AUGUST 19-20

CLAIMS & SAFETY

2013 SEMINAR

Commercial Fleet Insurance Uses of Telematics Data

Dick Mahany, Baldwin & Lyons

Isaac Wash, ISO

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Mileage = Frequency = Severity

Conventional Model of Accident Rate

Risk Environment vs. Risk Mitigation

Environment

- Roadway design and maintenance
- Traffic controls
- Traffic congestion
- Weather
- Compliance
  - Hours-of-service rules
  - Other

Mitigation

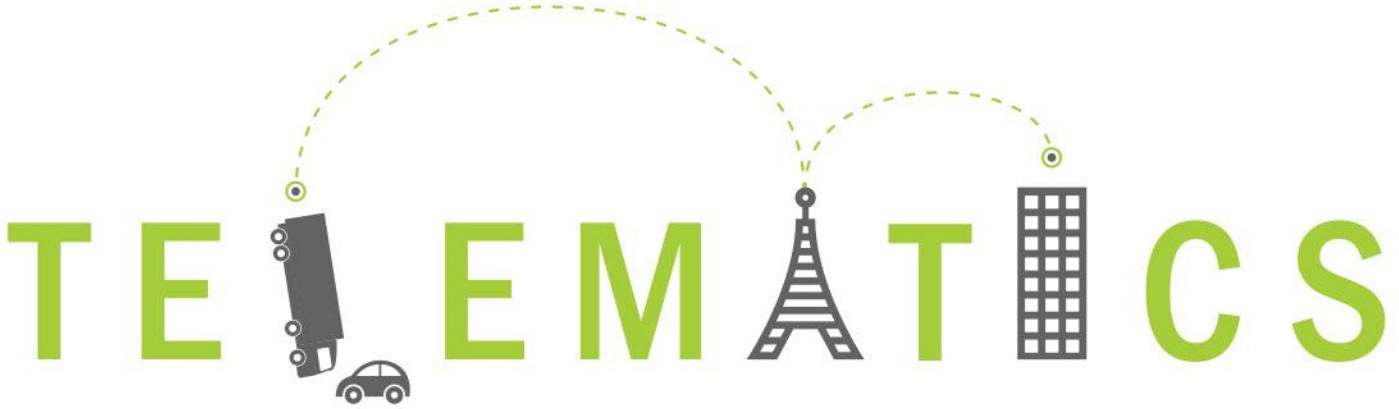
- Vehicle safety systems: R/ESC, LDWS, AEBS, TPS
- Driver management:
  - Hiring
  - Training
  - Wellness
  - Fatigue management
  - Performance monitoring

Agenda

- Telematics and usage-based insurance (UBI)
- Baldwin & Lyons UBI pilot program background
- Baldwin & Lyons UBI goals and objectives
- ISO UBI goals and objectives
- Pilot program overview
- Q&A

What is Telematics?

Telematics: The technology of sending, receiving and storing information via telecommunication devices…[1]



1 “Telematics”, Wikipedia, July 29, 2013

What is UBI?

Usage-based insurance (UBI), also known as pay-as-you-drive (PAYD), pay-how-you-drive (PHYD) and mile-based auto insurance, is a type of auto insurance whereby the costs of motor insurance are dependent upon type of vehicle used, measured against time, distance, behavior and place.[1]

[1]"Usage-based insurance," Wikipedia, 11-03-12

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UBI Examples

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Baldwin & Lyons UBI Objectives

- Programs funded by Baldwin & Lyons:
  - **Short-term objectives**
    - Help clients quantify their operating risks
    - Help clients reduce losses through tailored loss prevention programs
    - Fleet-level and vehicle-level specific programs
  - **Long-term objectives**
    - Provide more precise insurance pricing based on client risk exposure and risk management
    - Annual and trip-level programs

What Baldwin & Lyons is Doing

- Conducting a one-year study (experiment)
- Questions we plan to answer:
  1. Do our clients' commercial fleet accidents correlate to known auto- and truck-risk areas?
  2. Does identifying risk areas lead to more effective safety communications and training?
  3. Can performance discrepancies become opportunities to better prepare and train drivers and reduce accidents?

Two-Part Pilot Program

- **FleetMap™**
  - Baseline program that characterizes the geographical operating risk of our client and targets fleet-level safety improvement
- **DriverMap™**
  - Optional add-on program that characterizes the performance of individual vehicles and targets driver-level safety improvement

Baldwin & Lyons UBI Product: FleetMap™

- Measures and reports where and when account tractors accumulate mileage
- Correlates losses with mileage characteristics and identifies risk areas (supported by ISO)
- Baldwin & Lyons helps client tailor fleet safety programs based on operating risk and problems identified
- Optional fleet management tools also available
  - Vehicle location*
  - Fuel utilization and fuel tax reports*
  - Engine fault reports and hours utilized*

*Web service provided by Assured Telematics, Inc.

FleetMap™ Data Categories

- **Geographic**
  - Urban (major cities tracked separately)
  - Suburban
  - Rural

- **Time**
  - Daytime (non-rush hour)
  - Rush hours (7-9 a.m., 4-6 p.m.)
  - Nighttime (9 p.m. – 6 a.m.)
  - Day of week

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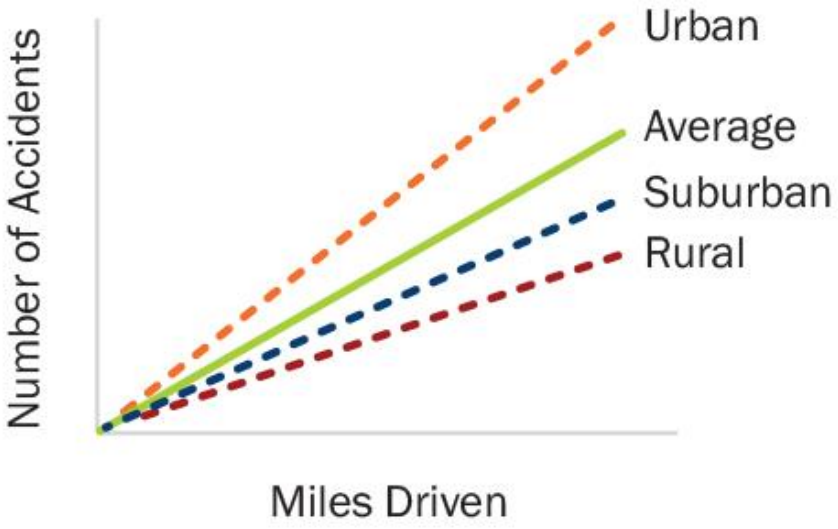
Geographic Model of Accident Rate

Environmental Model of Accident Rate



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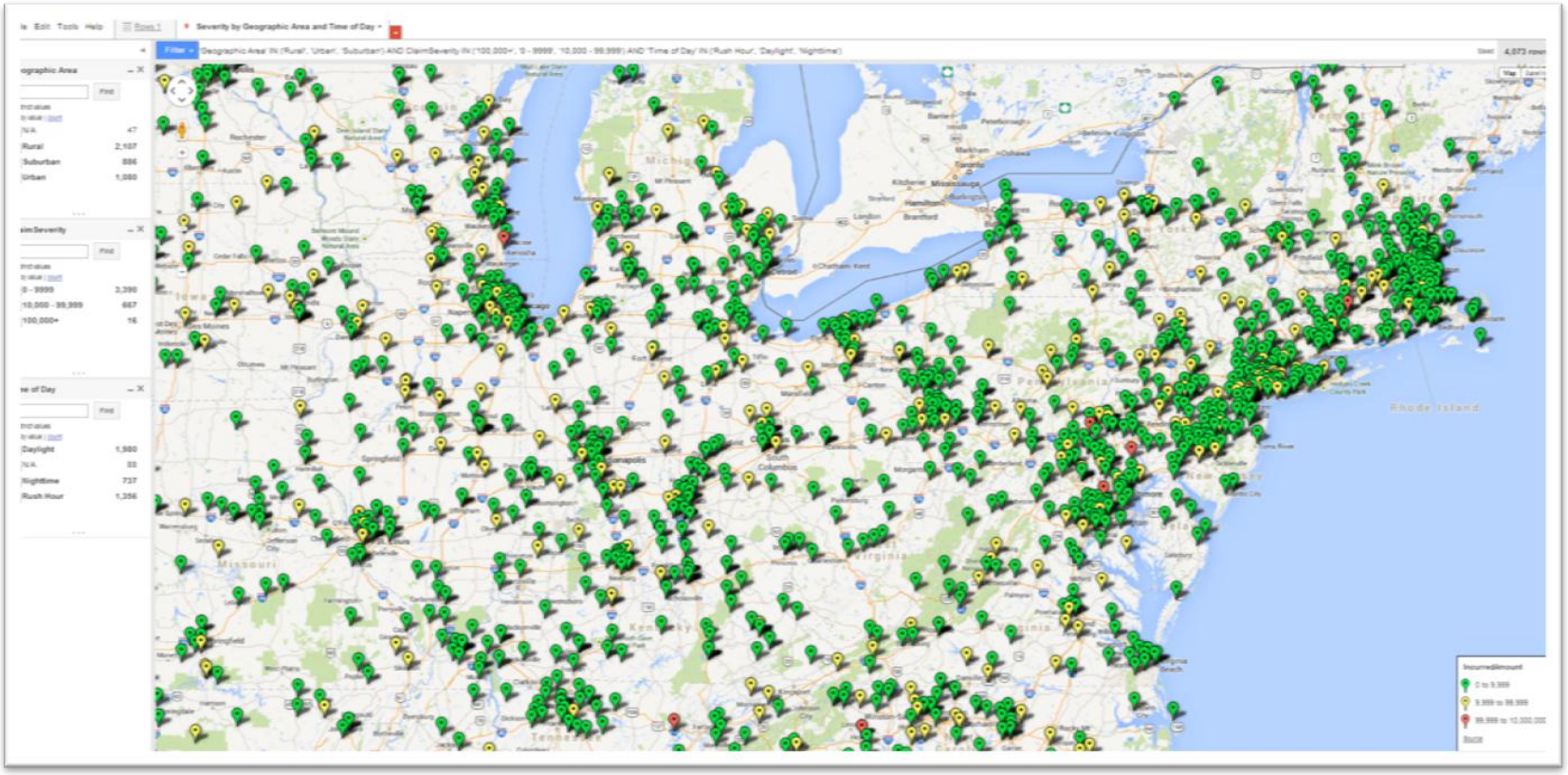
Example - All Claims



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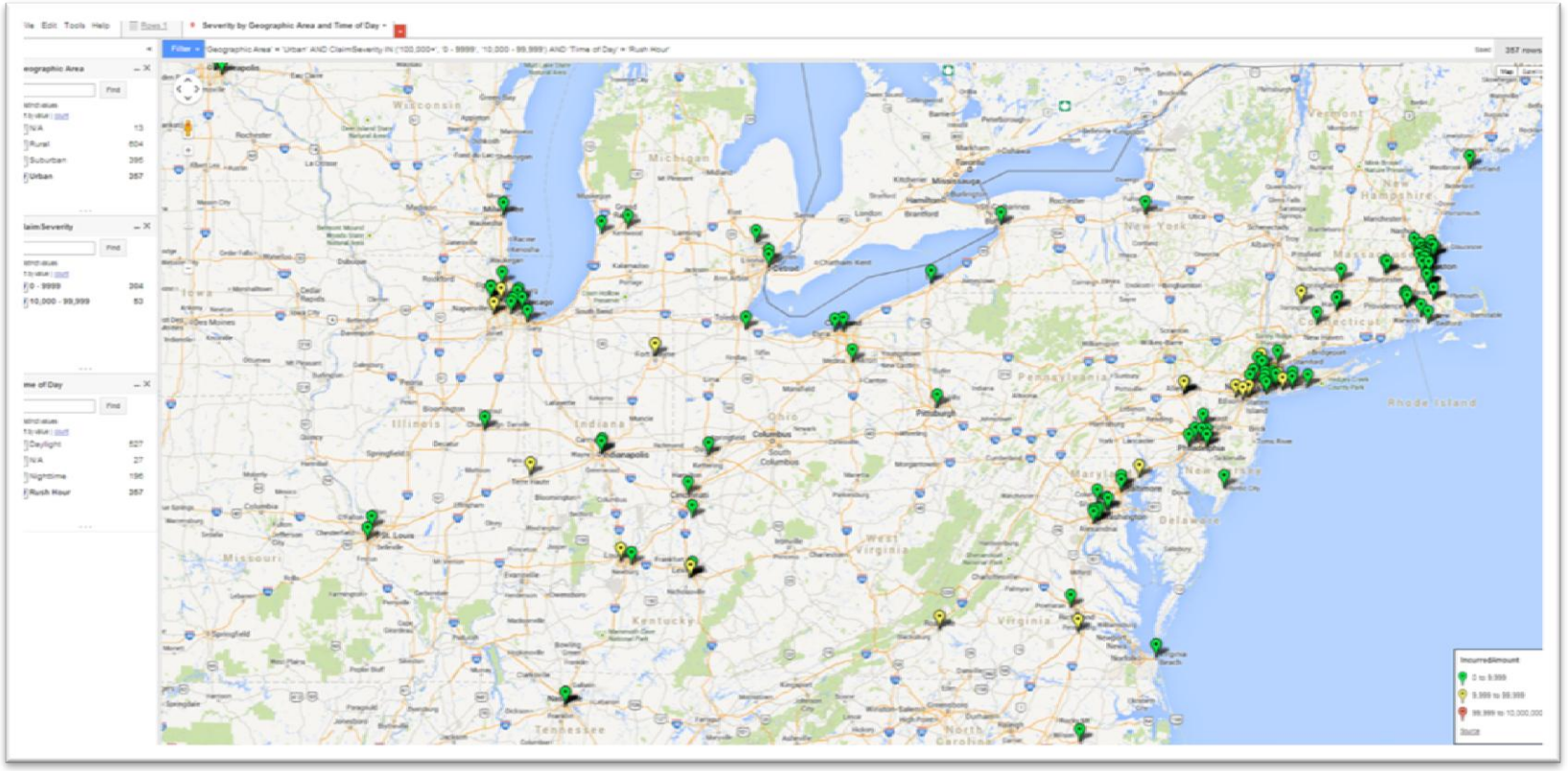
Example - Urban Rush Hour Claims



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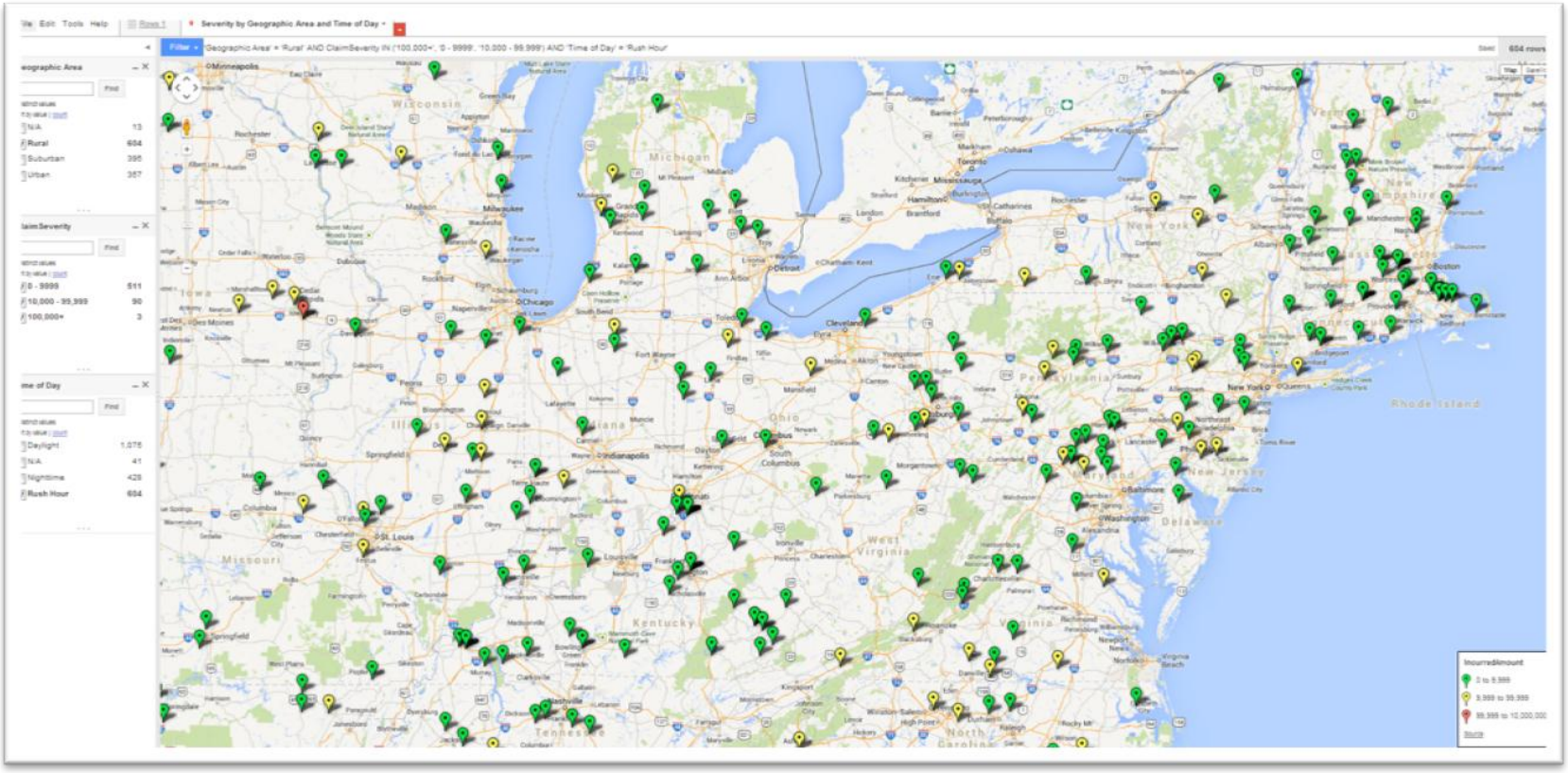
Example - Rural Rush Hour Claims



FleetMap™ Loss Prevention Program

- Identify operational risk areas such as locations, time of day, day of week and weather
- Determine if client accident locations correlate with others
- Apply relevant, tailored and timely monitoring programs to reduce accidents and losses
- Track stolen tractors

Baldwin & Lyons Product: DriverMap™

- Measures and reports driver performance: where, when and how individuals and teams drive
- Supported by third party analysts
- Provides detailed driver performance information
  - Driving behavior reports (summary events)
  - Identifies problem locations (tied to FleetMap™)
  - Tailored Baldwin & Lyons safety programs

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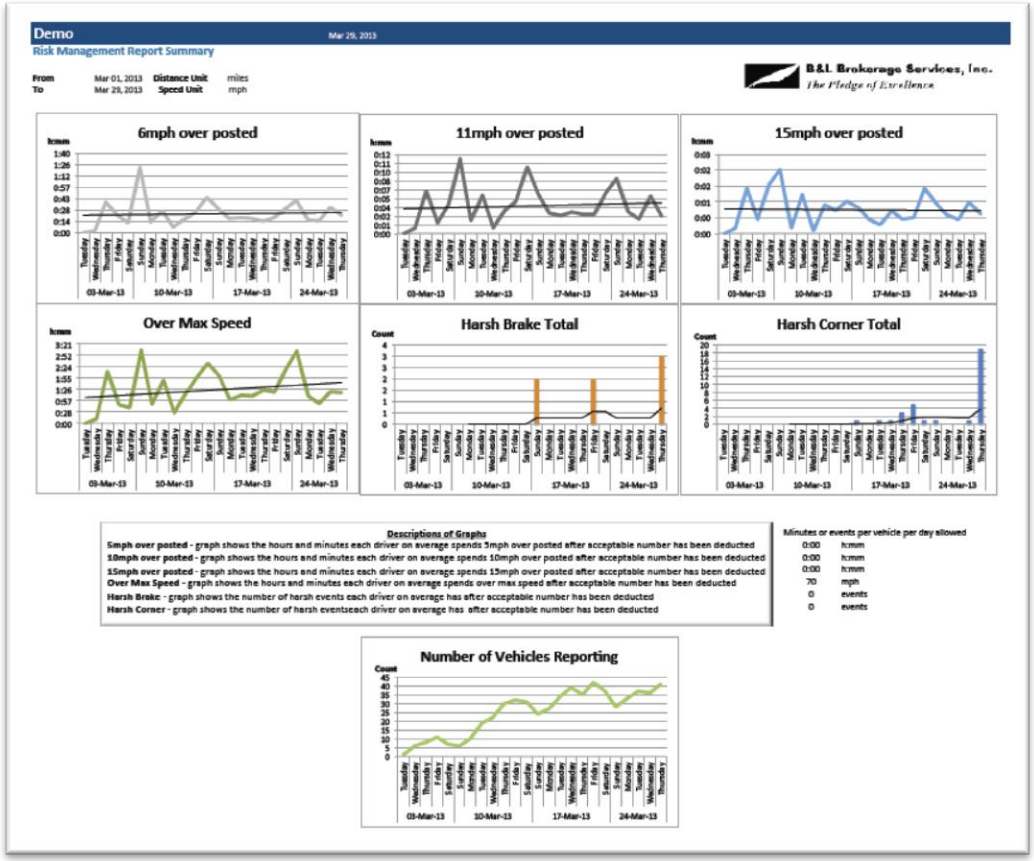
Geotab Fleet Performance Report



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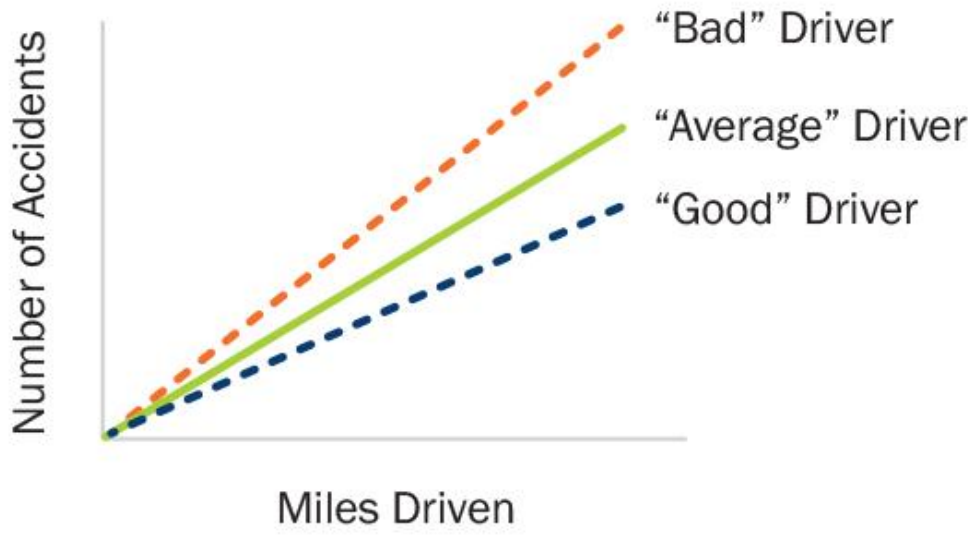
What Defines a Good Driver

Driver Quality Model of Accident Rate



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ISAAC WASH

Business Analyst, Commercial Automobile
ISO Insurance Programs
and Analytic Services

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About ISO

Leading source of information about property & casualty insurance risk

- Statistical agent
- Advisory organization

ISO History with UBI

- Research
- Product development
- Piloting
- Rollout

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Location Risk

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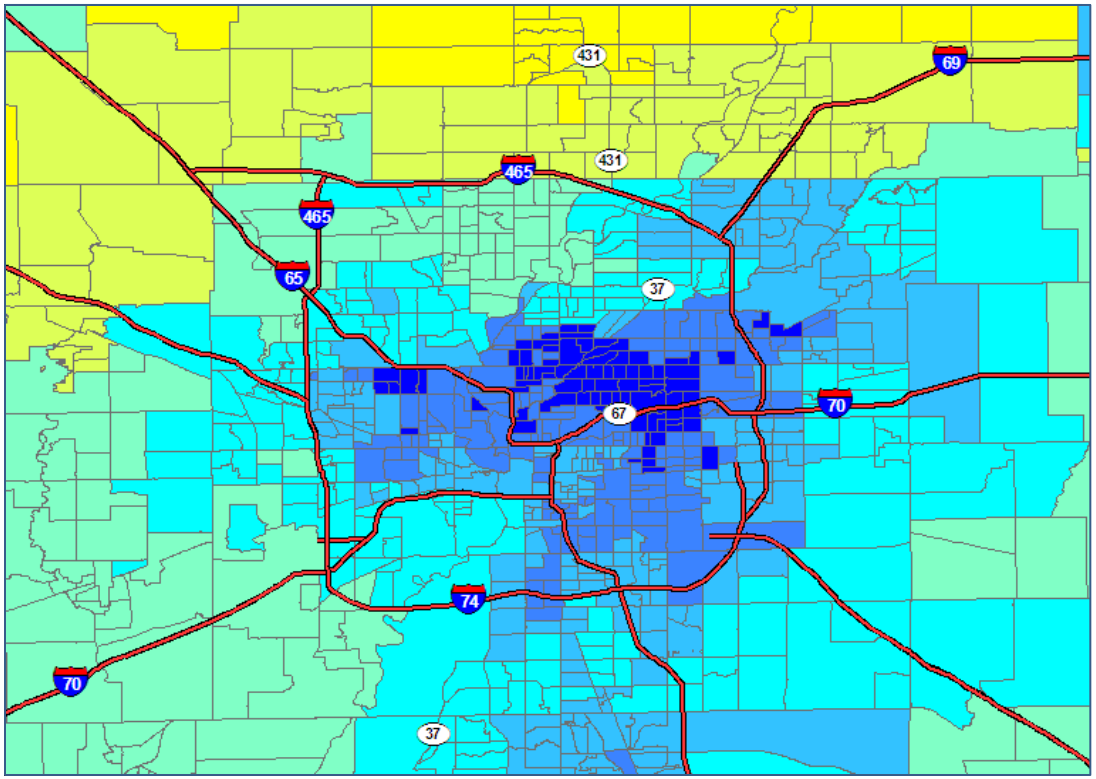
GeoMetric® Location Scoring



Higher Liability Risk

Lower Liability Risk

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Viewed differently…

GeoMetric Band	Mileage	Time
Band 1	10.0	0.20
Band 2	7.5	0.12
Band 3	8.0	0.13
Band 4	5.0	0.08
Band 5	4.5	0.06
Band 6	3.0	0.05
TOTAL	38.0	0.64

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Safety Scoring®

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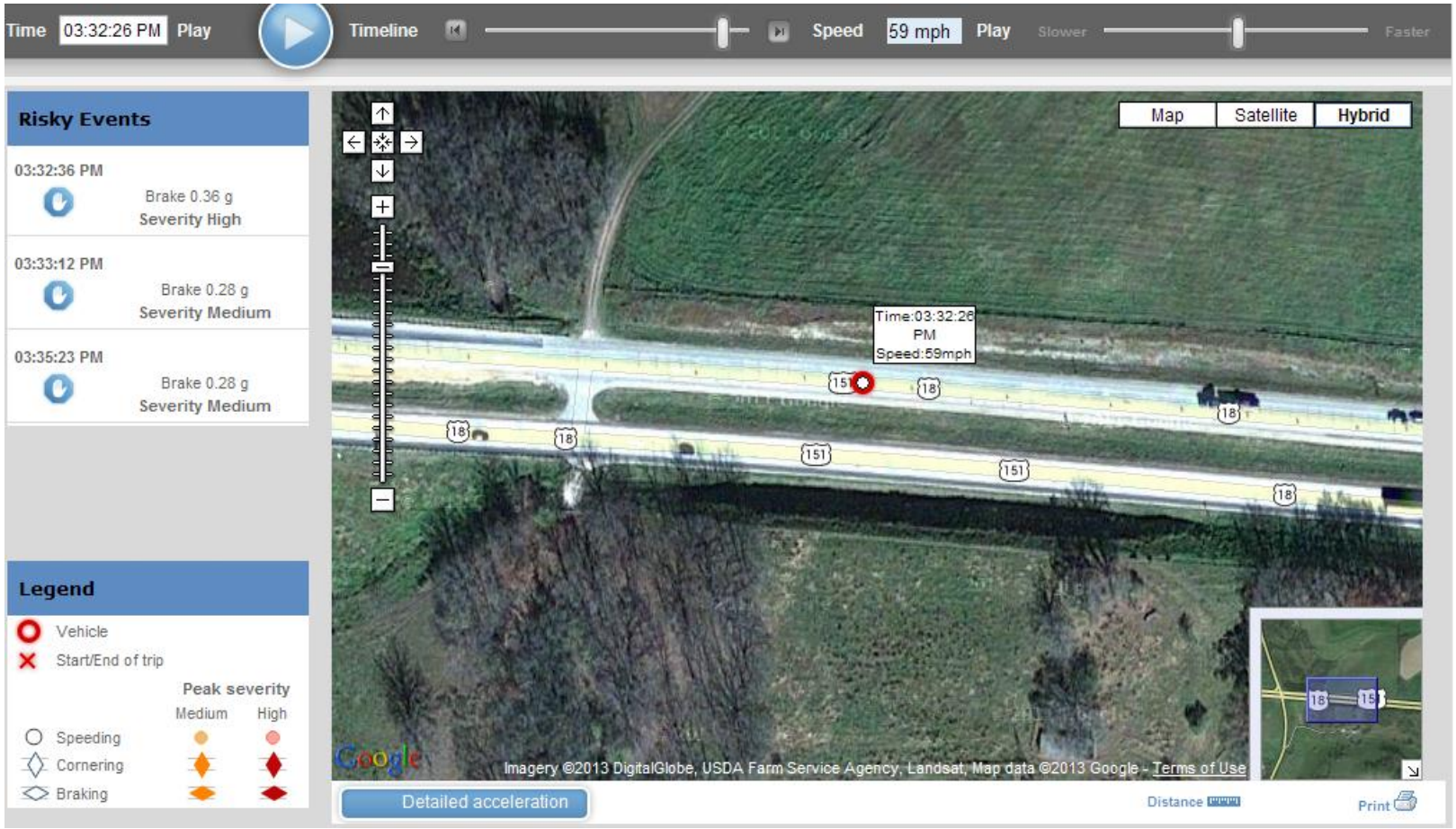
Safety Scoring®



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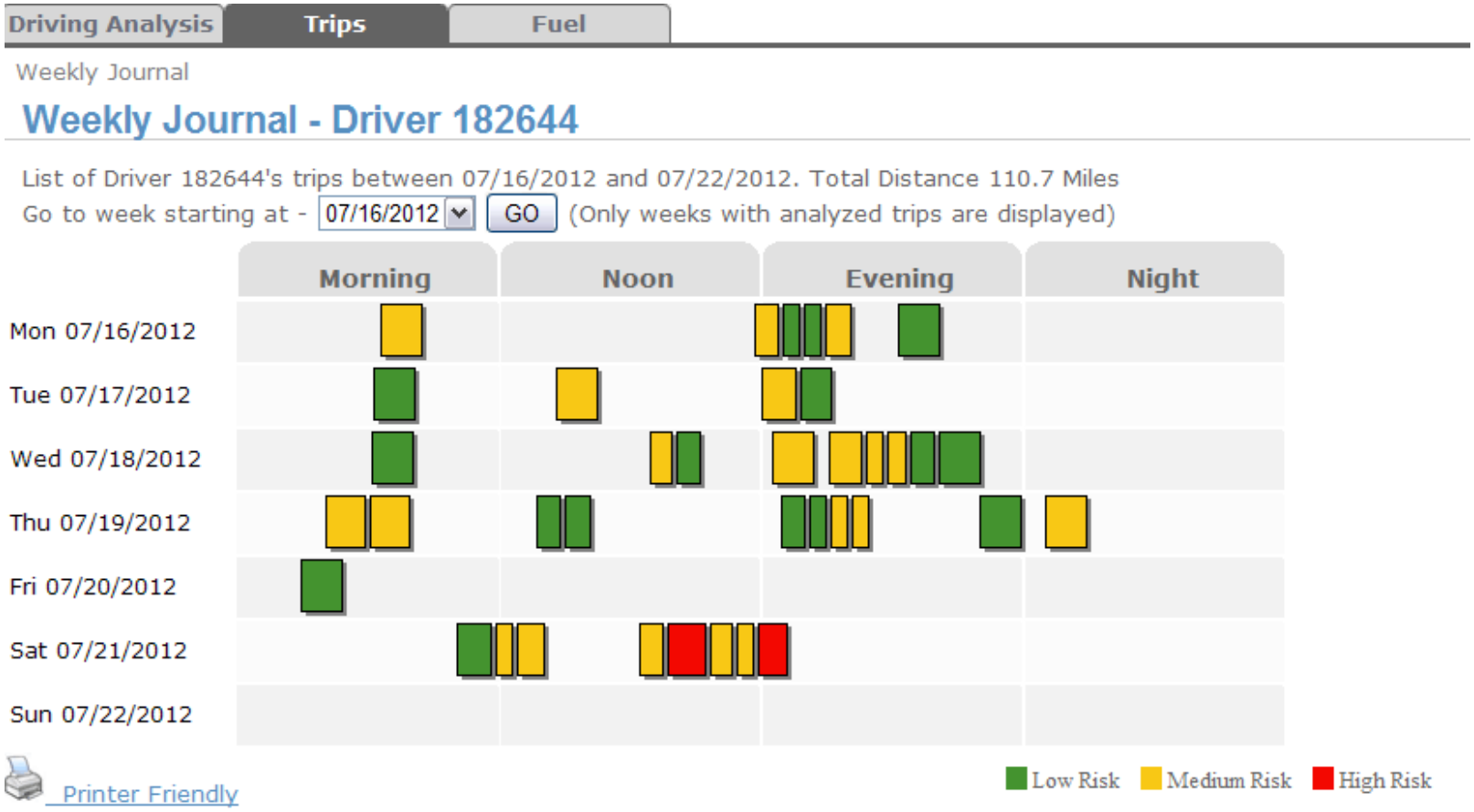
Safety Scoring®



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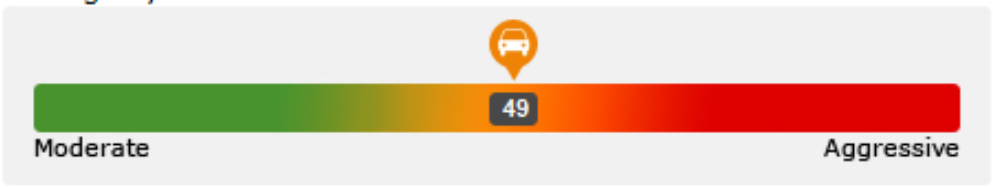
Safety Scoring®

Fuel Analysis - Driver 182644

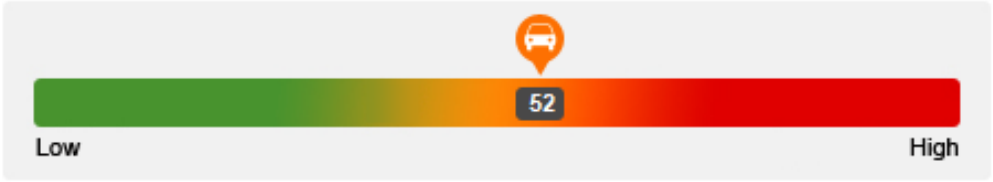
Fuel efficiency behavior for Driver 182644 in November 2011

Fuel Score

Driving Style



Speeding



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Accident Reconstruction

A sideways collision

Time	Type of Reading	Data Value
1:30:57 PM	Speed	10.2 mph
1:30:57 PM	Right-hand acceleration	-2.6 g
1:30:57 PM	Forward acceleration	0.3 g
1:30:57 PM	Right-hand acceleration	-3.5 g
1:30:57 PM	Forward acceleration	0.4 g
1:30:58 PM	Right-hand acceleration	-0.3 g
1:30:58 PM	Braking	-0.8 g
1:30:58 PM	Right-hand acceleration	-0.8 g
1:30:58 PM	Braking	-1.2 g
1:30:59 PM	Speed	1.8 mph

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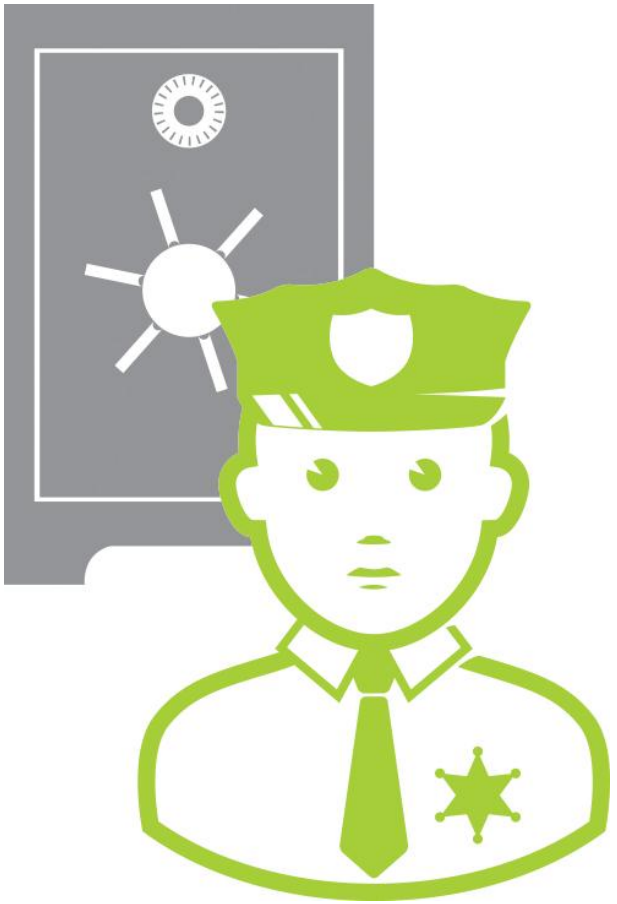
DATA PRIVACY

Baldwin & Lyons Data Policy

- No driver identity data collected in UBI Pilot Program
  - Vehicle identification data only
- Data is discoverable if subpoenaed
  - Only client could associate vehicle data to an individual driver
- Privacy policy provided to all drivers

ISO Data Policy

- Trusted statistical agent for the P&C insurance industry
- Controlled access
- Privacy protection
- **All data is subject to subpoena**



UBI Pilot Findings to Date

- All vehicles exceed posted speed limits
  - Most for very brief periods (< 1 minute)
  - Predominately when entering lower speed limits
- Vehicles with governors control maximum speed to within 3-4 mph of setting
- No major claims with pilot vehicles
- Distinct “signatures” for fleets

UBI Pilot Findings Continued

Comparison of Average Daily Vehicle Driving Events March 31 - June 30, 2013						
Fleet Name	Average minutes exceeding 5 minutes allowed speeding 6-10 mph	Average minutes speeding 11-15 mph	Average minutes speeding 15+ mph	Average minutes exceeding 70 mph	Exceeding allowed harsh brakes (2 allowed)	Exceeding allowed harsh corners (1 allowed)
A	7.92	3.18	0.29	0.34	0.01	0.07
B	19.69	4.45	1.30	72.11	0.01	0.06
C	14.66	1.43	0.40	0.05	0.23	3.24
D	3.50	0.95	0.24	46.92	0.01	0.16
E	31.79	2.95	0.15	1.16	0.13	1.52

ISO's Future with Telematics

- Research
- Product development
- Enabling intelligent decision-making
- Making America's roads safer

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Q&A

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