CARRIER PERSPECTIVE ON PHARMACEUTICAL LOGISTICS

www.BoyleTransport.com
TRUCKING EMPLOYS OVER 7 MILLION PROFESSIONALS.
THAT’S THREE TIMES THE POPULATION OF LOS ANGELES.
SUPPLY CHAIN PARTICIPANTS SHOULD ENSURE

“SUPPLY CHAIN INTEGRITY”
&
“GOOD DISTRIBUTION PRACTICES”
• Quality management system
• Root cause analyses, corrective action
• Investigate temperature excursions
• Extensive documentation of protocols
• Annual audits by shippers
SUPPLY CHAIN INTEGRITY

Real assets
- Company fleet and professional drivers teams
- No brokering or independent contractors

In-transit visibility
- 5 minute GPS updates (most carriers → hourly)
- Tractor & trailer tracking with door sensors
- Wired & wireless emergency buttons
- Company-issued smart phones
- Geo-fenced route monitoring
- 24/7 Ops Center support

On-road protocols
- Constant surveillance & attendance
- Expedited, exclusive use service
- Robust locks & seals
- Limited stops/layovers

Personnel
- Extensive background checks
- Security awareness training
- Closed loop of those who “need to know”
CALIBRATE SENSORS REGULARLY

Interior sensors

Reference thermometer
• 30 data loggers placed in trailer
• Temp unit run for 24 hr period
• Data downloaded, analyzed
• 30 page study & report
• Proves thermal efficiency is equally distributed
IN-TRANSIT TEMPERATURE MONITORING

Onboard Printer
- Paper receipt
- Passive recorder
- Retention depends on dockworker
- Paper jams

Data Logger
- Downloadable by consignee
- Passive recorder
- Must be programmed
- Excursion info too late
- Complicated handling

Real Time Monitoring
- Redundant monitoring (in-cab & 24/7 Ops Center)
- Real time excursion alerts
- Instantly viewable on web by authorized parties
- Downloadable to PDF
24/7 STAFFING AND EXCEPTION MANAGEMENT

Proactive alerts

- Late ETA
- Route geo-fence
- Temp out of range
- Temp not reporting
- Position not updating
- Trailer doors open
- Trailer disconnect
CUSTOMER ACCESS TO INFORMATION

See your shipments move in real time and run reports! Convert reports to Excel and PDF.
### SHIPMENT TEMPERATURE HISTORY

**Average:** 70.0 °F (21.1 °C)  
**High:** 70.8 °F (21.6 °C)  
**Low:** 69.2 °F (20.7 °C)

#### History

![Graph showing temperature history](image)

<table>
<thead>
<tr>
<th>Date Time ET</th>
<th>Activity Type</th>
<th>Location</th>
<th>Message Detail</th>
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<tbody>
<tr>
<td>2/27/12 08:18</td>
<td>Order Accepted</td>
<td></td>
<td>new order created</td>
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<tr>
<td>2/27/12 09:51</td>
<td>Arrived at Pick Up Location</td>
<td>VA</td>
<td></td>
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<tr>
<td>2/27/12 10:35</td>
<td>trailer tracking</td>
<td>1.7M NW of VA</td>
<td></td>
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<tr>
<td>2/27/12 10:41</td>
<td>Order Picked Up</td>
<td>VA</td>
<td></td>
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<tr>
<td>2/27/12 10:42</td>
<td>Temperature reading</td>
<td>1.8M NW of VA</td>
<td>69.2 °F (20.7 °C)</td>
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<tr>
<td>2/27/12 10:57</td>
<td>Temperature reading</td>
<td>2.6M NE of VA</td>
<td>69.6 °F (20.9 °C)</td>
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<tr>
<td>2/27/12 11:12</td>
<td>Temperature reading</td>
<td>2.4M SE of Madison Heights,VA</td>
<td>69.8 °F (21.0 °C)</td>
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<td>Temperature reading</td>
<td>1.6M SE of Clifford,VA</td>
<td>69.9 °F (21.1 °C)</td>
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<tr>
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<td>Temperature reading</td>
<td>2.3M NE of Lovingston,VA</td>
<td>70.3 °F (21.3 °C)</td>
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</tbody>
</table>
GPS-ENABLED SMARTPHONES & PROPRIETARY APP

- Tracking redundancy
- Scheduling
- Image capture BOL
- Increased automation
- Prepared for “serialization”
INVEST IN PEOPLE & THEY WILL PERFORM

Practices

- Strict qualifications & training
- Guaranteed wages & benefits
- Actively recruit military veterans
- Align incentives with customer

Results

- 9% turnover vs. industry average 100%
- Superior safety & security
- Greater reliability & expertise
- "Patriotic Employer" award from DoD