Applying Technology to Compliance & Safety Performance

www.BoyleTransport.com
Trucking safety dynamics

On-board safety systems

Management tools
REGULATORY BACKDROP

**Capacity impact**

**CSA**
- Drivers & fleets more accountable
- Transparent scoring
- Exacerbates driver shortage

2-4%

**Hours of service**
- New rules July 2013
- 2 consecutive nights off
- 30 minute rest in first 8 hrs.

2-4%

**Electronic logs**
- Elimination of falsified hours
- Rule due in 2013, effective 2016

4-6%

**Equipment**
- EPA 2010 emission standards
- Huge increases to carrier costs
- Financial Darwinism

2-4%

Sources: FMCSA, ATA, Stifel Nicolaus
SAFETY-ORIENTED CULTURE

- Attract people who value safety
- Establish high integrity work environment
- Align our incentives with customer’s
- Ensure strict qualifications & training
- Invest in equipment & technology
- Factor performance data into pay

Virtuous Circle

Employer

Customer

Employee
**Unsafe Driving Hours of Service Compliance Driver Fitness Drug & Alcohol Vehicle Maintenance**

| Boyle Transportation | 5.9% | <3 violations | 0.0% | 0.0% | 2.9% |

Source: US Department of Transportation (http://ai.fmcsa.dot.gov/sms/) October, 2013
Trucking safety dynamics

On-board safety systems

Management tools
Radar system ensures adequate stopping distance. Adaptive cruise.

Sensors help prevent rollovers

Camera alerts driver of drifting over lane markers

Video camera enhances visibility and eliminates “blind spot”
E-LOGS TO BECOME MANDATORY PER “MAP 21” LAW

“20-30% of truck drivers falsify their logs.”

Stifel Nicolaus research

Endorsed by ATA, opposed by Owner-Operator Group

Results

- Level playing field
- Improve compliance
- Recruiting benefit
- Ease paper burden
EPA COMPLIANCE: CLEAN AIR COSTS MONEY

Class 8 Tractor Replacement Costs: Examples

New Tractor $135+k

- New Tractor $105k
- Tractor trade $50k
- Financing $85k

7-yr old tractor trade
“Slow death” for some fleets
Financing $115k

$150,000
$125,000
$100,000
$75,000
$50,000
$25,000
$0

2006
2012 (old trade assumptions)
2012 (actual)

Source: ATA
AVERAGE AGE OF U.S. CLASS 8 TRUCKS

Many fleets and owner/operators haven’t realized the increase in equipment prices yet.

Source: ATA/ ACT Research
Trucking safety dynamics

On-board safety systems

Management tools
EVOLUTION OF TELEMATICS

2 way communication

“What’s your status?”
“Getting loaded”

42.0464° N,
87.6947° W
0.3 miles NE of
Evanston, IL

Enhanced visibility

- Location
- Text messaging

Real time, actionable information

- Shipment tracking
- Asset utilization

- Integrated apps
- Customer solutions
- Fleet management
- Safety performance
- Compliance monitoring
EVOLUTION OF TELEMATICS - ANALOGY

2 way communication
- Location
- Text messaging

Location visibility
- Shipment tracking
- Asset utilization

Real time, actionable information
- Integrated apps
- Customer solutions
- Fleet management
- Safety performance
- Compliance monitoring
### HOURS OF SERVICE OVERVIEW

<table>
<thead>
<tr>
<th>Duty Status</th>
<th>Driver Name</th>
<th>Driver ID</th>
<th>Rule set</th>
<th>Available Driving</th>
<th>Driving Hours</th>
<th>On Duty Hours</th>
<th>Next Break</th>
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<tbody>
<tr>
<td>Sleeper Berth</td>
<td>Allen, Tracie</td>
<td>03647</td>
<td>03646</td>
<td>8h00</td>
<td>11h00</td>
<td>14h00</td>
<td>8h00</td>
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<tr>
<td>Off Duty</td>
<td>Bolam, John</td>
<td>03672</td>
<td>03679</td>
<td>8h00</td>
<td>11h00</td>
<td>14h00</td>
<td>8h00</td>
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<tr>
<td>Sleeper Berth</td>
<td>Athey, William</td>
<td>03727</td>
<td>03419</td>
<td>8h00</td>
<td>11h00</td>
<td>14h00</td>
<td>8h00</td>
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<tr>
<td>Driving</td>
<td>Butler, Harvey</td>
<td>03705</td>
<td>03722</td>
<td>5h10</td>
<td>9h49</td>
<td>11h58</td>
<td>5h58</td>
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<tr>
<td>Driving</td>
<td>Byers, Clarence</td>
<td>03567</td>
<td>03566</td>
<td>2h16</td>
<td>2h16</td>
<td>3h27</td>
<td>8h00</td>
</tr>
<tr>
<td>Sleeper Berth</td>
<td>Carpenter, Elaine</td>
<td>03567</td>
<td>03566</td>
<td>8h00</td>
<td>11h00</td>
<td>14h00</td>
<td>8h00</td>
</tr>
<tr>
<td>Driving</td>
<td>Carpenter, Ken</td>
<td>03641</td>
<td>03640</td>
<td>6h56</td>
<td>8h06</td>
<td>6h56</td>
<td>3h45</td>
</tr>
<tr>
<td>Driving</td>
<td>Cochran, Doug</td>
<td>03641</td>
<td>03640</td>
<td>3h45</td>
<td>2h16</td>
<td>1h39</td>
<td>3h45</td>
</tr>
<tr>
<td>Sleeper Berth</td>
<td>Cochran, Loretta</td>
<td>03640</td>
<td>03640</td>
<td>3h45</td>
<td>2h16</td>
<td>1h39</td>
<td>3h45</td>
</tr>
</tbody>
</table>

**Benefits & Compliance & Operations**
<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Time</th>
<th>Location</th>
<th>Speed Limit</th>
<th>Actual Speed</th>
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<tbody>
<tr>
<td>801</td>
<td>Thu Oct 17 00:21:53 2013</td>
<td>I-695 E, UNINC BALTIMORE COUNTY, MD</td>
<td>55</td>
<td>66</td>
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<tr>
<td>801</td>
<td>Thu Oct 17 07:42:46 2013</td>
<td>I-95 N, WATERFORD, TOWN OF, CT</td>
<td>55</td>
<td>66</td>
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<tr>
<td>972</td>
<td>Thu Oct 17 14:08:00 2013</td>
<td>I-78 / PA-309 W, SALISBURY TWP, PA</td>
<td>55</td>
<td>67</td>
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<tr>
<td>967</td>
<td>Thu Oct 17 04:33:30 2013</td>
<td>I-90 W, SUMMIT TWP, PA</td>
<td>55</td>
<td>66</td>
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<tr>
<td>967</td>
<td>Thu Oct 17 21:53:42 2013</td>
<td>IN-162, UNINC DUBOIS COUNTY, IN</td>
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<tr>
<td>971</td>
<td>Thu Oct 17 12:07:55 2013</td>
<td>US-331 / AL-9, UNINC COVINGTON COUNTY, AL</td>
<td>55</td>
<td>65</td>
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</table>
Max set at 65mph. Speeding often occurs off interstate.
CRITICAL EVENT - HARD BRAKING

Deceleration >9mph/sec
CRITICAL EVENT – STABILITY CONTROL

Stability Control Incident Details

Occurred At: W Military Hwy, Chesapeake, VA 23321

Vehicle ID: 513
Vehicle UA: 105385002
Driver ID: 03661
Parking brake status: Not engaged
Incident time: 09/16/2013 12:27 PM
Incident speed: 12.0 MPH
Stability control count: 2 messages

State: New
Note:
FLEET REPORTING

- Pre-2010
- Post-2010

- Fuel economy
- Idling
- Engine codes
- Inspection reports
Perfect information on location, ETA, manifest, route. Redundant tracking with smartphones.