The Next Step in the Evolution of Freight Cost Reduction Programs
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How big truckload shippers can save 4-10% with an “obvious solution.”

The biggest component of total logistics costs, truck transportation, has risen to the point that CEO’s are starting to look at what can be done to reduce costs. Additionally, if the company is a supplier to Wal-Mart, CEO’s have an added mandate from that giant – reduce carbon emissions. As the Boss looks to us in the trenches, we point out the impact of rising oil costs, driver shortages, rising insurance costs and the over-all supply-demand balance. The CEO’s concern is not what has happened, but what can be done. The mandate is clear. So, how can a Supply Chain Vice President cut truckload transportation costs and carbon emissions?

**Evolution of cost reduction**

The evolution of freight cost reduction has gone something like this:

- **Negotiate price**: Negotiation was great in the 80’s... but the shoe is on the other foot today as the power has shifted from shipper to carrier. For the most part, contemporary transportation buyers are negotiating for security of supply. That is not to say there are not sophisticated ways to bid freight, but if there are big opportunities to reduce cost in this environment, then there was probably incompetent negotiation in the past.

  **Summary**: all the big opportunities to negotiate lower costs are gone

- **Streamline operations**: Streamlining ranges from the mundane of creating routing guides to concentrating execution in dispatch centers and making the carriers’ life easier through efficiency programs. Efficiency programs are about making your freight more attractive. Carriers have, for the most part, rewarded companies that have instituted drop-and-hook programs with continued supply of trucks and lower costs. But once these big streamlining opportunities are exhausted, there are rapidly diminishing returns on the effort invested.

  **Summary**: all the big opportunities to streamline are gone

- **Communicate with carriers**

- **Optimize Routing**
Communicate: Along with creating routing guides and central dispatch, electronic communication of day-to-day requirements was a natural step. And so was the gathering and analysis of historical performance data and the forecasting of future needs. This data supported a focus on improvement and collaboration. Many of the articles written over the last 20 years talk of shipper-carrier partnerships and collaboration. This, in the past meant that, the Carrier listened while the Shipper demanded more concessions. While discussions have come a long way since then shippers need to start listening.

Summary: partnerships and communication, while worthwhile, won’t generate big savings.

Routing optimization and consolidation: Information generated in the previous steps enabled the identification of LTL consolidation, continuous route opportunities and where capacity can be dedicated. The addition of TMS (Transportation Management System) functionality, to tie it all together, has rewarded most proud owners of TMS’s with some of the expected triple benefit of lower carrier costs, reduced administration and secure truck supply. The next step - shippers’ cooperatives, where members are pooling their volume to get longer continuous routes, are, in reality, taking over from the carriers who should be putting together these cross-company continuous moves. Carriers with hundreds of accounts should be better at this than cooperatives with tens of members. In this author’s opinion, once a company has a TMS working well, the low hanging fruit is gone.

Summary: The low hanging fruit is gone—so where are the big savings?

Shipping full trucks – the last big savings opportunity

So by now, you are probably thinking...“Filling trucks is obvious... and this author is telling us things that we already know. And besides, we always fill up our trucks.” That is what several well-run CPG giants thought before they began to take a closer look. What they found were opportunities like these:

- Trucks that were supposedly at maximum weight had extra capacity at both the target weight level (The target weight was say 45,500 but the actual was somewhat less) and also at the legal constraint -- the axle limits. A careful study showed more pallets could be added to almost every shipment.
- Shipments going out on 53 ft trailers planned as if they were constrained to 48 ft.
- Customers ordering the absolute minimum quantity to get free freight
- Trucks going on the same origin/destination but each being “full” by a different constraint: weight, cube, or floor positions. For example, shipments of displays and bricks both fill out their loads. Since 30 displays fill all the floor positions and because they crush, displays can’t double stack so the load runs out of floor positions. But, the displays could ride on top of the bricks – almost for free.

Serious analysis using sophisticated tools showed the opportunity to plan better loads against the given planning constraints would save 4-10%. So “full loads” were not full after all.

Truly filling trucks requires coordinated planning and execution

Intra-company shipments are the easiest to quickly enhance. Traditionally, product required at warehouses is aggregated into loads by some form of vehicle building module in the ERP system (SAP, Oracle etc) or supply chain software (Manugistics, i2 etc.) This software defines a full load as coming “close” to arbitrary set safe limits like 44,000 pounds or 2000 cube or 28
floor positions. The loads they create are often manually “topped-off” to create what a planner
considers as “full.” But the planner, just like the vehicle-building module, does not look at axle
weights, carrier-lane capability, or how to stack product in the truck. Nor, if there is more than
one load on the lane, do they consider what is the “optimal” allocation on one truck vs. another.

Sophisticated vehicle load builders look at all the constraints and determine the “optimal mix” –
a mix that P & G declared in a recent article, showed a 7% improvement in load size. But,
planning bigger loads is just the first step -- the loaders must be able to execute and, in the case
of loads within 1-2% of the axle limits, that is hard. An optimizing load builder must create
detailed load plans, right down to which case pick cases must go on which pallet – and how
they stack to minimize the potential for damage.

Figure: taking advantage of the mix of densities is just one way optimal load building works. Here capacity
is generated by the intelligent “shuffling” of product between trucks

And there is yet more opportunity… when carriers actually assign equipment to the load, there
may be a gap between the capacity planned for vs. the available capacity. For example, if the
trailer is 100 inches wide and not the 98 that was planned for, then more unit loads that
overhang the pallet can be turned – and allow more cube on the truck. Or if the tractor-trailer
combination only weighs 32,000 pounds, it will allow a shipment of nearly 48,000 pounds¹ – far
more than was originally planned. Based on data outlined in the footnote, we estimate this
savings opportunity to be worth a further 2-3%. Seizing this opportunity requires the flexibility to
add additional product at the time the carrier equipment is known. And yes, sophisticated
carriers know which truck and trailer will haul each load well in advance of loading.
Unfortunately, carriers don’t accurately share the equipment weight. Today, equipment must
be weighed to get valid data.

**Filling customer loads comes next**

VMI type customer shipments follow the same path as intra-company shipments. Beyond that,
the next “easy” opportunity is to “optimize” the combination of orders to make up loads. For
example, Wal-Mart frequently has multiple buyers submitting PO’s –and letting the vendor

¹ A small unscientific survey of equipment at one site showed available capacity of 53 ft over-the-road equipment
exceeded 46,500 pounds 71% of the time and 47,500 pounds 44% of the time
consolidate them into loads. In high-volume lanes, the opportunity to mix and match can significantly enhance load factors.

The Holy Grail of loading efficiency is pushing the rest (Non-VMI, non-multiple PO shipments) of customer shipments to the limits. Many companies have already increased the minimum order quantity for free freight. For example, over the past 10 years, one company has moved the cube minimum up by more than 50%. The next challenge is truly filling the load. The prediction is that the Wal-Mart’s of the world, in doing good (lower carbon emissions) will be forced to allow vendors to fill out loads with predetermined-additional product that appears on some supplementary order.

In the evolution of freight savings programs, from negotiation through streamlining and into route optimization, companies have gained at each step. Once these steps are done, the last great opportunity to save freight is the one that is “obvious:” fill the trucks. And to do this, companies need better software planning tools that link to execution so they can truly fill loads and reap the benefits of lower costs, fewer shipments and “do well by doing good” for the environment.

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