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The Class Rating System

By Michael B. Stroh

For this installment, let's talk about the foundation of the trucking industry's pricing structure: the class rate system. The railroads use a very similar approach, but for the purposes of this discussion we will focus on the trucking industry.

The intent of the class rate system is to simplify the process for pricing freight with inherently different freight characteristics. Rather than have a unique price for each and every commodity, articles with similar freight characteristics are assigned to common freight 'classes'. There are 18 different classes identified by a numeric value. They range from a low of class 50 to a high of class 500. The logic is, the lower the class the lower the price. The governing publication for the class rate system is the National Motor Freight Classification, which is reissued annually. The NMFC publication is provided by SMC³ under an exclusive agreement with the American Trucking Associations (ATA) and the National Motor Freight Traffic Association, Inc. (NMFTA).

The principle factors used in the freight classification process are:

- Cost of service to the carrier
- Value of service to the shipper
- Competition
- Value of article
- Methods of packing and protecting the article
- Risk
- Dimensions and weight

In the simplest terms, low-value freight that is easy to handle, unlikely to damage and dense will receive lower class ratings than expensive, light, bulky freight which is highly susceptible to damage.

In addition to the class rating assigned to an article, carrier pricing is driven by shipment weight as well. The rule is the higher the weight, the lower the cost per pound. This is merely the simple economic principle of economies of scale. Let's take a minute to look at the sample class rate table below to perhaps get a better understanding of what all this means.

07304 Jersey City, NJ – 94404 Foster City, CA							
Class Rating	**L5C**	**M5C**	**M1M**	**M2M**	**M5M**	**M10M**	**M20M**
500	684.61	554.60	472.28	397.12	345.33	283.06	248.51
400	547.69	443.68	377.82	317.69	276.27	226.45	198.81
300	410.77	332.76	283.37	238.27	207.20	169.84	149.10
250	342.31	277.30	236.14	198.56	172.67	141.53	124.25
200	273.85	221.84	188.91	158.85	138.13	113.22	99.40
175	239.62	194.11	165.30	138.99	120.87	99.07	86.98
150	205.38	166.38	141.68	119.14	103.60	84.92	74.55
125	171.16	138.65	118.07	99.28	86.34	70.77	62.13
110	150.61	122.01	103.90	87.37	75.97	62.27	54.67
100	136.92	110.92	94.46	79.42	69.07	56.61	49.70
92	128.02	103.71	88.32	74.26	64.58	52.93	46.47
85	118.77	96.21	81.93	68.89	59.91	49.11	43.11
77.5	108.98	88.28	75.18	63.21	54.97	45.06	39.56
70	101.28	82.04	69.86	58.75	51.09	41.87	36.76
65	95.26	77.17	65.71	55.25	48.05	39.38	34.58
60	90.28	73.14	62.28	52.37	45.54	37.33	32.77
55	85.31	69.11	58.85	49.48	43.03	35.27	30.97
50	80.25	65.01	55.36	46.55	40.48	33.18	29.13

This table shows all the class rates for freight moving from Jersey City, NJ to Foster City, CA. Down the left column is the list of every class rating. The top row lists the various weight breaks, in other words, where the rate changes based upon the weight of the shipment. The weight breaks include, less than 500 pounds, more than 500 pounds, more than 1,000 pounds, more than 2,000 pounds, more than 5,000 pounds, etc. The pricing is represented in cost per hundredweight (cwt.) For example, a shipment weighing 5,000 pounds rated at class 85 would cost $2,995.50. By the way, back in the old days there used to be a direct correlation of the individual class ratings to one another as they applied to pricing. The rate-making organization would develop pricing for class 100 as the *base* class. Then every other class rate was derived from this as a percentage of class 100. So, something with a rating of class 50 cost ½ of class 100, while a commodity with a rating of class 200 cost twice that of class 100. Get it? This is not quite the case anymore as you can see from the table. More sophisticated costing algorithms have been developed, but you can observe that in many cases it is still close.

There is an interesting peculiarity in carrier pricing of which you should be aware. It is known as *deficit weight*. Let's illustrate it by an example.

Using the same table above, consider a shipment with a rating of class 100, weighing 1,800 pounds. Conventional wisdom would tell you that it should be costed as follows:

Using the more than 1,000-pound column, the cost per cwt. is $94.46. Thus,

$94.46
x 18
$1,700.28

Pretty straightforward, right? Well, not exactly. This shipment is correctly priced as follows:

$79.42
x 20
$1,588.40

Clearly, this requires an explanation. The concept of deficit weight works like this. If it is less expensive to rate a shipment at a higher weight, then the higher weight break will apply. Rather than paying for 1,800 pounds, you actually pay for 2,000 pounds, but at the lower 2,000-pound rate. The net result is a lower cost to the shipper. There is no fixed point at which this benefit kicks-in. So, you need to watch to ensure it is being applied properly. If you use a carrier provided rating program, this is automatically calculated.

I'm sure some of you have noticed that the prices referred to in this discussion are sort of high. That's because they are gross prices, without the benefit of any discounting. Trucking is one of those industries that publish very high list prices and then discount them heavily. My experience has been that most carriers will discount their list prices by at least 50% without even a hint of any volume commitment. For shipper/carrier relationships where there is an ongoing commitment to significant business, discounts can be in the 60 to 70 percent range. If you're a really good negotiator, there is no reason why you must use the current carrier rates. It is not an uncommon practice to use a rate structure older than current rates. In fact, you do not have to use a carrier's own set of rates. You can negotiate to use a set of rates constructed by a competing carrier. As well, a company called SMC[3], the former Southern Motor Conference, publishes a set of generic class rates that many carriers are willing to use. But we're getting off-track. This is a discussion for another day.

What is key here, is that the class rating system is the basis for LTL (less-than-truckload) pricing in the United States. As logistics professionals, it is critical to understand the mechanics of the system to effectively negotiate with your carrier partners as well as to understand how carrier pricing is constructed.

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