Trucking Industry Overview

Greg Andrews, Managing Director EMIL-SCS, The Georgia Institute of Technology
Agenda

- Industry Overview
  - Economic Footprint
  - Milestone Time Line
- Evolutions in the industry
- Types of Carriers
- Diversity within the industry
- Pricing structure within the industry

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Agenda

Challenges within the Trucking Industry

- Capacity
- Rates
- Drivers
- Regulation
- Fuel

Best Practices to confront these negative impacts

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Industry Overview

From Horse Drawn Wagons

To the Industrial Revolution
Industry Overview

To rigs in the 21st Century

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Industry Overview

• Trucking versus other modes
  – What are the alternatives?

• Ocean
• Rail
• Truck
• Barge
• Pipeline
Industry Overview

• What is unique about the modes below
  – Relative to the Trucking industry?

• Ocean
• Rail - Intermodal
• Truck
• Barge
• Pipeline
Industry Overview

Distribution of Tonnage by Mode: 2006

- Truck: 69.0%
- Rail: 13.3%
- Pipeline: 9.8%
- Water: 6.5%
- Rail Intermodal: 1.3%
- Air: 0.1%

Source: ATA – 2006 Trucking and the Economy

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Industry Overview

Source: ATA – 2006 Trucking and the Economy

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Who uses Trucking?

The correct answer:

In some shape, form, fashion - Everyone
The Motor Carrier Act

- The Motor Carrier Act of 1935 gave the Interstate Commerce Commission (ICC), a Federal government agency, the authority to regulate interstate truck and bus companies, known collectively as "motor carriers."
- The ICC's new powers with respect to motor carriers were similar to those it had over railroads, which it had regulated since 1887.
- The ICC could decide which companies could become motor carriers, what services they could offer, and what rates they could charge.
- Divided carriers into two groups, Common Carriers, and Contract Carriers
Applications by new truck or bus companies or applications by existing companies to expand their operations could be granted only if:

- The proposed service was "required by the present or future public convenience and necessity." The ICC Defined convenience & necessity through three factors:
  - whether a proposed operation would "serve a useful public purpose, responsive to a public demand or need,"
  - whether such purpose "could be served as well by existing firms or carriers,"
  - whether the applicant could operate the service "without endangering or impairing the operations of existing [companies]."
This regulation obviously restricted

- The ability of new companies to enter the motor carrier business
- Hindered the ability of existing companies to expand to new areas.
- Inhibited competition between motor carriers and railroads
- Limited competition between common and contract carriers.

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The act also stated that rates charged by motor carriers had to be "just and reasonable" and could not discriminate between customers of similar circumstances.

The act required motor carriers to file rates thirty days before they were to become effective and allowed existing companies to protest.

In 1948 Congress passed the Reed-Bulwinkle Act, which permitted rates to be set by "rate bureaus" representing groups of motor carriers. These bureaus could agree on uniform rates applicable to all its members.
• Technological breakthroughs in pneumatic tires, braking systems, engine performance all led to advancements in the trucking industry, however the advent of containerization proved to be the most significant advancement.

• Malcom Mclean in the 1950’s is credited for conceiving the idea to transport trucks on ships, barges, and railroads, creating COFC and TOFC international standards that today are used throughout the industry.
Industry Time Line

Department of Transportation

• In 1967 the Office of Motor Carriers and the National Highway Traffic Safety Administration created the DOT

• The DOT was charged with further regulating the industry with oversight of a wide range of requirements such as:
  – Braking standards
  – Driver licensing standards
  – Work hours
  – The overall safety fitness of interstate carriers.

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Industry Time Line

The Motor Carrier Act of 1980 - Deregulation

• Congress took action to deregulate the trucking industry, in essence repealing the Motor Carrier Act of 1935

• Deregulation removed government oversight of rates, service lanes, capacity, and entry into the market

• Allowing the free market to dictate who enters the market, at what price, in which state, at what level of service.
Congress took action in 1982 to step back into oversight of the trucking industry, but this time in a more reasonable fashion to establish industry standards for equipment safety, and wear and tear on our nation’s interstate highway system.

- The STA established uniform size and weights limits for the trucking industry nationwide.

- Under this law, trucks that use interstate highways may not weigh in excess of 80,000 lbs.
The Carrier Reform Act

• Established in 1994 this act reduced the time for customers to file an OVERCHARGE CLAIM from 3 years to 2 years effective 12-3-93 to 8-26-94.

• Reduced to 6 months after 8-26-94.

• The ICC's role in issuing permits and certificates to motor carriers will diminish.
Applications for new or expanded motor common or contract carrier operating authority to transport property (other than household goods) will require three identified showings.

- First, the applicant must demonstrate an ability to comply with all statutory, regulatory, and ICC imposed safety requirements.
- Second, the applicant must demonstrate its fitness to comply with safety standards developed by the Department of Transportation (DOT).
- Third, the applicant must demonstrate its ability to provide adequate liability insurance or otherwise meet the self-insurance standards under existing law.
The North American Free Trade Agreement (NAFTA) passed in 1994 has resulted in explosive trade with Mexico & Canada. Since 1994, Mexico’s northern states have created thousands of manufacturing & supplier plants providing U.S. companies with assemblies and finished goods. Most of the production is done for just-in-time deliveries, so trucks are constantly crossing the border to either deliver parts or pick up finished merchandise. As of 2012 Mexican trucks are still not allowed to travel freely throughout the entire U.S.
In 1995 the ICC was eliminated, further easing economic controls in the industry.

The Surface Transportation Board is the Federal entity now administering the remaining regulatory functions. The STB is an independent unit within the Department of Transportation.
Deregulation essentially was completed with the enactment of additional legislation.

States were prohibited from regulating the intrastate activities of interstate carriers crossing through their states or conducting business inside their state, if they had originated loads in other States.

because of this many states have either deregulated or significantly eased the economic controls placed over the truckers operating solely within their borders.
Industry Overview

• 750,000 interstate motor carriers in the US

• Trucking moves 70% of all US freight tonnage

• 9 million people – move 11 billion tons of freight annually
Industry Overview

• **Truckload** revenue is about $310 billion per year.

• Represents approximately 40% of total transportation revenue.

• Roughly 5% of US GDP
Industry Overview

• 1 of 13 people in the private sector working in the US is employed in a trucking related job

• 3.5 million are commercial drivers earning $40,000 per year on average with some earning as much as $100,000/year

• Truckload tonnage is estimated at roughly 5.5 billion tons, or 35 percent of total freight tonnage.
Private trucking firms, which are manufacturers, retailers and other businesses that have a fleet of trucks to support their primary business, handle (ex: Wal-Mart, Coca-Cola)

• 5 billion tons of cargo each year

• Approximately $290 Billion in revenue
Industry Overview

Less-than-truckload tonnage exceeds 155 million tons, or about 1 percent of total tonnage and nearly 1.5 percent of truck tonnage.

(ex: Con-Way, Old-Dominion)

The higher value of most LTL shipments generates revenue of about $30 billion annually.
Industry Overview

• Commercial trucks pay more than $35 billion each year in federal and state highway user taxes, or nearly 36 percent of total highway-user taxes.

• The industry pays 24.4 cents in federal fuel tax and on average the same amount in state fuel tax for each gallon of diesel fuel it consumes.

• Carriers also pay a 12 percent excise tax on new equipment, a tire tax, and an annual Heavy Vehicle Use Tax.

Source: IATA 67th annual meeting Singapore
Trucking obviously is a leading index on the health of the economy.
Quantum Leaps in the Trucking Industry

There were two significant milestones in the trucking industry that helped to ignite and spur industry growth.

Can you name them?
Paving the Way
Erecting the Interstate Highway System revolutionized the movement of freight. Lanes spanning coast to coast permitted trucks to move cargo in a faster, more efficient manner. As a result, the majority of goods now cross the country on 18 wheels.

Source: IATA 67th annual meeting Singapore
Evolutions in the Trucking Industry

Paving the Way
When President Dwight Eisenhower signed the 1956 Federal Aid Highway Act and Congress established the Highway Trust Fund,

• Just 120,000 tractor trailers operated on U.S. highways

• Trucks moved half a billion tons of freight

• The fuel tax was 3 cents per gallon.

Source: IATA 67th annual meeting Singapore

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Evolutions in the Trucking Industry

Deregulation

• We spoke of this earlier in our Industry Time Line.

• Trucking underwent a major transformation under the auspices of deregulation.

Source: IATA 67th annual meeting Singapore
Evolutions in the Trucking Industry

Deregulation

• In the decade after deregulation, the competition in trucking was fierce.

• There were not only hundreds of new companies, but also the formerly gentlemanly manner in which the big players dealt with each other became a battle to the death.

• Ten years after trucking was deregulated, one third of the 100 largest trucking companies were out of business, casualties of the fierce competition.

Source: IATA 67th annual meeting Singapore
Evolutions in the Trucking Industry

Deregulation

• It became increasingly difficult for the trucking companies to operate with union drivers.

• Their compensation is usually 35 – 40% percent more than non-union drivers.

• To reduce operating costs, new corporations were formed to operate with non-union drivers or independent contractors.

Source: IATA 67th annual meeting Singapore

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Evolutions in the Trucking Industry

Economic deregulation of the trucking industry, with its resulting low costs and high service levels, combined with the completion of the Interstate Highway System,

- Gave rise to what is known as just-in-time delivery
- Allowing manufacturers to shift inventory from the warehouse to the highway.

Source: IATA 67th annual meeting Singapore

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Can you name the different types of carriers within the industry?
Types of Carriers

Common Carrier

• A for-hire company that transports goods or people for any person or company and assumes responsibility for any possible loss of the goods during transport.

• A common carrier offers its services to the general public under license or authority provided by a regulatory body, (ie) D.O.T Federal Government.
Types of Carriers

Contract Carrier

- Is a carrier that transports goods for only a certain number of clients and that can refuse to transport goods for anyone else, and from a private carrier.

- Product is moved under an agreement for compensation. The Contract Carrier narrowly defines a service offering or solution catering to the specific needs of its clients.
Types of Carriers

Private Carrier

- is a company that transports only their own goods. The carrier's primary business is not transportation.

- Private carriers may refuse to sell their services at their own discretion, whereas common carriers must treat all customers equally. Some corporations mix both systems, using common carriers and private carriage in what is called a blended operation.
Diversity within Industry

The Big Three we have already talked about in our overview slides

- Truckload
- LTL
- Private
Diversity within Industry

There are specialized market segments within the industry, such as:

- Expedited
- Small Package-Parcel
- Rail-Intermodal
- Flat Bed
- Household
- Ocean Drayage

- Heavy Weight
- Reefer
- Tankers
- Bulk haulers
- DOD
Trucking Regions

Map of for-hire trucking employment by region (in thousands)

- New England = 32.0
- Central Atlantic = 147.0
- Lower Atlantic = 189.9
- Midwest = 497.4
- Gulf Coast = 202.9
- Rocky Mountain = 48.0
- West Coast = 169.7

TOTAL = 1,286.9

Source: ATA – 2006 Trucking and the Economy

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### TL-Carriers

Swift = $2.6 B
Schneider National
Werner
US Express
JB Hunt
LandStar
Prime
Crete
C.R. England
Greatwide
CRST
Knight
Covenant
Ruan
Celadon = $542 M

### LTL-Carriers

FedEx Freight = $4.4 B
Con-Way
YRC
UPS Freight
ABF Freight
Old Dominion
Estes
R&L
Saia Motor Freight
Southeastern Freight
Holland Motor
Vitran Express
Day & Ross
Transforce
Averitt Motor Lines = $495 M

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The top 15 carriers

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Diversity within Industry

• Additional players in the market.
  – Freight Brokers
  – Non Asset based service providers
  – Independent Drivers
Diversity within Industry

Diversity within Truckload and LTL

• Regional
  o Large > 250 trucks

• National
  o Serving Continental U.S.

• Union
  o IBT – International Brotherhood of Teamsters

• Non-Union
Industry equipment

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Industry equipment

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Industry equipment
Industry equipment
Industry equipment
Industry equipment

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Industry equipment
Industry equipment
Pricing within Industry

Who carries what?

- **Truckload**
  - Shipments over 10,000 Lbs.
- **LTL**
  - Shipments between 70 lbs. – 10,000 Lbs.
- **Parcel-Small Package**
  - Shipments less than 70 Lbs.
Pricing within Industry

Who competes with whom?

• Truckload Vs.
  - Other Truckload
  - Rail
  - Ocean
  - Air
  - Private Fleet
Pricing within Industry

Truckload

• Priced per mile
  - Rates typically $1.30/Mile to $1.80/Mile
  - This is the base rate depending on the carriers cost structure in a specific lane
  - Their capacity versus your volume
  - Takes into account deadhead miles
  - Driver waiting time, loading-unloading time
  - Lane balance Vs. imbalance
  - Fuel Surcharge is an add-on
    - Figured as a % of total rate or cents per mile
  - Type of freight-easy on equipment/hard on equipment
  - Total weight
Pricing within Industry

Truckload

- **Capacity = 45,000 Lbs.**
  - considered a heavy maximum load
- **MGVW = Regulated by DOT**
  - @ 80,000 Gross
  - Each State regulates axle weight
  - **GAWR – Gross Axle Weight Rating**
  - The gross weight must not exceed 80K
  - The axle weight cannot be overloaded
Pricing within Industry

Truckload

• Rules on Length, Width, Height
  - 65’ for Semi-tractor/trailer rigs
  - 102” wide
  - 14’ high from the pavement

• Western States allow a different set of rules for length – (ie) triple pups
Pricing within Industry

Who competes with whom?

- LTL Vs.
  - Truckload
  - Other LTL Carriers
  - Small Parcel - Package
  - Air
  - Ocean shipments moving LCL
Pricing within Industry

LTL  Less – Than – Truckload
•  Priced per NMFC
  -  Rates determined by the Class of Freight
  -  NMFC rates are commodity based
  -  18 different commodity classifications
  -  From a low of Class 50 to a high of Class 500
    1.  Density
    2.  Stowability
    3.  Handling
    4.  Liability
  -  Fuel Surcharge usually a % of the price of your freight
  -  Inside Pickup/delivery
  -  Lift Gate-Lift Truck required
Pricing within Industry

LTL
Freight rates are based on many factors, including

1. The distance the shipment is moving
2. The shipment's weight
3. The density of the commodity being shipped
4. The commodity's susceptibility to damage
5. The value of the commodity
6. The commodity's loadability and handling characteristics
Pricing within Industry

LTL Trucking

Example: Ping pong balls are class 500 (the most expensive class) because of their density...or perhaps we should we say the lack thereof!

A carrier can fill an entire trailer full of ping pong balls without having much weight loaded. Since rates are based on weight and density, the rate for transporting ping pong balls is higher than it would be for something like heavy machine parts.
## Pricing within Industry

### LTL Trucking - NMFC Tariff Example

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<th>5C</th>
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<th>2M</th>
<th>5M</th>
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Higher Class = Higher Rate
Higher Weight = Lower Rate

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Pricing within Industry

Who competes with whom?

• Small Package-Parcel Vs.
  - LTL Carriers
  - Other Small Parcel - Package
  - Air – 1-2 pallets or small bundles
  - Ocean shipments moving LCL
  - Dedicated Expedites
Pricing within Industry

Small Package-Parcel

• Priced per Zone
  - Rates determined by zip code
  - Rates based on Dimensional weight Vs. Actual Weight whichever is higher
  - Level of service – Ground Vs. Air
    - Next Day AM
    - Next Day Mid morning
    - Two Day / Three Day
  - Add on Assessorial rates
    - Residential delivery
    - Inside delivery
    - Shipments under 70 Lbs.
  - Fuel Surcharge usually a flat fixed Percentage
Challenges within Industry

Capacity

- Cost of capacity to climb into 2012 as supply of trucks and drivers tightens
- Two years ago, a dozen trucks might have sped to answer that last-minute call, with each carrier offering a steep discount to get that shipment and get on the road.
- In mid-2011, that call is more likely to draw belly laughs followed by rate quotes that cause one to faint.
- The 3,816 cubic feet in a 53-foot trailer is selling at a premium that goes up more rapidly the later a shipper waits to call a carrier to book a truck.

Source: JOC 08/22/11, William B Cassidy
Challenges within Industry

Capacity

• Despite deep cuts in the nation’s interstate tractor-trailer fleet over the past four years, truck capacity is readily available.

• But that capacity is rapidly flowing further away from low-margin freight toward higher-yield business.

• Truckload carriers are widely reported to be “cherry-picking” freight — selectively assigning capacity to shipments that bring them the best per-mile revenue and profit.

Source: JOC 08/22/11, William B Cassidy
Challenges within Industry

Capacity

Truck orders bounce back

JANUARY 23, 2012

New Truck Order Activity
Net Orders for U.S./Canada (Units)

Source: www.TruckGauge.com

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Experts predict we’ll move into 2013 before we see a realignment and balance within the industry.

That means it will cost more to move goods in 2012, especially by truckload carrier.

To avoid higher costs, shippers already are shifting freight from tractor-trailers to intermodal rail. Shippers diverted 4.5% of their volume to rail. The highest % shift in 8-years.

Source: JOC 08/22/11, William B Cassidy
Challenges within Industry

Rates

• Including greater use of dedicated carriage and private fleets

• Breaking up freight or moving smaller truckload shipments by LTL carrier.

Source: JOC 08/22/11, William B Cassidy
Challenges within Industry

Rates

Source: www.TruckGauge.com

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Challenges within Industry

Driver Shortage

• Wanted: 400,000 truck drivers by the end of 2011

• NEW YORK (CNNMoney.com) -- Can't find a job? Maybe it's time to take your search on the road.

• The U.S. trucking industry will need to hire about 400,000 drivers by the end of 2011, according to the state of logistics report from the Council of Supply Chain Management Professionals.
Challenges within Industry

Driver Shortage

above 300,000

Drivers Shortage/Surplus
no. of Drivers, Quarterly

Source: www.TruckGauge.com

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Driver Shortage

• We're going to need 1 million drivers in next 15 years just to deal with replacing retirees and the normal growth of freight.

• Demographic factors will make driver shortages an issue for years to come, regardless of the strength of the economy. About one in six are age 55 or above.

• Younger generation does not see trucking as a way to make a living, simply not interested in the profession.
Challenges within Industry

Driver Shortage

• Driver capacity will surely be the next major industry crisis as we enter the 2\textsuperscript{nd} decade of the 21\textsuperscript{st} century.

• An aging demographic continues to plague the industry

• Tougher now to meet driver standards and DOT regulation

Example: at a major Trucking Company

2000 applications per week after background screening and drug test netted only 120 candidates to send to driver training school, of those 120 there is a 25% failure rate giving them 90 qualified drivers
Challenges within Industry

Driver Pay Avg = $38,043

Source Salary.Com

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Challenges within Industry

Regulation

CSA – 2010 Compliance Safety Act

- Aimed at making trucking safer, but truckers and shippers agree the legislation is not ready to hit the road

- Starting Dec-12, 2010 truckers who exceed key safety threshold limits, will begin to receive warning letters from the FMCSA

- The Trucking Industry is calling this piece of legislation a “Game Changer” for the industry that could have more broader implications than the Hours of Service Rules.
Regulation

CSA – 2010 Compliance Safety Act

- DOT Officials claim that only 23,000 carriers out of 500,000 have logged into the system to review their scores.

- CSA will judge a carrier’s score on 7-key performance areas, five of which will be made public later this month. Two performance factors will be held as confidential – for FMCSA eyes only?
Regulation

CSA – 2010 Compliance Safety Act

– Shippers too are just as late logging into the system to check their carriers scores?
– Not sure how this will affect their ability to move freight?
– Not sure of the liability in accidents and lawsuits by carriers hired to move their freight?

• Shippers who leave CSA-2010 for their truckers to figure out, are putting their supply chains at risk
Challenges within Industry

Regulation

CSA – 2010 Compliance Safety Act

- The trucking industry, according to who you are listening to, claims it will lose 10% to 30% of its drivers over the next few years
- As drivers who move from company to company because of less than stellar driving records will be forced to leave the industry
- At greatest risk is the smaller trucking companies and independent truckers

Already impacted by

- TWIC-Transportation Workers Identification Credential
- NAFTA – Trade rules – limiting for example Mexican drivers
Challenges within Industry

Regulation

• Hours of Service Rule
  – Simply stated less time on the road, more time dedicated to rest
  – Affects length of haul - time on the clock – delivery of your freight
  – Bottom line – The industry will need more drivers to comply with the rule change

• Examples: If you can figure it out ??
  – Currently a driver is allowed to drive 11 hours within a 15 hour work day with a 34 hour restart provision
  – Proposed a driver will be allowed to drive 11 hours within a 14 hour work day
  – Proposed a driver will be allowed to drive 10 hours within a 14 hour work day maintaining the 34 hour restart provision
  – With a 60 – 70 hour max on duty work week, however the restart must include (2) rest periods between Midnight and 06:00 am
  – Drivers must sleep at night, and drive during the day – putting more Semi rigs into rush hour and daily traffic?
Challenges within Industry

Regulation

Green Engines – Reduced Carbon Emission

- The Environmental Protection Agency and the Department of Transportation has established directives to reduce greenhouse gas emissions from medium- and heavy-duty trucks for model years 2014 to 2018.
- According to the EPA, the new regulations would save the trucking industry about 500 million barrels of oil over the life of vehicles made during those years, and reduce greenhouse gas emissions by nearly 250 million metric tons.
- These regulations come at a cost as trucking companies must replace existing fleets with the more efficient green engines.
Challenges within Industry

Green Emission Engines Mandate

A new 2008 truck produces 1/10 the fine particulate emissions and about 1/2 the smog-forming NOX emissions as a similar truck manufactured just 2 years ago.

Source: IATA 67th annual meeting Singapore
Challenges within Industry

Diesel Fuel

Price/Gallon


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Challenges within Industry

Diesel Fuel

$4.00


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Challenges within Industry

Diesel Fuel

@ 4.15/Gallon

• 200 gallon tank = $830

• Trucks average 8 – 10 mpg

• 1800 miles before you need to fill up again

• 650 miles/day @ 65mpg in 10 hrs.

• Filling up every 2.75 days = $101,260/year in Fuel
Alternative Fuels

**L.N.G**: liquefied natural gas seems to be the best alternative to traditional diesel fuel. UPS is piloting 450 HP engines to pull their heaviest trailer loads.

**C.N.G**: compressed natural gas takes up too much room, six times the space as diesel, and lacks the pulling power for bigger rigs pulling 80,000 lbs. Best used in small vans, and P&D trucks.

**Biofuels**: Biofuel can be made from the oils contained in crops/feedstock (e.g. soybeans and canola seeds) to produce petroleum-like oil that can be transformed into fuel similar to diesel fuel (i.e. biodiesel.) The negative trade-off is higher commodity prices such as corn, sugar, rice.
Alternative Fuels

Other: Hydrogen, natural gas, ethanol, methanol, and propane (LPG) have been considered for alternative fuels.

Electric: Prototypes in use, but lack pulling power for bigger trucks, also the lack of battery life and re-charging stations along long haul routes. Better suited for intercity delivery and pickup.
What you should know when negotiating for rates and service

- What volume do you have?
- At what frequency?
- Do you have one-off shipments or do you have repeat volume moving weekly, monthly
- Can you forecast with accuracy?
- Can you ship what you commit to?
- Do you have lane balance, inbound and outbound freight?
- Or, are you like everyone else competing for space at the end of the month/EOQ?
- Do you have high value shipments?
- Dangerous goods/hazardous shipments?

Greg Andrews, Managing Director EMIL-SCS, The Georgia Institute of Technology
Benchmarking

Uses basic shipping data to show how your historical truckload costs compare to industry standards. Also offers a baseline (a comparison of historical and future costs).

Constraint based truckload bids

Constraint based bid tools use math to allow you to optimize on price, to constrain carriers in different ways, and to penalize or reward them when their actions cost or save you money. Constraint based truckload bids provide cost savings and set the stage for managing longer-term carrier relationships vs. managing carriers in a large, disparate network.

Source CH Robinson, Supply Chain Savings, 2010
Best Industry Practices

Truckload weight and Cube Benchmark

Analyzing how much product you can fit into a trailer before hitting the legal limit for weight, or before the product cubes out on a trailer.

Routing guide enforcement

Monitoring carrier load acceptance compared to the routing guide and its corresponding effects on costs.

Source CH Robinson, Supply Chain Savings, 2010
Best Industry Practices

Mode Optimization

Using a Transportation Management Tool to automatically choose the most cost efficient mode every time for the freight and lane.

Load Consolidation

Shipments from the same origin to the same destination are combined when they have overlapping shipping and delivery windows.

Source CH Robinson, Supply Chain Savings, 2010
Best Industry Practices

Multi-stop truckloads

Multi-stop truckloads use either static (standing milk runs) or dynamic optimization (order by order, typically run at least once a day with a TMS, and sometimes more often).

Pool points or Cross-docking

Bringing product to a central location, where it is broken into separate orders and shipped to multiple locations.

Source CH Robinson, Supply Chain Savings, 2010
Best Industry Practices

Continuous Moves

Combining full truckload orders into a string so you can leverage rates from a low cost area into longer moves.

Tours

A company and carrier work together to achieve continuous moves and to reduce deadhead miles, on the theory that the carrier will share the resulting savings and want to do more business with the company.

Source CH Robinson, Supply Chain Savings, 2010
Network Modeling

Network modeling compares transportation costs, but also considers inventory and manufacturing costs when optimizing a network.

A model needs to be built at the item, family, or department level, depending on the company and mix of products. Cross functional teams are required to build and validate findings.

Source CH Robinson, Supply Chain Savings, 2010
Thank You