TRANSPORTATION COST PERFECT STORM

Who’s in the Driver’s Seat?
The Current State of Transportation

University of Tennessee
Supply Chain Forum
April 7-9, 2015

MARKET CONDITIONS

▶ Market is experiencing extreme capacity constraint and higher cost
  • Improving economy = more shipments on the road (DEMAND)
  • Driver shortage (SUPPLY)
  • Equipment shortage (SUPPLY)
  • Increased safety regulations (Hours of Service, CSA, electronic logs)

▶ Trucking companies continuing to go out of business due to rising costs
  • 355 truck fleet companies went bankrupt in Q3 2014.
  • 9,090 trucks pulled from market in Q3 2014 vs 4,985 in Q3 2013.

▶ Hours of Service Regulations
  • Tighter government safety regulations resulted in fewer drivable hours
    ▪ 11 hours per day, forced breaks, 34 hour evening restarts, etc.
    ▪ Results in fewer miles driven for each driver
  • Carrier productivity losses cannot be restored
  • 2015 temporary lift to restart regulation (2.2% productivity gain)

▶ CSA Regulations (Compliance, Safety, Accountability)
  • Each driver has their own personal score - Public Information!
  • Risk factors, behavior analysis, even physical fitness lead to score

Sources: ftrintel.com
MARKET CONDITIONS – DRIVER SHORTAGE

- Single largest impact challenging the Transportation market
- Job-seekers want to be home each night
  - Available in such positions as construction, repairman, technical positions, etc.
- Millennial workforce’s sense of entitlement, and do not want to start career in trucking
- Parents don’t want their children to be truckers, even parent-truckers!
- Regulations leading to fewer daily driving miles = greater demand to cover same miles

![Tractor-Trailer Drivers Demanded and Supplied Chart]

Source: ftrintel.com & trucking.org

MARKET CONDITIONS – DRIVER STATISTICS

- Number of drivers: +1.7 M*
- Drivers that are male: 94.6%
- Average pay (dry van): $48.6K
- Over the age of 45: 56%
- Obese / morbidly obese: 75%
- Suffers from pre-hypertension or hypertension: 87%
- Driver life expectancy: Early 60’s
- Drivers needed over the next 10 years: 96,000+

* For heavy and tractor-trailer drivers in the U.S.

Source: Bureau of Labor Statistics, YRCW, The National Transportation Institute, Transport Topics, HealthSignals
MARKET CONDITIONS - TRUCKING COSTS

- Driver Salaries Increasing
  - Average trucker salary is $48,600
  - Wal-mart pays drivers $75,000 +
  - Paid for miles driven = immediate impact of hours of service regulations (cut in pay)

- Forced Fleet Upgrades
  - Electronic logs to track location and miles driven (avg log per driver went from 2,500 to 2,100)
  - Cleaner emission trucks
  - Increased fuel efficiency (lighter trailers, newer engines, etc.)

- Driver Incentives vs. Competition
  - Better healthcare plans
  - Increased profit sharing
  - Tractor upgrades for rest breaks (larger sleeper cabs, privacy blinds, etc.)
  - Driver centers for showers, rest, etc – rather than standard truck stops
  - Driver retention

- Safety and Driver Training
  - Fewer qualified drivers
  - Driving schools and extensive training
  - Increased accident occurrences

MARKET CONDITIONS – DEMAND PER TRUCK

- Mar 22 – 28: Van freight availability surged 19% last week, nearing the end of the month and quarter, but truckload capacity also added 2.8%. The two metrics usually move in opposite directions. The national average load-to-truck ratio increased 16% for vans, from 2.9 to 3.4 loads per truck.

- 2014 national average at peak had 5.4 loads per truck

Source: DAT Solutions
MARKET CONDITIONS – LTL SECTOR

- Stronger data capture capability (e.g. dimensions) and costing models will enable LTL carriers to price services more accurately.

- Improved route-optimization and tracking software will increase Pickup & Delivery density.

Source: CarrierDirect, LLC, 2014

MARKET CONDITIONS - ASSET-LIGHT CARRIERS

- More asset-light carriers are entering the market each quarter
- Increases the level of competition for carriers that rely on contractual partnerships / interline agreements to haul freight
- Established asset-light carriers are putting their efforts into diversifying their solutions and branching into full-fledged logistics solutions

Blending the Best of Asset- and Non-Asset Based Models

<table>
<thead>
<tr>
<th>Asset</th>
<th>Non-Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Company trucks</td>
<td>• Subcontracted or brokered assets</td>
</tr>
<tr>
<td>• Consolidation / service centers</td>
<td>• Outsource to others</td>
</tr>
<tr>
<td>• Ability to move quickly as needed</td>
<td>• More services to offer shippers</td>
</tr>
<tr>
<td>• Manage KPIs closely</td>
<td></td>
</tr>
</tbody>
</table>

Source: CarrierDirect, LLC, 2014
KEY FINDINGS - Annual Trends and Issues in Transportation and Logistics

- High performing companies are increasingly viewing transportation as a “value added” service.
- Service has been stuck in neutral since the recession. Constantly changing customer requirements are a major factor in the lack of improvement.
- Many companies use transportation to increase their supply chain flexibility in order to respond to changing conditions.
- Transportation costs as a percent of sales are rapidly increasing. Some 43% of companies participating in the Annual Trends study reported that they are spending more than 4% of sales on transportation.

SHIPPER STRATEGY

- Strength of Partnership
  - Ride the highs and lows together
  - Bidding annually for cost savings tarnishes relationship
  - Long-term partners = better committed capacity in tight market

- Minimizing Cost and Securing Capacity Strategies

<table>
<thead>
<tr>
<th>LTL Pooling / Zone skipping</th>
<th>TMS or Freight Management solutions</th>
<th>Freight Audit and Payment Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leverage total company freight volumes</td>
<td>Regional distribution for surge volumes</td>
<td>Fuel scale, Fixed Fuel, and Market Fuel</td>
</tr>
<tr>
<td>3PL consolidation networks</td>
<td>Forecast sharing with carriers</td>
<td>Mode Shift</td>
</tr>
</tbody>
</table>

- Separate Yourself
  - Make your freight attractive to both drivers and trucking companies
  - Drivers want convenience
    1. Short unload times
    2. Available bathrooms
    3. Sense of Welcome
Motor Carrier

Cost Profiles and Pressures

Major Cost Categories

- Increased equipment costs
  - Material costs and regulatory requirements
- In-cab technology
  - E-Logs, driver communication
- DOE Average Price down by $1.05 in Q1’15 vs. Q1’14 (26%)
  - Market still volatile
  - Price History
- New tractors/engines capable of improved MPG
  - Can combine with other fuel efficiency improvement techniques
  - Some factors influencing MPG still out of carriers’ control

- Increased driver salaries
- Increased benefits costs
- Increased recruiting/retention costs

Newer equipment requires additional training and expanded skillsets for mechanics as well as investment in maintenance technology
Driver Capacity Crisis

• Disconnect in the driver pipeline
  – Typical CDL-A drivers have, at most, a H.S Diploma or GED,
  – Drivers currently must be 21 for an interstate CDL
    • Some states have lower thresholds for intrastate applicants
  – Some carriers have higher age requirements (23-25)
• How do we complete the connection??
  – Concentrate on ex-military applicants
  – Multi-mode carriers can create internal job paths (dock, driver helper)
    • Provide internal/outsourced CDL training
• How do we de-stigmatize the position??
  – Better equipment, access to driver convenience centers
  – Improved pay and benefit packages
  – Promote career paths beyond the cab (dispatch, recruiting, etc.)

Fuel Economy Influencing Factors

• .5 MPG means $4,120 per tractor annually
  – $3.00/gallon and 125,000 annual miles
• Factors within carriers’ realm of influence
  – Tire selection (single vs. dual) - .25 MPG increase
    • Single tire bonus - ~1,000 lb. weight savings
  – Vehicle speed (60 vs. 70 MPH) - .75 MPG+ increase
    • Trade off – reduced driver range
  – Route selection (minimize congestion) – 1 MPG+ increase
  – Idle reduction (10% vs. 40%) - .25 MPG increase
  – Tractor aerodynamics (best to worst @ 65 MPH) - .55 MPG increase
• Factors outside carriers’ realm of influence
  – Winter vs. Summer climate (25°F vs. 70°F) - .75 MPG decrease
  – Fuel Blend (winter blend vs summer blend) - .15 MPG decrease
  – Wind/Terrain - .75 MPG decrease
  – Customer location (offsets carrier route selection)

Source: Caterpillar
Strategies to Combat Capacity Crunch

• Carriers
  – Maximize asset utilization
  – Improve data analysis capability
    • Internal network optimization
    • Virtual integration of shipper data for analysis/pricing purposes
  – Engage in dialogue with shippers to determine critical needs

• Shippers
  – Provide complete, accurate data to carriers/3PLs for analysis
  – Maximize shipment efficiency
    • Consider maximum cube and weight capacity for shipments
    • Evaluate packaging/palletization strategies
  – Evaluate alternate modes
    • Intermodal/Rail
    • Review point of entry for ocean shipments
  – Select core providers and negotiate with strength of volume