

Investigation of Methodologies Used by Less-Than-Truckload Motor Carriers to Determine Fuel Surcharges



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16. Abstract Fuel surcharge policies are utilized by transportation companies to transfer the expense associated with fuel prices to their customers. As fuel surcharges have become a significant portion of the expenses on transportation invoices, an increasing number of shippers are expressing more interest in these policies. The objective of this study is to discover how less-than-truckload (LTL) carriers develop and utilize fuel surcharge policies to recover their fuel expenses. Thirty-nine top LTL carriers were called on to explain their perspectives and methodologies with regard to fuel surcharge policies. Part-to-whole qualitative analysis was conducted to summarize responses from a standardized interview protocol. In addition, 25 published fuel surcharge policies were obtained and analyzed to explore the disparities among LTL fuel surcharge policies. Findings show that, while carriers were reluctant to discuss their fuel surcharge development, in practice there were two primary methodologies that left all carriers with very similar fuel surcharge policies.					
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**Final Report
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INTRODUCTION

The less-than-truckload (LTL) motor carrier industry exists to serve the niche between parcel and truckload (TL) motor carrier transportation. In serving this market, LTL motor carriers exhibit characteristics of both parcel and TL motor carriers. Like parcel services, LTL firms maintain a work force of local drivers to collect shipments, which are taken to local terminals and consolidated into larger shipments according to their destinations (Belman 2005). Like TL carriers, LTL carriers make line haul moves consisting of these consolidated shipments and transport them long distances between the origin terminal and the destination terminal.

Since deregulation, increased competition has put pressure on LTL firms that hasn't eased. Additionally, parcel carriers have been aggressive in capturing larger shipments, while TL carriers, in association with TL consolidators, have encroached on the higher end of LTL capacity. This increased competition has reduced the market for LTL shipments from their full capabilities down to a range from 300 to 2,800 lbs. (Belman 2005; Schulz 1991). In addition, the popularity of the core carrier concept has put pressure on LTL firms to make the cut. This encourages firms to compete on price and service in order to edge out competition for a space on shippers' short lists of core carriers (Hannon 2006; Rakowski 1994). A result of these increased competitive pressures in the LTL market is a highly volatile environment where mergers and acquisitions have become a common strategy to achieve competitive advantage (S&P 2006; Hoovers 2006; Belman 2005; Reiskin 2006; Rakowski 1988).

In the midst of this competitive market, LTL carriers are paying particular attention to any cost or activity that serves to erode their profit margins. Increasingly, activities that may have once been considered a customer convenience, such as drivers assisting to unload or supplying liftgate equipment to carefully lower freight to street level when an unloading dock is not available, have been termed accessorial services and charged fees in addition to the base rate quoted for the shipment. These accessorial fees serve to compensate the LTL carrier for the additional costs associated with scheduling special equipment and the extra time the driver might spend unloading the freight.

Another significant cost for any carrier in the transportation industry to budget is fuel. Diesel fuel prices were already at record highs before hurricanes rocked the gulf coast, due to tight refinery capacities and strong demand. After hurricanes Katrina and Rita made landfall the result was an average on-highway diesel fuel price exceeding \$3.00 per gallon in October 2005, as reported by the Department of Energy (DOE). In response to the rising cost of fuel, motor carriers are left with three choices: (1) park their trucks, (2) raise fuel surcharges, or (3) close their doors (Abt 2005).

For over 20 years, fuel surcharges have been periodically added to transportation invoices in an effort by the carrier to respond to erratic spikes in fuel prices that are commonplace in the industry. However, in recent history, fuel surcharges have become a constant component on transportation invoices as fuel costs have continued to rise. Today, a freight invoice will consist of three components: (1) the net transportation cost for moving the freight from point A to point B along the LTL carrier's network, (2) charges for any accessorial services that were requested, and (3) a fuel surcharge that represents the additional fuel cost incurred by the carrier. As fuel

surcharges become more prevalent, their influence from a financial standpoint, as well as the impact they may have on customer relations, makes them a challenging issue to manage.

The need for a pricing policy that enables motor carrier firms to quickly respond to changes in fuel prices is apparent. What is not clear, however, is the most appropriate means to determine the surcharge, and the most effective method for implementing it.

The purpose of this research was threefold. First, the LTL segment of the motor carrier transportation industry was examined to better understand the dynamic influences that serve to define this group of niche carriers. In this process, points of contention with regard to fuel surcharges were identified and industry leaders were interviewed to garner industry perspectives on this multifaceted issue. Second, the existing literature was examined to determine prevailing industry practices with regard to fuel surcharge policy development and implementation. Finally, a part-to-whole qualitative research methodology was utilized to summarize the findings and to identify areas where further research might benefit the existing body of knowledge.

LITERATURE REVIEW

Motor carriers face a complex cost structure; one of the most significant of these costs is fuel (Logan 2001). Fuel surcharges are designed and implemented to enable motor carrier firms to react quickly to increases and decreases in fuel costs (Bohman 2005). A fuel surcharge policy is expressed in a matrix that equates a given percentage of the base or net transportation rate to be paid contingent upon the average price of diesel fuel on the ship date. Most motor carriers have established fuel surcharge policies that utilize U.S. Department of Energy (DOE) weekly on-highway average diesel fuel prices (Bohman 2005; Ginsburg 2005). The DOE publishes national, regional, and subregional on-highway average diesel fuel prices each week. LTL motor carriers typically execute changes in their fuel surcharge policies on the Wednesday following the DOE's report (Bohman 2005).

The Energy Information Administration (EIA) is the subgroup within the DOE that collects and averages the on-highway diesel prices. The average prices are calculated using data from "approximately 350 retail diesel outlets, including truck stops and service stations" (Data Collection Methodology 2007). The EIA reported a 99.1% response rate for the 2006 calendar year. The EIA weights each regional average price by the volume of fuel sold in that region to calculate the average national weekly retail on-highway diesel price (Data Collection Methodology 2007).

Design & Implementation

There are three characteristics that differentiate most LTL fuel surcharge matrices: 1) fuel surcharge base rate, 2) sensitivity, and 3) DOE value used to assess the fuel surcharge. The majority of LTL carriers tie their fuel surcharge scales to the DOE weekly average that corresponds most directly to their market. National and interregional carriers typically link their fuel surcharge policies to the national DOE average and some regional carriers use the national DOE average as well. Other regional carriers use their regional or sub-regional DOE average fuel prices to make fuel surcharge adjustments (Bohman 2005; Ginsburg 2005).

Traditionally, some fuel surcharges were adjusted using a scale that would change the surcharge by 0.5% anytime the DOE average price rose or fell in five-cent increments. Other carriers would use a rolling average over several weeks to adjust their fuel surcharges. The problem with these less responsive methods is that they do not react quickly enough to volatile fuel prices, such as those experienced in the latter part of 2005 and into 2006 (Carey 2005). More recently, some LTL carriers have adopted an improved scale that changes the surcharge by 0.1% when the DOE average diesel price rises or falls by one cent per gallon (Bohman 2005).

James Latta, vice president of business development for A. Duie Pyle, a regional LTL carrier, says that fuel surcharges are "vital" for his firm because, in the northwest, "congestion and winter weather reduce mile-per-gallon efficiencies. Our fleet of metro New York trucks average only five miles per gallon" (Gilroy 2005b). Latta feels that, without fuel surcharges, "you would see a lot fewer trucks on the road" (Gilroy 2005b).

Fuel surcharges are necessary, and the DOE average diesel fuel price index to which the surcharges are linked is fairly common among motor carriers; however, the scales and methods motor carriers use to assess fuel surcharges vary greatly among competitors in the same market (Bohman 2005; Gallagher 2005a). This variation and diversity among carriers leads to points of contention that have been noted in the popular press.

Points of Contention

While fuel surcharges are designed to add value as a price-adjusting tool, there are problems with implementation. During the October 19, 2005 Surface Transportation Board (STB) hearing, Vice Chairman Douglas Buttrey said, with regard to fuel surcharges, that there is “a common thread among shippers, there seems to be no feeling in the shipper community that [fuel surcharges] have any credibility” (Gallagher 2005b). This lack of credibility seems to come from the absence of transparency in fuel surcharge assessments (Gallagher 2005a, 2005b).

Variation

A survey of the LTL industry found lack of standardization among the types and levels of fuel surcharges being paid by LTL shippers (Hannon 2006). Another review of fuel surcharge assessments in October 2005 revealed a spread of 6% among the top seven LTL carriers (Bohman 2005). Douglas Duncan, CEO of FedEx Freight, feels that the variety of fuel surcharge policies is an extension of the “inconsistency in pricing in the [LTL] market since deregulation in 1980. Every customer has a different idea of pricing in their base rates and surcharges” (Hannon 2006). Several factors serve to influence diversity with regard to fuel surcharge policies; however, shippers continue to prefer less diversity. The level of diversity is daunting to managers attempting to establish shipping budgets. Many shippers would prefer that carriers drop excessive fuel surcharges and raise their base transportation rates to compensate. They claim that this would help both shippers and freight forwarders with their planning activities (Putzger 2004).

Customer Service

Shippers in the LTL market are dissatisfied with LTL service levels and rate structures (Hannon 2006). A recent survey seeking shipper opinions indicated that they were discontent with rate increases and felt that the market capacity has tightened due to companies going out of business and a lack of skilled drivers. One respondent indicated that his company’s strategy is to “eliminate the need for LTL where feasible” (Hannon 2006).

When your customers are not happy with the service you provide and are announcing their strategies to eliminate you from their supply chain it should be obvious that something needs to change. However, Gene Boyer, chief executive of U-Freight America, feels that including surcharges in base rates would cost him business. He said that “big shippers reluctantly swallow a surcharge, but if I put up my rates, they’d go to somebody else if I didn’t offer them a discount” (Putzger 2004).

Transparency

Fuel surcharges are viewed as temporary fees. Michael Regan, CEO of Tranzact Technologies, feels that “carriers love surcharges” because “they can get them accepted with much less difficulty than an increase in rates.” In addition, this flexibility “allows a carrier to respond to marketplace conditions much more aggressively” (Gilroy 2005a). According to logistics expert Joe Putzger, “Surcharges are a pet peeve of shippers in all transportation modes. It’s routine for customers to accuse carriers of playing games with surcharges by using them as a profit center and as a way to secure extra revenue when they are unwilling or unable to raise base rates.” (Putzger 2004).

Douglas Duncan, CEO of FedEx Freight, says, “The trick to making a decent living in this business is giving the customers what they want, but understanding your costs well enough for it to remain profitable, and the fuel surcharge is just another piece to that formula” (Gilroy 2005b). Over half of FedEx Freight’s customers have individual contracts, which are tailored and negotiated with each shipper. Because each contract is negotiated on specific terms, some—including the fuel surcharge—Duncan does not believe “you can pull out and call it something separate, a positive or a negative. It really depends on each and every customer. We make money on some shipments; we lose money on others, but at the end of the day [customers want] us to manage their profitability and the resulting yields in totality. The fuel surcharge is but one piece to the puzzle” (Gilroy 2005b).

Donald Barger, YRC’s CFO says, “The line between fuel surcharges and rates has been blurring. It’s not clear where the line should be” (Reiskin 2006). As a result, YRC has ceased reporting its base and fuel surcharge rates and is following a trend in the industry by reporting a blended rate that includes both components.

It is common practice for LTL carriers to express their fuel surcharge as a percentage of the net transportation cost while TL carriers typically express the fuel surcharge in a per-mile basis that take a rate multiplied by a factor determined by the truck’s fuel efficiency and the current cost of fuel. While neither the per-mile rate nor the methods utilized to arrive at the LTL fuel surcharge percent are fully disclosed, shippers like John Gentle, Owens Corning Inc.’s global leader of carrier relations, feel that the TL method is more transparent and, so, more valid (Gilroy 2005a).

Fuel surcharges pose a particularly difficult challenge when attempting to negotiate a freight rate as well (Leach 2005). As diesel fuel and fuel surcharges continue to escalate, the shipper must consider the base rate in concert with the fuel surcharge, which recently has exceeded an additional fifth of the base rate, when negotiating a freight rate. Because each carrier will have its own base rate and because fuel surcharges vary, it can be difficult to compare prices between two carriers (Bohman 2005).

Profit Center

There appears to be a general sense of distrust when it comes to anything fuel related (Ginsburg 2005). One allegation of the disenfranchised shipper is that fuel surcharges simply serve as profit

centers for those assessing them (Cassidy 2006). As prices for diesel fuel hit record highs in October 2005, many motor carriers found themselves unable to recoup the fuel cost quickly enough. In their third quarter financial report, Werner Enterprises said, “If the shipping and truckload industries do not work together to address this problem, they risk losing a substantial amount of truck capacity.” Werner went on to say that it is their “intention to neutralize fuel as much as possible through a fair and accurate fuel surcharge program” (Surcharge Change 2005).

In spite of Werner’s good intentions, other industry leaders feel that gaining profits from fuel surcharge mechanisms is an acceptable business practice. In quarterly earnings reports, motor carrier firms CNF and Arkansas Best Corp. have reported that their LTL fuel surcharge policies generate more than enough revenue to compensate for fuel costs (Gilroy 2005a). CNF Vice President of Marketing Ned Moritz says, “Every charge we make is aimed at having a margin on it...It is [a] normal part of free enterprise.” Moritz goes on to say that fuel surcharges are not a new source of revenue but “the percentage factor had gotten so high it was incumbent to [disclose it] to the stockholders” (Gilroy 2005b). A report from the first quarter of 2006 indicates that shippers are more likely to pay higher fuel surcharges than to see base rate increases in 2007 (Dunn 2006).

Tight capacity in the motor carrier industry reduces shipper reluctance to pay fuel surcharges (Cassidy 2006). Some 96% of shippers did not negotiate fuel surcharge terms in 2005 (Gilroy 2005b); but, as freight rates continue to climb in 2006, LTL carriers are seeing more pressure to negotiate fuel surcharges and accessorial charges as well (Cassidy 2006).

METHODOLOGY

This research was designed to address the many-faceted issues surrounding transportation fuel surcharges and, more specifically, those implemented in the LTL motor carrier segment. The ongoing discussion found in popular press trade journals and the apparent lack of information available in academic literature served as substantive justification which, as outlined by Mentzer (1995), is necessary to extend the research stream beyond the literature review and industry observation.

The intention of the research is to identify and understand the decision makers and their behaviors at a detailed level, so as to provide clarity and transparency with regard to fuel surcharge design and implementation. As such, this line of qualitative research is governed by the phenomenology paradigm, as the focus is on conscious decisions made in order to implement fuel surcharge programs (Mangan et al. 2004; Goulding 2004).

In order to achieve the goals of this research, careful consideration was taken in selecting the correct analysis methodology. Cues were taken from consumer behavior research and articles discussing qualitative analysis validity and results. A part-to-whole qualitative analysis methodology was adopted to clearly convey the sentiment uncovered during the interview process.

Sample Selection

The intention of this research was to determine current management practices of the LTL industry and give the industry an opportunity to respond to the points found in the literature review. The sample was comprised of the largest transportation companies in the LTL motor carrier segment. These companies were identified by utilizing the 2005 and 2006 editions of the Transport Topics Top 100 For-Hire Carriers (TT 100) list. These lists are published each year to accurately document the key players in the transportation industry (TT 100 2006). The TT 100 list separates transportation vendors by industry segment and provides revenues and percent change in revenues for each carrier.

The sample was adjusted to reflect mergers and acquisitions since the lists' publication and expanded to account for instances where the company listed on the Top 100 was a holding or parent company having multiple unique subsidiaries. The result was an initial sample of 39 LTL motor carriers. Hoover's Company Profiles were utilized to identify finance and pricing executives at similar levels in each company and to collect their contact information. The contact list was utilized to establish a schedule to optimize contact frequencies. The intention was to establish lower vendor-specific contact frequencies in order to avoid a "decline" response being given as an escape from what may have been perceived as relentless participation requests.

Interview Protocol Development

The interview protocol was designed to provide structure and to help clearly identify and address each facet of fuel surcharge implementation as the interviews proceeded. The initial draft of the protocol was tested during two preliminary interviews and revised for further clarity and structure, resulting in a series of ten questions, which can be found in Appendix B. Complete participant response to the instrument was not required to accept interview responses.

Methodology of Analysis

While the interview protocol provided structure for this research, the challenge to accurately convey the industry sample's sentiments from a carrier perspective remains the researcher's responsibility. To achieve this, a cue was taken from consumer behavior research. An interactive process coined "part-to-whole analysis" outlines the steps necessary to arrive at a satisfactory interpretation of the carriers' voices (Thompson 1997).

To begin, the interview transcripts were read in full to gain a broad understanding of each participant's response to the phenomenon under study, in this case fuel surcharge design and implementation. After familiarity was attained with each of the interview transcripts, the collection of transcripts was examined to identify patterns and differences. This phase of the analysis is coined "intertextuality." As the patterns and differences are studied, the analysis is thought to help the researcher arrive at a holistic view of the phenomenon under study (Thompson 1997; Goulding 2004).

In addition to the qualitative analysis, a sample of published fuel surcharge policies were retrieved from 25 LTL carrier websites and examined to identify variances among the policies. To complete the study and to achieve a practical comparison of published fuel surcharges, a 53-week DOE diesel fuel average price history was pulled from the EIA's website and utilized to graph the fuel surcharge values executed by these 25 LTL carriers from April 2006 thru April 2007. This additional analysis served to provide methodological triangulation in the study of the fuel surcharge phenomenon from more than one perspective and investigation method (Mangan et al. 2004).

FINDINGS AND RESULTS

It should be understood that the results of the part-to-whole portion of this study are subject to an interfusion of the researcher's frame of reference and the carrier responses captured by the interview transcripts (Thompson 1997). The relatively low response rate of the study sample should also be taken into consideration. Six carriers of the initial 39 LTL carrier sample responded partially or completely to the interview process, yielding 15.4% sample participation. The remaining sample declined to participate in the study or referred us to a parent or holding company that ultimately declined or never responded to voice and e-mail invitations.

Accounting for this non-response bias is challenging; however, there is a statistic of particular relevance that serves to bolster the validity of the study. The six carriers who participated represent 35.5% of the 2005 freight revenue listed on the Transport Topics Top 100 for-hire LTL carrier segment (TT 100 2006). To further validate the study, a quantitative examination of published LTL carrier fuel surcharge policies has been conducted and utilized to cross reference carrier responses. As outlined in the study invitation and consent agreement, names of the six carriers will not be divulged in these findings.

Fuel Surcharge Policy Comparison

As widespread carrier reluctance to participate in the study became apparent, it was clear that more data should be attained from LTL carriers to provide an additional point of reference and to validate the results of the study through methodological triangulation. Internet websites serve as a key point of shipper contact for LTL carriers and specific company web addresses are published in the TT 100 report. Web site exploration revealed that nearly every LTL carrier on the TT 100 publishes their current fuel surcharge matrix on their website. This publication enabled the quantitative comparison of fuel surcharge policies for leading LTL motor carriers.

Fuel Surcharge Overview

As observed in the literature review, there are three key components to transportation fuel surcharge policies that determine the fuel surcharge on a particular shipment: 1) fuel surcharge base rate, 2) the trigger, and 3) sensitivity to the trigger. Fuel surcharges are expressed as a percentage of the net transportation or line haul cost and are paid over and above the quoted freight price. Typically, LTL rates are expressed as a discount from a transportation base rate that is set by the individual carrier or a rating bureau.

The first component of a fuel surcharge policy is the fuel surcharge base rate. The published fuel surcharge base rates observed in the sample were between \$1.10 per gallon and \$1.15 per gallon, with 68.0% of carriers setting their fuel surcharge base rate at \$1.10 per gallon. This means that, when the DOE average price is \$1.10 per gallon, there is no fuel surcharge. The reasoning behind this policy is that the base transportation cost is calculated to cover fuel expenses up to \$1.10 per gallon; only when fuel exceeds this price is there an excessive cost to be recuperated through implementation of a fuel surcharge policy.

The second component of a fuel surcharge policy is the trigger, or index, that the fuel surcharge is tied to in order to determine what fuel surcharge should be executed on a shipment. All of the LTL carriers in the sample utilize the DOE weekly national on-highway retail average diesel fuel price index to determine their fuel surcharges.

Finally, the third component of a fuel surcharge policy is the sensitivity to the trigger—in this case, the DOE national average. There are two predominate sensitivity factors observed in the sample. Sixty-four percent of the 39-carrier sample utilizes sensitivity where a 0.1% change (up or down) in fuel surcharge is executed for each \$0.01 change in DOE average fuel price. The minority group utilizes a less sensitive fuel surcharge scale that only adjusts for every \$0.05 change in the DOE average fuel price.

53 Week Fuel Surcharge Comparison

To further compare the leading LTL fuel surcharge policies, 53 weeks of historical DOE average fuel prices from April 2006 through April 2007 were pulled from the EIA’s website. Figure 1 represents the relationship between DOE national average on-highway fuel prices and the fuel surcharge policies of the 25 LTL carriers.

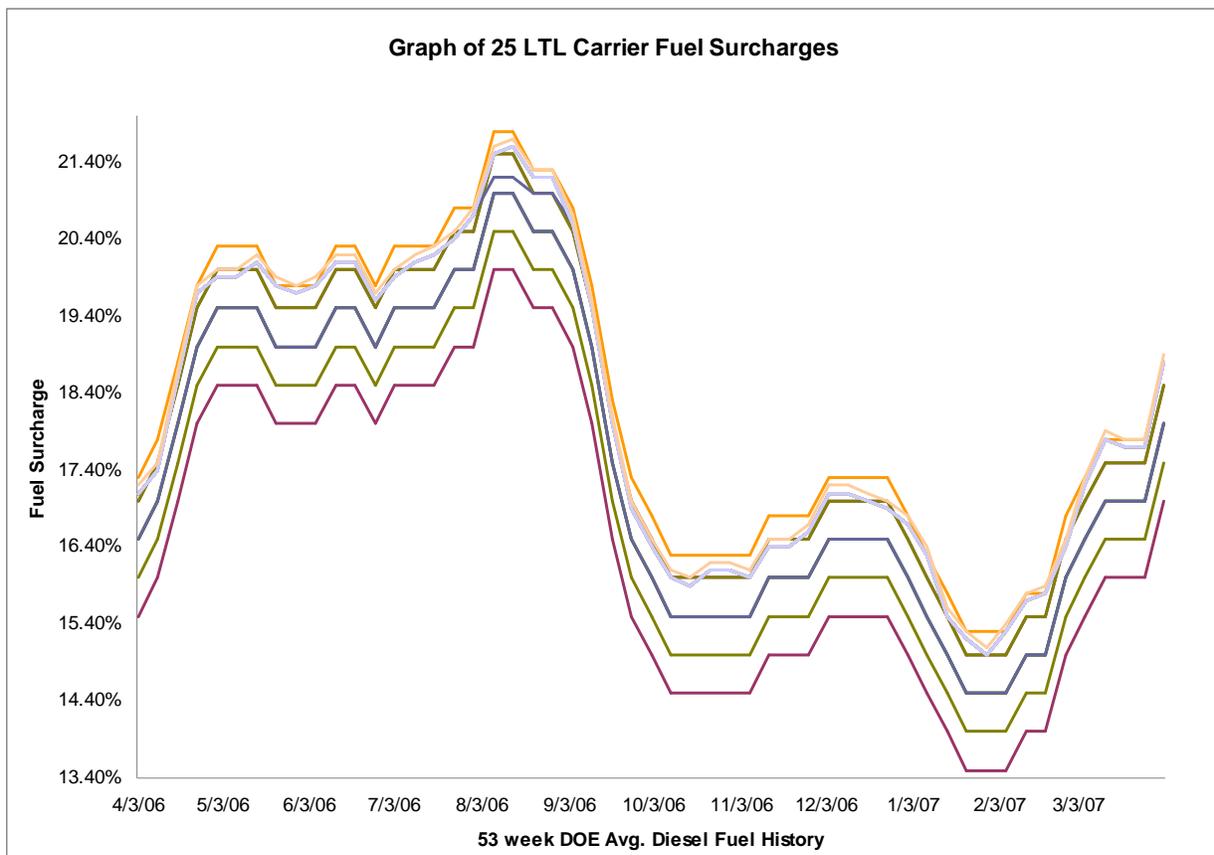


Figure 1. Comparison of 25 LTL fuel surcharges

The comparison graph shows eight unique fuel surcharge lines split into three unique graph characteristics. While the fuel surcharge percentage across the market at a given DOE average will vary up to two percentage points among carriers, the base relationship between the DOE average and the majority of fuel surcharge policies remains the same, resulting in the same two-percentage point variance for most DOE averages.

The lines that exhibit plateaus in Figure 1 represent those carriers utilizing a fuel surcharge policy with \$0.05 DOE average price sensitivity. The five identical lines with various vertical shifts indicate the same relationship with the DOE average price. The other two groups of smoother-transitioning lines have slightly different fuel surcharge base rates; their more responsive nature indicates that these two lines represent carriers that utilize a \$0.01 DOE average price sensitivity.

Exceptions arise when carriers adjust their DOE-to-fuel surcharge relationship at higher DOE values. In Figure 1, there are seven lines for the majority of the graph. At the highest peak, in August 2006, eight lines are observed. The fourth line from the bottom during August 2006 is unique for a four-week period and then rejoins other carrier fuel surcharge policies. Figure 2 shows the DOE average fuel prices as reported by the EIA for July, August, and September 2006.

(Dollars per gallon, including all taxes)										
Date	U.S. Average	East Coast	New England	Central Atlantic	Lower Atlantic	Midwest	Gulf Coast	Rocky Mtn	West Coast	CA
09/25/06	2.595	2.600	2.730	2.746	2.526	2.506	2.526	2.827	2.892	2.910
09/18/06	2.713	2.699	2.832	2.844	2.625	2.624	2.636	3.052	3.014	3.002
09/11/06	2.857	2.826	2.955	2.958	2.757	2.787	2.770	3.236	3.137	3.125
09/04/06	2.967	2.911	3.009	3.032	2.850	2.937	2.872	3.318	3.199	3.175
<hr/>										
08/28/06	3.027	2.955	3.035	3.074	2.897	3.026	2.923	3.346	3.229	3.200
08/21/06	3.033	2.953	3.049	3.078	2.890	3.041	2.923	3.349	3.237	3.221
08/14/06	3.065	3.017	3.077	3.130	2.964	3.065	2.974	3.311	3.218	3.220
08/07/06	3.055	3.026	3.061	3.104	2.989	3.070	2.988	3.208	3.113	3.130
<hr/>										
07/31/06	2.980	2.958	2.991	3.030	2.924	2.988	2.925	3.052	3.066	3.093
07/24/06	2.946	2.925	2.972	3.002	2.888	2.951	2.895	2.987	3.047	3.097
07/17/06	2.926	2.906	2.970	2.992	2.864	2.927	2.868	2.960	3.051	3.097
07/10/06	2.918	2.887	2.947	2.963	2.849	2.919	2.866	2.966	3.060	3.113
07/03/06	2.898	2.874	2.948	2.951	2.834	2.887	2.845	2.958	3.056	3.119

Figure 2. July 2006–September 2006 DOE average history

The correlation between the unique carrier fuel surcharge in Figure 1 for the month of August and the DOE average history in Figure 2 is that the DOE average exceeded \$3.00 per gallon. At this point, the unique carrier reduced its fuel surcharge relationship to a 1% change in fuel

surcharge for each \$0.02 change in the DOE average for DOE values above \$3.00 per gallon. This carrier is unique and its fuel surcharge policy implies that a point exists where the LTL industry standard 1% change in fuel surcharge for each \$0.01 change in DOE average value does not continue indefinitely, as published carrier fuel surcharges imply.

Carrier Interview Results

Responses to the interview protocol speak to many facets that surround the fuel surcharge issue. From the responses, an understanding can be derived that helps explain and defuse the points of contention observed in the literature review. The interview was divided into three sections. The first section describes who is responsible for maintaining the fuel surcharge policy and how often revisions are made. The second section addresses the mechanics of the fuel surcharge as it relates to LTL pricing. Finally, the third section looks to the future and proposes possible solutions to problems identified in the literature review.

Fuel Surcharge Maintenance

In every case, maintenance and revision was the responsibility of the lead pricing executive. Policies vary, but the process was generally the same. When pricing or yield managers observe the need for change, they present the proposal to a finance and marketing committee to determine the ramifications of the change and to execute upon approval. The expectation of the researchers was that recent changes would have been made in the wake of the petroleum supply shortage in 2005 and the hurricane season following shortly thereafter. However, the responses of the carriers revealed that the majority—66% of the sample—have not adjusted fuel surcharge policies since 2004, with one carrier maintaining their policy since 2000. The policies were observed and deemed to function as designed, in recovery of escalated fuel expense as fuel prices spiked over \$3.00 per gallon in October 2005.

As supported by the sample of published fuel surcharge policies, the DOE average diesel fuel price was utilized to trigger changes in fuel surcharge policies from week to week. Monday DOE prices were used to execute a change in fuel surcharge pricing on the following Wednesday for most carriers. The \$0.01 change in DOE relationship to the 0.10% change in fuel surcharge remains the standard, with rare deviations at DOE fuel average prices above \$3.00 per gallon. For the most part, LTL fuel surcharges maintain this linear relationship without an upper bound.

More important than how the fuel surcharge works is how it was developed—what methods were used to arrive at the prevalent \$0.01 DOE average to 0.10% fuel surcharge relationship.

Fuel Surcharge Development

Carriers revealed that the fuel surcharge relationship was determined through careful and detailed analysis of carrier costs and the revenues received from shippers on a per mile basis. This method was utilized to identify a break-even point where fuel expense is covered by the base transportation rate. This break-even point was commonly referred to as the fuel surcharge base rate. At this point there is no fuel surcharge because the fuel cost at that per gallon rate is

covered. This fuel surcharge base rate was reported to be between the DOE fuel average of \$1.10 to \$1.15 per gallon, depending on the carrier. These DOE average fuel prices were confirmed by the published fuel surcharge policy comparison as the standards for LTL fuel surcharge policy base rates. As they had done in the past for budgeting purposes, carriers utilized the DOE's EIA average on-highway retail diesel fuel price as a tool that one carrier said was "the single best indicator of [their] future fuel expenses."

With the DOE-to-fuel surcharge relationship fairly standardized and the base rates held to within a nickel of one another, the only component remaining to discuss is the fuel surcharge sensitivity. The two prevalent relationships utilized for fuel surcharge adjustment are to change 0.10% for each \$0.01 DOE average change or to change 0.5% for each \$0.05 DOE average change. While the former is more precise in terms of reflecting a smaller change in fuel prices, the latter is viewed as adequate and thought to be preferred by shippers. One carrier felt that a fuel surcharge matrix with \$0.05 increments was preferred "because the matrix itself is not as complex and doesn't require fuel surcharge adjustment as frequently." This simplifies shipper budgeting to some extent and reduces administration overhead for the shipper and the carrier. As illustrated in Figure 1, the 0.5% to \$0.05 DOE average policies maintain plateau or stepped fuel surcharges while the 0.1% to \$0.01 DOE average policies are more fluid and responsive.

Of the two methods of fuel surcharge development observed in the study, the method described above, in which carriers carefully examine and discover the relationship between their excessive fuel cost and changes in the DOE fuel average over a range of customers, is a more involved process that only a minority of carriers have chosen to undertake. The second, and most popular, method of fuel surcharge development observed in this study was for some carriers to copy policies from those carriers who invested the time and resources to work through the process of analyzing their fuel costs to develop their fuel surcharge policies.

When asked if his company's fuel surcharge policy was common among the industry, one carrier replied, "Of course it is, everyone copied our policy." This statement seemed pretentious until another carrier was asked how his company developed its fuel surcharge and he confessed that the company "reviewed fuel surcharge policies from carriers operating in [their] market and used those to establish [their] policy" in order to maintain competitive pricing.

Fuel Surcharge and LTL Pricing

When asked why fuel surcharges were becoming such a large percentage of the freight bill and if the fuel cost could be rolled into their base transportation rates, carriers said that it was in the shippers' favor to keep fuel separate from the base transportation cost. One carrier said, "It is in the best interest of the shipper to keep fuel as separate as possible due to its volatility." Carriers went on to explain how pricing works in the LTL segment of the transportation industry. An LTL freight bill consists of four major components: (1) the gross transportation base rate, (2) the net transportation rate, (3) the fuel surcharge, and (4) any applicable accessorial fees. This study focused on the first three components and ignored accessorial fees, which typically represent a smaller portion of the total freight cost.

All carriers felt that fuel prices were too capricious to be included in the base rate and expressed concerns that were summarized by one carrier when he said that shippers would be “unfairly exposed to the possibility that fuel prices would drop below the new [fuel surcharge] base rate and [the shippers] wouldn’t see an immediate reduction” in their total freight bill. Shippers wouldn’t see a reduction in their total freight bill because the revenues that would have been released automatically by the fuel surcharge policy would be locked into the adjusted transportation base rate by their contract. Carriers were very open to the fact that some of their customers have negotiated reduced fuel surcharge schedules. A carrier commented that “large volume shippers negotiate fuel surcharge matrices in their freight contracts.” They were also quick to point out that if a shipper pulls so hard on a fuel surcharge policy during negotiations that it no longer covers the cost of fuel, then the additional revenue would be made up by higher prices on the net transportation rate. Essentially, it’s a balance of the transportation revenue and fuel surcharge revenue that pricing analysts consider when providing LTL rates. One carrier said, “It is not unheard of for a shipment to move at such a highly discounted base rate that the fuel surcharge revenue is used to break even on the shipment.”

Fuel Surcharge Profits

The response that spoke the loudest with regard to carrier interviews was from those who declined to participate. Company policies and time constraints restricted the majority of the sample from participation in this study. The average interview was 22 minutes and some carriers under the same holding company or in the same carrier family participated while sister companies weren’t allowed, due to policy restrictions. This leads to the conclusion that perhaps there is another issue that carriers do not want to openly address—that of fuel surcharge profitability.

This study speaks more fully to the LTL cost and pricing structures with regard to fuel surcharges. This transparency should enable shippers to understand that isolating the profit or loss resulting from a fuel surcharge policy is indeterminate of the carriers’ pricing intentions. It is the total rate that should be considered during negotiations.

Fuel Surcharge Standardization

The final point to discuss is what carriers see in the future of fuel surcharge policies. Isolating a volatile cost, such as fuel, makes sense from an efficiency standpoint. If carriers are able to pass the burden to the shipper through a fuel surcharge, they are able to all but eliminate it from their standard pricing procedures, because the fuel cost is accounted for in the fuel surcharge policy. They can then focus strictly on lane volumes and equipment utilization. On the flip side of the coin, in order to help reduce the number of variables that shippers must consider when they compare rates, carriers were asked to comment on the usefulness of a single standard fuel surcharge matrix that might be utilized across the LTL motor carrier segment. Responses were varied and deserve attention.

One carrier in favor of the proposed fuel surcharge policy said it “would benefit smaller carriers more than it would larger carriers in terms of fuel expense recovery.” Another carrier went on to say that in the end it would “benefit those carriers with the most efficient operations.” The same

carrier said, “Smaller carriers often bid deeper discounted pricing without taking into consideration what the fuel expense will do to them over the term of the contract.” The larger carrier with a published fuel surcharge will lose the original bid for the freight only to find out six or nine months later that the winning carrier has bailed out and left the shipper to re-bid the freight.

Those opposed to the measure indicated that educated shippers—those with large volumes—understand fuel surcharges and know how to manage them. Detailed fuel surcharge policies are available from the vendors’ websites or through a call to the sales department. Carriers also argued that, for the most part, LTL fuel surcharges were already consistent. In the 53-week fuel surcharge comparison, carrier fuel surcharges varied up to two percentage points in the sample.

One carrier summarized the most prevalent concern, saying, “If an industry standard fuel surcharge were implemented, any changes that may be necessary would be slow in coming, due to the bureaucracy involved.” The carriers feared that being unable to affect a change in such a vital piece of their pricing structure in a timely manner would cause more harm than good. Still some carriers conceded that, with proper measures in place and considerable carrier participation, an industry-wide fuel surcharge could be accepted and could potentially benefit carrier-shipper relations.

Summary of Findings

Fuel surcharge policies represent a significant portion of the revenues received by LTL carriers because fuel expense represents a significant portion of their costs. Fuel surcharges and net transportation rates are primary components of a freight bill. It is impractical for carriers and shippers to revise contract rates each week due to a single volatile expense. Isolating fuel expense in a fuel surcharge policy reduces administrative overhead and keeps the shippers feeling content with their steeper discount.

To develop fuel surcharge policies, carriers either conducted an elaborate analysis of their fuel costs to establish the basic components of the LTL fuel surcharge or they waited to determine which fuel surcharge policies would become predominate in their market and imitated those to maintain competitive pricing. The large percentage of LTL companies utilizing identical fuel surcharge policies indicates that imitation is the prevalent method of fuel surcharge development.

The disparities among the operations and cost structures of the carriers who established their own fuel surcharge policies and those who imitated their fuel surcharge policy, along with variance in fleet fuel economy from season to season in a given region, suggest that fuel surcharge policies could potentially over- or under-compensate carriers for the actual incurred cost of diesel fuel. While carriers who responded to the survey did not dispute this possibility, they were quick to point out that any profit derived from fuel surcharge revenues is unintentional.

The most substantial finding that carriers repeatedly contributed to this research was the notion that net transportation and fuel surcharge revenues are both considered when setting LTL transportation prices. Both components of the freight bill are negotiable. And as one carrier said, “Some shippers will present their own fuel surcharge. If the fuel surcharge is too low, that revenue will appear as a reduced discount.” This transparency enables a more complete understanding of the issues surrounding fuel surcharges and provides the opportunity to rebuild those relationships that may have been damaged through lack of information.

IMPLICATIONS

The academic literature firmly establishes the diversity of LTL motor carriers and their differences from parcel and truckload carriers. This diversity and the unique market conditions they face are likely the primary factors responsible for the lack of a single accepted standard for fuel surcharge policy development and implementation. The lack of standardized practices within an industry segment with similar market influences reflects a possible inefficiency and an opportunity to uncover and disseminate best practices found within that market.

By contrast, the popular press articles serve primarily to identify the heated points of contention with regard to fuel surcharges and tend to focus on the recent trend of escalating fuel surcharges. Many of these controversial issues with regard to fuel surcharge implementation warrant further study and provide an opportunity to communicate the non-financial implications that fuel surcharge policies may have on a firm.

Some popular press articles fail to identify the primary role of surcharges, instead focusing on rising fuel surcharges and ignoring the fact that surcharge policies are designed to respond to fuel prices. This means that fuel surcharges fall when fuel prices fall and rise when fuel prices rise, in accordance with the carrier's fuel surcharge policy. This bias toward the negative aspect of fuel surcharges is likely to skew the shipper's perception of fuel surcharges and, because it utilizes fuel surcharges, hinder the LTL carrier's ability to maintain positive customer relationships.

Understanding the balance between the discount and the fuel surcharge enables the shipper to see the whole picture. The carrier takes into consideration both the fuel surcharge and net transportation revenues. Instead of feeling slighted by a fuel surcharge, shippers who move lower volumes of freight and are unable to negotiate their LTL rates should consider joining a consortium or partnering with a third party logistics firm to consolidate their low freight volumes with a group of shippers. The consolidated freight volumes provide leverage to negotiate with LTL carriers and positively impact their pricing because carriers can rely on more consistent, higher volume freight that enables them to maximize equipment utilization.

FUTURE RESEARCH

The academic body of knowledge regarding fuel surcharge policies and their implications is in its infancy. More limited still is the literature pertaining specifically to the LTL motor carrier segment. An opportunity for further research exists along two well-defined fronts. First, a comparison and publication of true fuel expense to fuel surcharge revenue, as published in annual reports and other financial publications by vendors, would serve to provide further transparency. The majority of carriers are publicly traded and, as such, information regarding their expenses and revenues are available to the public and may present an additional avenue of discovery for this complex issue.

Finally, further understanding and transparency with regard to LTL motor carrier fuel costs and the methods carriers use to recover those costs is clearly needed in order to explain these increasing costs to shippers. Investigation and publication of the non-financial implications of fuel surcharge utilization are likely to provide further transparency, leading to general understanding and acceptance of the necessity of fuel surcharges as well as regained trust between carriers and shippers.

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APPENDIX A. INVITATION LETTER



Dear Sir or Madam:

I am writing to invite you to participate in Missouri State University's LTL Fuel Surcharge Research Project and to provide further information regarding our project. Enclosed you will find a hard copy of the instrument we are using to collect qualitative data regarding fuel surcharge utilization in the LTL segment of the motor carrier industry. The protocol is to be used as a guideline for discussion while additional comments relevant to fuel surcharge use are welcomed.

An ongoing literature review of academic and popular press articles has revealed several common themes regarding fuel surcharges in the LTL motor carrier segment. Our interview protocol is designed to expand on these themes. The literature review reveals a lack of substantive articles; specifically in the realm of academic journals, and it is our intention to fill this void through sound research methods, careful and unbiased analysis of the current state of fuel surcharge utilization in the LTL motor carrier segment.

The 2006 Transport Topics Top 100 was used to select our sample of the leading 39 LTL carriers. After the sample was selected it was revised to reflect mergers and acquisitions that had taken place since the list was published. Finally we used Hoovers™ to compile a contact list of similar level executives from each company and this is how we have come to contact you.

Notes from the interview will be combined and analyzed with the other 38 carriers using part-whole qualitative analysis methods to report common responses as well as to take note of defined differences among the carriers. All interview responses will be kept in confidence and will not be reported in a form that will tie the individual responses to you or your company's name. Upon completion of this research my graduate thesis will be available in the Duane G. Meyer Library on the Springfield campus of Missouri State University.

Regardless of the methods used to design the interview or how carefully the results are analyzed, the quality of the results will depend on the quality of the interview participants. Therefore, **thank you** for considering to participate in this research and I look forward to speaking with you.

Sincerely,

Keith Grant
Graduate Student in Logistics
Missouri State University

Enclosure:

APPENDIX B. INTERVIEW PROTOCOL

Missouri State University
LTL Interview Protocol

1. Does your company subscribe to a rating bureau, which provides base rates for accessorial charges?
 - a. Which bureau are you associated with?
 - b. How do you use these rates?
 - c. Do you use the rating bureau's fuel surcharge index?
2. When was the last revision of your current fuel surcharge policy?
3. Who is responsible for making changes to your fuel surcharge policy?
4. What is the basis for your fuel surcharge?
 - a. If not the DOE's Energy Information Administration reports, why use an alternate source?
5. How do you calculate your fuel surcharge?
 - a. How did you develop your rate scale?
6. Is your policy common among competing LTL carriers?
7. Should base rates be adjusted to compensate for fuel expenses?
8. How do potential customers learn of your fuel surcharge policy?
9. Do you feel that customers clearly understand your fuel surcharge policy?
 - a. Does your fuel surcharge policy strain customer relationships?
10. Would it benefit your company if a realistic/objective industry wide fuel surcharge index were created?