

# Freight Transportation in the Oil & Gas Industry:

## Five Mistakes that Cripple Profitability (and how to correct them)

A PLS Logistics White Paper



Suppliers to the oil and gas (O&G) industry are experiencing a rare phenomenon in today's economy: Growth.

The increase in shale oil and gas extraction projects has triggered spectacular growth in North American drilling projects, but with this growth comes transportation challenges as suppliers of pipe, chemicals, drilling equipment, water, sand, and other materials must move products to and from an expanding number of drilling sites, many of them in remote locations. All at a time when fuel costs are rising and transportation carrier capacity is shrinking.

Many O&G sector suppliers are adapting slowly to these logistical challenges. As a result, it is estimated that their freight costs are inflated 15%–30%. For a company with \$200 million in annual O&G sector revenue, that equates to as much as \$3.7 million in lost profit – every year.

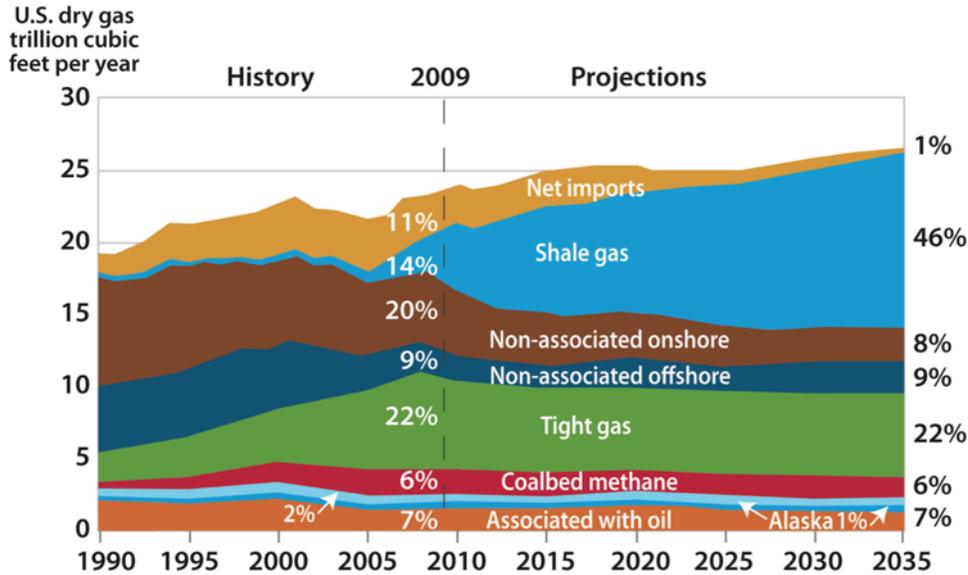
The good news is there are steps you can take now to significantly reduce your current spend on upstream and midstream freight moves. But that may mean changing entrenched practices and seeking help from outside experts.



## Shale Gas Production and Transportation Requirements

Shale gas has dramatically changed the energy landscape. According to the U.S. Energy Information Administration, in the last 10 years shale gas production has increased twelve-fold and now comprises about 25% of all U.S. gas production. Most new gas production is shale gas and this production will increase rapidly over the next two decades, as shown.

### U.S. Natural Gas Supply, 1990-2035



Source: U.S. Energy Information Administration (EIA), Annual Energy Outlook 2011

A recent study by the New York State Department of Environmental Conservation on the environmental impact of shale gas production examined the significant transportation requirements of drill sites. The study estimated the amount of upstream truck trips required for just one multi-well pad (assuming two rig and equipment deliveries for 8 wells) to be between 5,850 and 8,905 trucks.

Freight that must be delivered for one multi-well pad	Required trucks
Drilling Rig	60
Drill Pad and Road Construction Equipment	10-45
Drilling Fluid and Materials	200-400
Drilling Equipment (casing, drill pipe, etc.)	200-400
Completion Rig	30
Completion Fluid and Materials	80-160
Completion Equipment – (pipe, wellhead)	10
Hydraulic Fracture Equipment (pump trucks, tanks)	300-400
Hydraulic Fracture Water	3,200-4,800
Hydraulic Fracture Sand	160-200
Flow Back Water Removal	1,600-2,400
<b>Total</b>	<b>5,850 – 8,905</b>

The sheer volume of truck traffic, often to poorly served remote areas, is leading oil and gas industry suppliers to reevaluate their transportation management strategies.

## Common Freight Mistakes, Sinking Profits

Freight cost reduction is often a secondary concern in the safety-conscious oil and gas industry, but safe, on-time deliveries and aggressive freight cost control are not mutually exclusive. Suppliers to the O&G sector can reduce freight costs 15%–30% by avoiding five common mistakes.

### **MISTAKE #1: Relying exclusively on established relationships with asset-based carriers**

Oil & gas industry suppliers tend to lean heavily on the same set of core carriers. There may be long-established relationships and trust built up. Also, there is a comfort level with carriers they know have the specialized equipment and experience required for dynamic drilling projects. Despite the fact that thousands of carriers throughout North America have similar expertise and equipment, companies tend to stick with who they know.

As industry growth pulls your company into new geographic regions, this strategy may leave you without the shipping capacity you need. Plus, it can be a money pit. A local carrier asked to deliver outside his service area may not have the network volume to fill the backhaul and often will charge a round-trip rate. With shrinking margins, can you afford to pay a premium?

To expand your options and lower costs, consider partnering with a non-asset-based third party logistics provider (3PL) that understands the complexities of new drilling projects and has access to a network of pre-qualified industrial freight carriers who compete to move your cargo.

*A large pipe distributor used a local Texas-based carrier to move pipe from Texas to Marcellus Shale rig sites in Ohio, Pennsylvania, and West Virginia. Because this carrier could not arrange backhaul loads to Texas, it charged a round-trip rate. After shifting this volume to an industrial freight broker with the lane volume to fill the backhaul, this distributor now pays one-third less, saving \$300,000 per year to serve Marcellus Shale sites.*

### **Benefits of expanding your carrier base with a non-asset-based 3PL:**

- Capacity when and where you need it, including specialized equipment
- More time to spend on your business as your transportation partner manages carriers and shipments
- Cost savings through better rate shopping and backhaul pricing

### **MISTAKE #2: Focusing only on motor carriers**

Many O&G sector suppliers rely exclusively on trucking companies to move freight. They avoid rail and barge because they may not understand the nuances of more complex multi-modal moves or they may lack established relationships with railroad, barge, and trans-load companies.

These barriers are easily overcome by working with a transportation management partner that regularly coordinates rail and barge shipments. Yet these modes remain underutilized today, despite offering a dramatic cost advantage. A well-managed rail or barge move can cost less than one-third the amount of a truck move.

*A mid-sized steel company sent regular shipments of steel pipe via flatbed from Houston to Edmonton, Alberta in Western Canada. The company abandoned rail because its carrier and trans-load providers could not hit promised delivery deadlines. Consequently, the company paid three times the per-ton cost to move the goods via truck. A 3PL with strong industrial experience was brought in to shift the freight back to rail. By better coordinating the activities of the steel company, carriers, and trans-load companies, the 3PL was able to hit promised delivery dates while reducing the customer's annual cost for this one lane by over \$850,000.*

Barge is an extremely low cost shipping solution that is seldom considered because a company may not have enough freight to fill a barge. However, by combining loads from its various customers a non-asset-based 3PL can give you the option of less-than-barge-load shipping.

#### **Benefits of using alternate freight modes:**

- Potential 20%–40% reduction in per-ton cost
- Flexibility to switch modes based on capacity constraints or rising prices

### **MISTAKE #3: Making freight decisions in the field**

Transportation is viewed as a tactical necessity for large-scale O&G projects. Therefore, buying freight services is left to non-logistics people who don't have the time or expertise to arrange the smartest, cheapest solution. The unknown culprit could be a supplier's salesperson who is gathering costs for a proposal or a rig supervisor only focused on getting and keeping a site fully operational.

But there's a downside to decentralized freight decisions, the biggest of which is overspending. Expedited shipments are a major cost driver. Since the biggest enemy of any drilling project is downtime, little thought is given to the cost of sourcing emergency replacement parts.



*Transportation requirements in the oil & gas industry can be unique and complex, such as stringing services for line pipe delivery. Higher safety standards and the need for specialized equipment limit the base of qualified carriers, making it harder for suppliers to quickly and economically manage freight to project sites. Increasingly, these companies are leveraging non-asset-based 3PLs and industrial freight brokers, who provide project cargo expertise and fast access to well-priced capacity for flatbeds and other specialized equipment.*

*An on-site engineer at a drilling company used the local Yellow Pages to source a carrier for a West Virginia to central Pennsylvania hotshot move. The PA-based driver charged \$1300 – a \$100 hourly rate – for a round-trip to WV and back. A similar delivery was arranged two weeks later by the company's freight broker, who contacted a driver already in WV with another load and arranged to have him bring the needed part to PA for just \$350.*

Another downside to decentralized freight decisions is lack of visibility and control. When freight is managed job by job and move by move, executives are powerless to establish policies and controls. And unless transportation activity is managed using a central transportation management system (TMS), no accumulated intelligence develops to aid in future decisions.

One remedy is to partner with a non-asset-based 3PL for most or all of your shipments. The right partner gives you access to industrial freight expertise, capacity, and advanced systems to manage and optimize freight movements.

#### **Benefits of centralizing freight purchasing decisions:**

- Instant visibility to shipment status and trend data such as costs, carrier performance, and shipment volumes by lane
- Ability to set and enforce freight policy, such as use of expedited freight services
- Streamlined invoicing – turn 50 separate invoices into one consolidated 3PL invoice, with costs automatically assigned to P&Ls based on rules you establish

#### **MISTAKE #4: Not shopping freight rates**

Freight rates for O&G project cargo are often negotiated by sales, purchasing, and other non-transportation staff who may not understand the available options. The de facto process is to lean on known carriers, who may not run freight in the areas requested. In these cases, freight quotes can take longer to secure and the rates are often inflated.

The result of such a process can be far more damaging than a 20% cost overrun on a specific lane. For instance, a salesperson for a steel pipe distributor may include these inflated costs in a bid package to an energy company. In the highly competitive O&G market, freight costs could be the difference between winning and losing a multi-million dollar bid.

A non-asset-based 3PL with brokerage capabilities can be the answer. A 3PL with a large base of carrier partners already has real-time market rates in its system and can turn around a highly competitive quote in minutes.

*A pipe distributor contracted with a known local carrier to move 80-foot pipe loads from Houston to Arkansas for \$4600 per load. Working with a large industrial freight broker, the company was able to bring these costs down to \$3,900 per load, saving \$560,000 on this one, high-volume project.*

#### **Benefits of aggressive freight rate shopping:**

- Better rates, lower operating costs, higher company profit
- Fast, accurate freight estimates for new business proposals

## Case Study: Lakeside Steel

### SITUATION

Lakeside Steel is a diversified manufacturer of steel pipe and tubing based in Ontario, Canada. The company evolved from serving primarily auto and mining customers located in eastern Canada to serving oil & gas development sites in Western Canada and the U.S. Despite this shift, Lakeside continued to rely on core carriers in Ontario, raising transportation costs and threatening their ability to compete against steel companies closer to important new markets. In the midst of this business shift, a longtime logistics manager at the company retired, resulting in a loss of logistics expertise. To reel in freight costs and meet the transportation needs of an expanding customer base, Lakeside asked industrial freight specialist, PLS Logistics, to examine the potential for cost and service improvements.

### STRATEGY

PLS recommended and implemented the following strategies:

- **Shift from fixed to variable cost structure.** PLS hired Lakeside's transportation staff and integrated its transportation management system with Lakeside's business systems. Lakeside now pays PLS a management fee added to shipment costs. If there are no shipments, there is no management cost.
- **Fill empty miles.** PLS delivers a large volume of freight into eastern Canada and uses backhaul miles from these same carriers for Lakeside's outbound shipments from Ontario.
- **Leverage PLS's base of 12,000+ carriers.** Shipments from Lakeside's new manufacturing plants in Alabama and Texas are now handled using existing PLS carriers in that region.
- **Use more economical modes.** Rail freight went from 15% to 35% of the total volume of products shipped.

### RESULTS

Faced with a changing customer base and increased demand for its products, Lakeside was able to turn transportation from an obstacle to an engine for growth.

According to Lakeside Steel President & CEO, Ron Bedard, "Partnering with PLS Logistics has enabled Lakeside Steel to achieve record-breaking shipment levels. PLS's expansive carrier network provides us with the capacity we need, while their buying power has reduced Lakeside's overall supply chain costs."

## MISTAKE #5: Limited use of transportation management systems

Decentralized management of transportation typically means that there is no central system used to manage freight. When inbound and outbound shipments are not managed using a central TMS, aggregate data on costs, performance, safety, and other critical issues simply does not exist. Local data may exist on someone's hard drive, within a file folder, or worse, in someone's head, but it is not available to the wider organization for analysis and decision support.

Of course, a multi-million dollar investment in a TMS is not feasible for many O&G industry suppliers, but by working with a non-asset-based 3PL, you can access all the benefits of a TMS without the capital outlay and hassle. Whether it's steel pipe traveling by flatbed or a hotshot delivery to a rig, a central TMS tracks all your freight moves. Without it, you'll need to track shipments by contacting individual carriers.

A TMS also gives you access to standard and custom reports that help with key business questions, such as: What are my future capacity requirements? What are my historical and projected freight costs? Are my carriers compliant with all DOT safety requirements?

**Benefits of a transportation management system:**

- Optimize freight moves – if the system is operated by a 3PL that manages freight for other industrial shippers, the TMS automatically recommends consolidations, continuous moves, and other cost-saving optimization strategies
- Visibility to shipment status via an easy-to-use web portal
- Reduced risk – carriers that don't meet minimum standards can be flagged in the system as ineligible until proof of compliance is provided

## Preparing Your Company for Continued Growth

Today, O&G industry suppliers are scrambling to service the rapid expansion of North American rig sites. Transportation has been a secondary consideration to moving products to and from development sites, but this is changing. As the industry matures, expect the following:

- Increased competition and margin pressure, which will magnify the focus on transportation and its impact on the price of products and services
- Increased executive oversight and demand for greater accountability for the transportation spend
- Increased use of alternate modes to reduce costs and ensure capacity

As this shift occurs, you'll have a choice: Develop transportation expertise yourself or seek help from an industrial freight specialist to provide the expertise, systems, and capacity to serve the growing O&G industry. A strategic partnership won't be right for all companies. At the very least, however, establishing a relationship with a non-asset-based 3PL with a strong carrier base could provide a vital hedge against capacity constraints.



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### About PLS Logistics Services

PLS Logistics is one of America's largest freight brokers and the largest third-party logistics provider to the industrial sector. The company's 12,000 pre-qualified carrier partners give shippers access to 150,000 trucks; including the largest network of flatbeds in North America.