Electronic Control Module (built into vehicle).
 - Requires a plug-in download.
 - Data is often very difficult to interpret in raw form.
- **Aftermarket** Telematics Systems
 - Add-on (plug-in or external standalone systems, which monitor various vehicle performance measures).
 - Typically provide real-time alerts.
 - May be specific measures or a broad range of measures.
 - Big Data.

Telematics

Capturing Data

- **Plug and play:** Requires vehicle to be present to download.
- **Cellular transmission:** May be sporadic and or inconsistent.
- **GPS-based transmissions:** Timely yet quite costly.

“You can’t manage what isn’t measured.”

Telematics

Interpreting Data

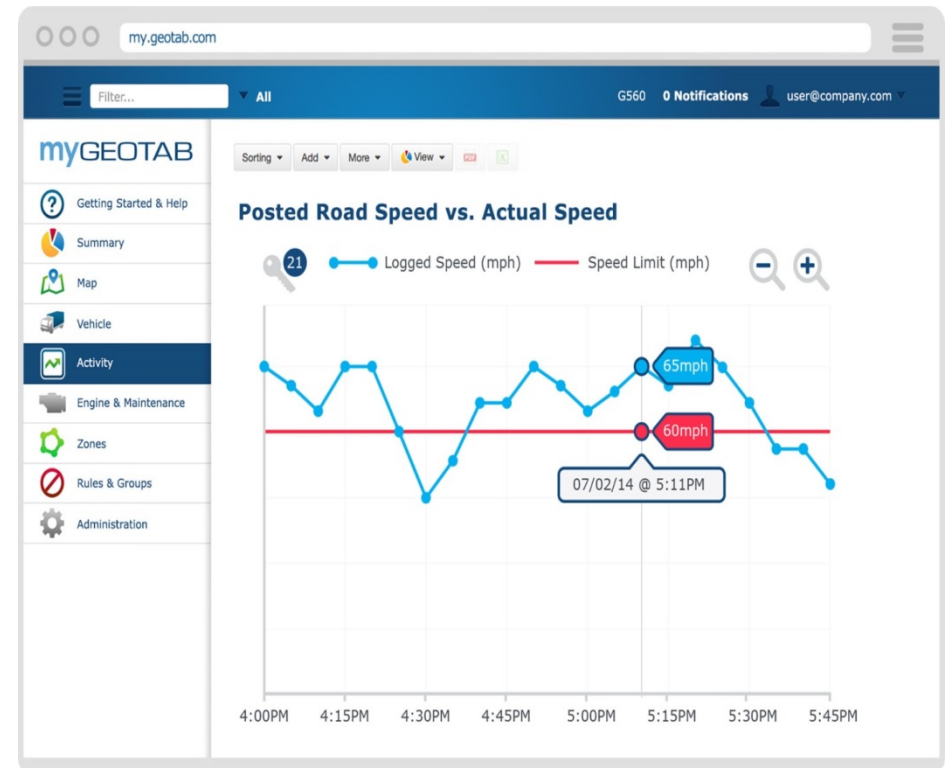
- Must know what you want to measure prior to capturing data.
- Big Data may be overwhelming.
- Most data requires validation.
- Most often tied to a vehicle, requiring verification of the driver.
- Third-party programs often engaged to interpret and benchmark data.
- Use to positively reinforce desired behaviors as well as identify training opportunities.
- Data may be worthless if not used properly.

“People respond to what they are being held accountable for.”

Types of Telematics Data

Speed Reports

- Exceeding posted road speed.
- Compliance with company top speed.
- May be time consuming as verification is necessary – speed occurrence may be a false read (e.g., picking up frontage road speed limits when actually on an expressway).

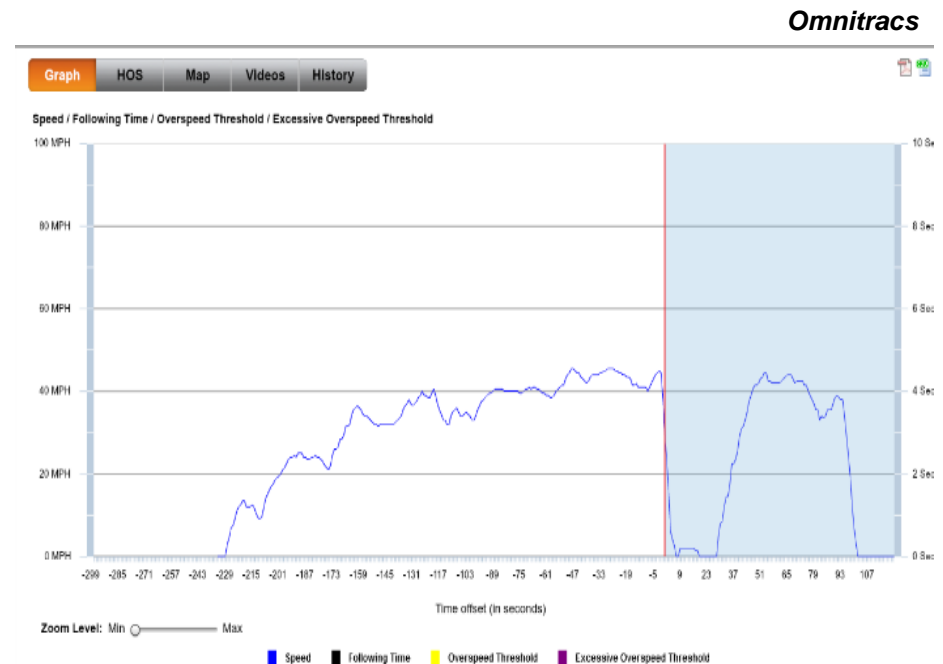


GEOTAB

Types of Telematics Data

Harsh Braking/Rapid Deceleration

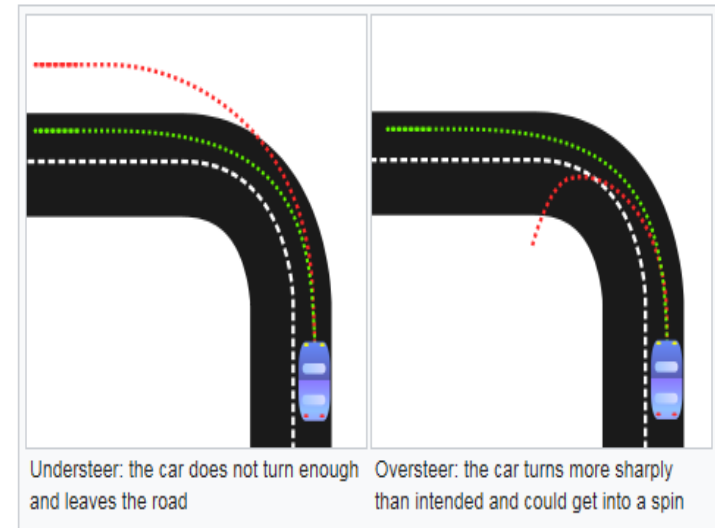
- Computerized system which captures the rapid reduction in vehicle speeds.
- Commonly resulting from:
 - Distracted driving.
 - Following too closely.
 - Not viewing far enough up the road.
 - Aggressive driving.
 - Lack of focus on the driving task.
- Also requires validation as data may show false reads (e.g., tire spins crossing a railroad track or when on slippery surfaces).



Types of Telematics Data

Collision Avoidance/Stability Control/Dangerous Lane Change

- Upon system sensing excessive lateral g-forces, the vehicle automatically activates braking and deceleration to prevent a vehicle from potentially rolling over.
- Driver's role is to approach turns and curves at a safe speed and avoid sudden evasive maneuvers whenever possible.
- Reports can be obtained as to how often and when this system is triggered.
- Triggered by excessive speeds in corners, quick evasive maneuvers, distracted driving, and other contributors to vehicle instability.



Wikipedia

Types of Telematics Data

Event Recording Devices

- Captures seconds prior and following a triggering event.
- Goal is to identify at-risk behaviors prior to the “big one”.
- You can’t argue with pictures.



DriveCam

Types of Telematics Data

Event Recording Devices

- Captures seconds prior and following a triggering event.
- Goal is to identify at-risk behaviors prior to the “big one.”
- You can’t argue with pictures.



DriveCam

Types of Telematics Data

Event Recording Devices

- Exonerates you when a third party causes the collision.
- Allows you to settle a claim when you are clearly at fault.

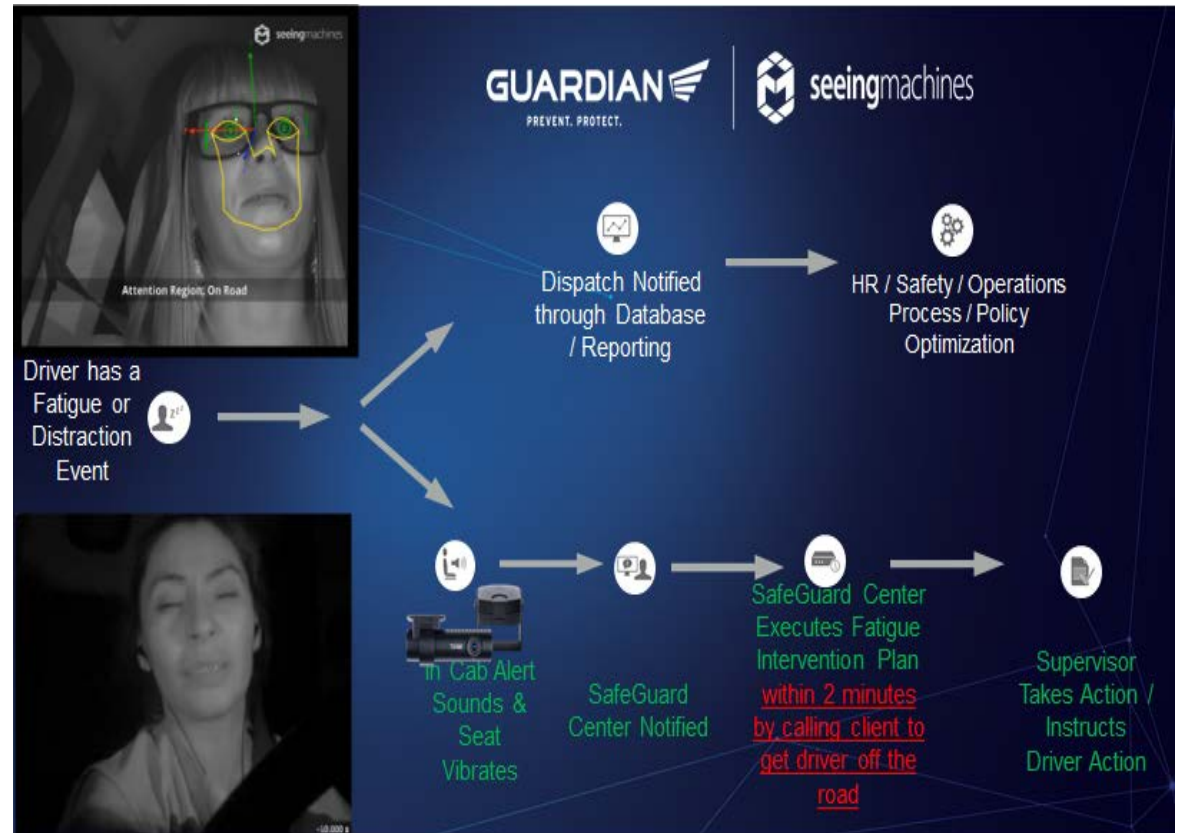


Smartdrive

Types of Telematics Data

Advanced Driver Monitoring Systems

- Identifies fatigued drivers and distracted drivers through eye movement monitoring.
- Provides an audible warning.
- Triggers a forward- and driver-facing camera recording.
- Sends immediate notification to manager.



Types of Telematics Data

Driver Scorecards – Predictive Modeling

- Monitor driver performance.
- Predict which drivers are more likely to have a collision and then apply remedial training and other risk reduction solutions to avoid potential collisions.

Preventable Collision: - Weight: 25.00% 12 month rolling history (03/17/16 - 03/17/17)

Min Range:	Max Range:	Applicable Score:	Drivers Category Measure:	Drivers Measure Score:	Adjusted Category Weight:	Weighted Category Score:
\$0.00	\$0.00	100.00%	50	100%	N/A	25.00%
\$1.00	\$179.99	80.00%				
\$180.00	\$239.99	70.00%				
\$240.00	\$299.99	60.00%				
\$300.00	\$599.99	50.00%				
\$600.00	\$999,999.00	0.00%				

Injury: - Weight: 25.00% 12 month rolling history (12/17/2016 - 12/17/2017)

Min Range:	Max Range:	Applicable Score:	Drivers Category Measure:	Drivers Measure Score:	Adjusted Category Weight:	Weighted Category Score:
0.00	0.00	100.00%	0	100%	N/A	25.00%
1.00	999.00	0.00%				

DriveCam Coachable Event Score: - Weight: 15.00%

Min Range:	Max Range:	Applicable Score:	Drivers Category Measure:	Drivers Measure Score:	Adjusted Category Weight:	Weighted Category Score:
0.00	0.00	100.00%	9	0%	N/A	0.00%
0.01	3.00	80.00%				
3.01	4.00	70.00%				
4.01	5.00	60.00%				
5.01	6.00	50.00%				
6.01	999.00	0.00%				

HOS Violations: - Weight: 15.00%

Min Range:	Max Range:	Applicable Score:	Drivers Category Measure:	Drivers Measure Score:	Adjusted Category Weight:	Weighted Category Score:
0.00	0.00	100.00%	0	100%	N/A	15.00%
1.00	999.00	0.00%				

Category: Long Idle - Weight: 10.00%

Min Range:	Max Range:	Applicable Score:	Drivers Category Measure:	Drivers Measure Score:	Adjusted Category Weight:	Weighted Category Score:
0.00	1.07	100.00%	2.03	0%	N/A	0.00%
1.08	1.19	80.00%				
1.20	1.32	70.00%				
1.33	1.45	60.00%				
1.46	1.60	50.00%				
1.61	999.00	0.00%				

CSA Points: - Weight: 10.00%

Min Range:	Max Range:	Applicable Score:	Drivers Category Measure:	Drivers Measure Score:	Adjusted Category Weight:	Weighted Category Score:
0.00	0.00	100.00%	4	50%	N/A	5.00%
1.00	1.00	80.00%				
2.00	2.00	70.00%				
3.00	3.00	60.00%				
4.00	4.00	50.00%				
5.00	999.00	0.00%				

Benefits of Using Telematics

Core benefit:

- Organizations are claiming up to 75% reductions in collision frequency.
- Overall cost per claim has decreased.

Secondary benefits:

- Driver performance has improved.
- Better fuel economy.
- Lower vehicle maintenance costs.
- Increased driver retention.
- Customer satisfaction/service.

Liabilities With Using Telematics

If you have the data and do nothing with it, you may be exposing your organization to:

- **Vicarious liability**: When the employer is held liable for harm done by an employee acting within the scope of employment.
- **Negligent entrustment**: The employer could be liable if it had data showing the employee engaged in at-risk behaviors and/or had a history of bad driving habits and did not address these exposures.

For example, if the telematics data identified that your employee regularly engages in harsh braking events and you choose not to address this risk, you could be found to be negligent in the event the driver had a collision involving similar circumstances.

How to Avoid Big Data Overload

- **Have a goal:** Know what specific behaviors you want to focus on. Identify what data you would like to receive. Tie to loss results.
- **Start small:** Limit the amount of data you are receiving on the drivers to one or two manageable elements.
- **Automate alerts and data downloads:** Set it up so reports automatically come to you in a user-friendly format.
- **Allocate time:** Designate an individual(s) with time allocated to run, review, and address the data.
- **Create dashboards:** Share data (positive and opportune) with respective drivers.
- **Act upon data:** Consistently address issues identified through data analysis.
- **Cease and desist:** If you are struggling to review the data or address the results, consider pausing your data collection.

Use Your Resources!

- **Capture:** Consistent and thorough gathering of pertinent data.
- **Consolidate:** Integrate data from multiple sources for a clear view of risks.
- **View:** Provide a centralized view.
- **Analyze:** Use sophisticated analytics to turn complicated data into easily understandable and actionable information.
- **Countermeasures:** Identify trends, risks, and opportunities using consolidated, real-time risk, safety, and claims data to take quick action.
- **Predictive Modeling:** Use predictive analytics to help you understand not just what happened, but why it happened, and what is likely to happen next.

“Software that provides the data, analytics, and insights transportation organizations need to turn risk into a strategic advantage.”

Questions?

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