is there a better LTL pricing scheme?

The long and winding road to cube- and density-based pricing

BY DAN GOODWILL

Freight pricing has been an interest of mine for many years, particularly the pricing of less-than-truckload freight. This somewhat ambiguous category encompasses shipments weighing typically between 100 and 10,000 lbs. A white paper entitled, *The Path to Density-Based Pricing: Connecting Domestic LTL Pricing to the Global Supply Chain*, published by SMC3 in 2008, places the current status of LTL pricing in the US in context:

"Over the past two decades, globalization of the supply chain, industry consolidation, and competition in the freight transportation marketplace have brought sweeping changes to the less-than-truckload (LTL) industry. In this era of dramatic change in our nation's business climate, there is one system that has not experienced any fundamental alteration – the industry's traditional classification-based rating structure…A holdover from the railroad era of the early 20th century, the classification-based pricing system is confusing to the non-expert, costly to implement, and difficult and burdensome to manage. Furthermore, some argue that it produces pricing that bears little relationship to actual transportation costs and that it hinders the LTL industry's ability to compete against air freight and parcel carriers.

"The United States is the only country using a freight classification-based pricing system for LTL shipments; the rest of the world uses density measurements to drive transportation pricing. While many recognize the shortcomings of class-based pricing and have weighed the advantages of moving toward a density-based pricing methodology, real barriers to change remain. For one thing, freight classification has been the industry standard for more than 70 years. Changing this entrenched system would require nothing less than an industry paradigm shift.

"Pricing for international oceanic and air freight has long been based on cube and weight calculations. The rest of the developed world, including Canada, Mexico and European countries, uses density measurements to set transportation prices. The United States is the only country where a segment of the trucking industry uses a class-based rate system as the basis for transportation pricing."

A couple of years ago, I became aware of a new LTL pricing methodology called cube-based pricing (CBP). At the time, it struck me as a clever way of simplifying the complex National Motor Freight Classification system, by creating a system that correlates the pricing of LTL freight directly with the space occupied on a trailer, and of bringing the pricing of LTL freight in the US (and to a lesser degree in Canada) more in line with how freight is priced in many parts of the world.

I wrote a piece on this topic back in 2007 (*Cube Based Pricing – The Scoop on the new LTL Pricing System*) that became the most frequently read posting on my blog. To this day, that blog continues to receive a significant number of readers on a monthly basis. Clearly the piece struck a chord with thousands of shippers and carriers.

Cube- and Density-Based Pricing

Since there was so much interest, I thought it would be enlightening to revisit this topic to see how far cube-based pricing has progressed over the past two years. This time I will explore the current status of two similar LTL pricing methodologies: CBP and density-based pricing. Under a density-based system, dimensional weight measurements combine the physical volume and the weight of a shipment to determine shipping costs. Density is computed by dividing the weight of an item by the

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product of its dimensions in length, width and height, which determines its volume. The typical unit of density measurement is pounds per cubic foot in the English system, and kilograms per cubic metre in the metric system. Cube refers to the cubic space occupied on a trailer and this pricing approach reflects essentially the same set of parameters.

While there are likely a number of companies developing and refining a version of one or both approaches, I will focus specifically on the DBP product from SMC3 and the CBP product from The Visibility Group. Both companies are based in Atlanta, Ga. I reviewed the most recent sales collateral from both companies on these topics and interviewed Danny Slaton, senior vice-president of business development for SMC3 (www.smc3.com), and Hank Mullen, president, and Lynnette Guess, CEO, of The Visibility Group (www.thevisibilitygroup.com). Here is what I learned:

Both companies have been hard at work on developing and refining their respective products. Neither product has gained any level of market acceptance, although both products are being used on a very limited basis. Slaton indicated that seven to eight carriers are using the pricing tool, primarily for import/export. In his view: "The pricing methodology will gain traction as global trade increases and companies require the cost of shipping LTL freight from Beijing to Toronto. As more companies seek to link their global ERP system to their TMS system and these systems are linked to emerging weighing and measuring technologies, the data points required for density formulas will be commonplace. This convergence of technologies will further enable the adoption of DBP."

Mullen's take was similar to Slaton's. There are no carriers or shippers that are using CBP exclusively. However, Mullen is seeing companies use their NMFC pricing system and their CBP systems in parallel. Guess added that, "When we developed cube-based pricing, we saw the need for a transition model whereby a carrier and shipper can map dimensional attributes to existing freight pricing. We developed this transition model to allow the shipper to provide dimensional data and for the carrier to analyze this data. Our thoughts were that this analysis would lead to a pure cube-based pricing system that is simple and efficient." This is allowing shippers and carriers to compare their LTL rates under both methodologies to see how and where the rates vary. Mullen also mentioned that there is some interest among a group of 3PLs, since they are less comfortable with the intricacies of NMFC pricing and are seeking ways to facilitate their LTL pricing functions.

The reasons for the slow adoption were outlined very clearly in an e-mail received from Jim Graham, director of TBB Logistics. Here is what he had to say:

"While the cost of some technology changes would slow down or prevent some from wanting to make the change, the real obstacle is FEAR. Fear both with the shipper and carriers, and the fear comes from the feeling, belief or knowledge they will be harmed by the change…(The fear has come from) the transformation of goods to be less dense…(This) has continued to build support by shippers in holding on to the classification process."

Outlined below are the main fears from both the shipper and the carrier side as Graham sees them.

Fear 1 for the shipper: You see this fear every time a product is changed from one class in the NMFC to a density. Shippers have enjoyed the stable class for their product and now they are subject to a higher class because their product is less dense. Shippers know their products have become less dense and therefore would be subject to higher costs if they had to pay on a density-only basis. The simple fact is products have become much smaller and lighter, but the NMFC process has been slow to actually move to more density classes. Some of this slow reaction time was the hesitation to upset shippers who already saw the NMFC as nothing but a carrier committee to collectively raise charges.

Fear 2 for the shipper: Again, going back into history, shippers would use much more packaging because they recognized their freight was going to be stacked on other freight. The carrier's equipment was rarely "air ride" smooth, and with heavier products, it needed to be more secure. Also, the outer packaging was designed to protect the inner-packaging and goods. Several things have happened: as freight became lighter and the costs of packaging went up, shippers did not continue to invest in the best packaging. Also, it became popular to have the outer packaging advertise the product, so it can go directly from the shipping pallet to the shelf or the customer's vehicle. This has led directly to the shipper requiring the carrier to state "do not double stack" their product. The SMC3 white paper talks about a pallet of 48 x 40 x 48 being around 54 cu. ft., but in today's shipping dock, you see considerable freight with the "do not stack" cone, one package on top so the surface is not level, or pallets exceeding 48 inches. With this going on, the shipper is really taking up 48 x 40 x 96 – 108 cu. ft. While there are a few carriers that have rules in place to adjust for this, most shippers have found ways to skirt these rules and are taking up much more space than the actual shipping form. Under a density program, they would have to pay for this space in some manner, which would increase their costs.

Fear for the carrier: The transition of the process from the class to the density rating system places the carriers in a position of

losing revenue over a considerable amount of time. Shippers which would benefit from the change would make the move quickly, and thus the carrier would see less revenue from these accounts. Those shippers which perceive or know their freight charges would go up would be hesitant to move and would continue to pressure the carrier(s) to rate their shipments under the current class/rate process. Until the field is completely level (all carriers moving to density rating and shippers given little choice), you have carriers working under both systems and not seeing the benefit of shippers sharing equally in paying for the space used.

The move to a density system will take place much quicker and smoother if there is a way for the transformation to be revenue/expense neutral for the carrier and shipper for an 18- to 36-month period, and during this time, and at least 24 months after transition, there is equilibrium of demand and supply. Then market forces can begin to adjust to the actual purchase of space for distance. If either side has the upper hand, then movement will be very difficult.

7 Steps to Density-Based Pricing

In the SMC3 white paper referenced above, seven items are listed as requirements to bring about the change that so many shippers are carriers are seeking. They include:

1. A change management process to bring about a methodical, gradual change.
2. A consensus among shippers and carriers that this will result in greater efficiency over the long term.
3. A standardized methodology with clear rules to ensure uniformity.
4. Revenue parity that does not unduly reward or punish shippers, carriers or third parties.
5. A shipment handling methodology to account for over-dimensional or hazardous products.
6. Automated business processes that account for density and cube across the supply chain.
7. Enabling technologies (e.g. forklift scales) that simplify and speed the implementation process.

In the next issue, we'll take a look at the Canadian Experience. MT

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