



# **Assessment of Collaborative Logistics/ Less-Than-Truckload (LTL) Proposal**

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## Executive Summary

On April 1, 2009, the Postal Service filed a notice with the Postal Regulatory Commission (PRC) for a market test of an experimental product called “Collaborative Logistics.”<sup>1</sup> Using its existing highway transportation contractors, the Postal Service plans to resell its unused less-than-truckload (LTL) transportation capacity for shipments loaded onto pallets, on a space available basis. The Postal Service estimates its potential LTL market at \$2.4 million based on early results. This is less than one tenth of one percent of the \$3.5 billion the Postal Service spends annually on Highway Contract Transportation.

To put this in context, a market test by design has limited risk and is a controlled experiment. Its purpose is to assess whether the contemplated approach can be a success or not. Our review does not attempt to evaluate or criticize the market test that the Postal Service is conducting. Rather, this is a critical assessment of the Postal Service’s strategy of selling LTL as a means of addressing the excess capacity in its purchased highway transportation.

We believe the Collaborative Logistics service concept could be strategically problematic for the Postal Service. We find it to be inconsistent with the Postal Service’s core strengths. It has complex technical issues that must be resolved. We have concerns about the costing and pricing of the product. The Postal Service would be entering a crowded field of experienced competitors at the very time the market has turned downward. Finally, we believe there could be better alternatives in working with the current LTL market.

Key findings include:

1. Current market conditions are unfavorable for introducing a new LTL venture.
2. The Postal Service’s current pricing and costing of the LTL venture seem too low.
3. The sales and customer service support systems in the market test LTL venture are behind its competition and overcoming such disadvantages would be time-consuming and costly if that were undertaken.
4. A fully developed and implemented LTL service could cause operational, customer service, and logistical problems for the Postal Service.

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<sup>1</sup> Notice of the United States Postal Service of Market Test of Experimental Product – Collaborative Logistics, Docket No. MT2009-1, April 1, 2009, pages 1 and 2.

5. Current transportation data systems would have to be improved in terms of both quantity and quality to support the LTL venture.
6. The Postal Service's PRC notice did not include a quantitative assessment of market potential for its proposed service, nor did it conduct a cost/benefit analysis exploring other alternatives.
7. Eliminating even a tiny percentage (only 0.1 percent) of the \$3.5 billion in highway transportation costs by removing excess capacity would contribute more dollars to the Postal Service's bottom line than the entire experimental LTL sales venture and would be more aligned with the Postal Service's core competencies.
8. The Postal Service should continue its efforts to minimize its excess highway capacity. Because the LTL market is currently a buyer's market versus a seller's market, the Postal Service could explore buying LTL or other alternatives.

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## Assessment of Collaborative Logistics/ Less-Than-Truckload (LTL) Proposal

### Description of LTL Industry

#### ***Background***

The term *less than truckload* is most simply defined as transportation for shipments of goods which are larger than parcels, are often palletized or crated, but which do not fill a standard trailer. The LTL market in the U.S. is over \$30 billion annually and contains large firms that operate fleets of tractors and trailers and offer robust service among virtually all major metropolitan areas. UPS, FedEx, and YRC (formerly Yellow Freight and Roadway Express) are the three largest carriers. Similar services are also provided by firms known as “third party logistics providers”, or 3PLs, which subcontract the actual transporting of LTL freight items. Generally speaking, the operations for both business types are the same: shipments are accumulated at an origin terminal from several customers and dispatched to a destination facility for final delivery to consignees. Thus, the LTL market can provide access to thousands of truckers, allowing firms buying the service to be very flexible in terms of locations, timetables, and the ability to expand or contract capacity with changes in demand.

LTL customer requirements range from one-time shipments to long-term, ongoing contracts. This includes various options for pick-up and delivery. Virtually all LTL firms offer door-to-door service. Though simple in concept, in actual practice the LTL process is a complex and competitive business undertaking. Aggressive sales programs, detailed logistics coordination, truck loading, tracking, timing, costing, and price negotiations are all involved in successful LTL enterprises.

As part of our study, we observed operations and met with personnel at several postal facilities. In addition, we met with managers and staff at two area offices and at Postal Service headquarters.

#### ***Current Market Conditions***

Current conditions in the LTL market are poor and significantly impact the likelihood of success for the Postal Service’s experiment. Major carriers are reporting a significant downturn in freight traffic. OIG review of industry publications indicates reductions in demand and underutilization of the current supply of trucking capacity:

*“... in the worst freight environment in more than 30 years, LTL revenue among the eight largest carriers in the sector fell by 25.6 percent in the first quarter of this year.” “Real LTL rates actually fell 1.5 percent in the first quarter ... and*

*continued LTL rate decreases can be expected for the rest of the year, analysts predict”.—(Logistics Management, July 1, 2009)*

*So if you're an organization that can take advantage of the excess LTL capacity ... now is probably a good time to look at your contracts and consider your sourcing options. (Supply Watch, April 24, 2008, emphasis added)*

Our consultant, 6K Systems, Inc., found no forecasts having an optimistic outlook for the LTL market. The most positive forecasts were that the bottom of pricing declines might have been reached, but with no forthcoming surge in demand expected. The current market is price sensitive, with rates actually declining in some key segments. While it is a poor time to enter the LTL market as a seller, it is a great time to be a buyer in the LTL market.

### ***LTL Market Requirements***

Research by our consultant found that sales and traffic management, supported by sophisticated and customized rating, routing, and capacity optimization software applications — as well as access to trucking capacity — are the key elements required to operate a successful LTL venture. They also found that management experience and business infrastructure are essential and are at least as important as having access to excess trucking capacity. The OIG's Risk Analysis Research Center found that there are three standards successful LTL carriers must meet: 1) have a focused market strategy, 2) provide a differentiated service, and 3) maintain a close relationship with the customer.<sup>2</sup>

### ***Postal Service Offering***

The Postal Service is engaged in a two-year market test that began on May 6, 2009. The product is defined as “transportation of an article or multiple articles ... on a space-available basis, in postal transportation.” Unit loads will generally be on pallets with a maximum weight of 2,200 pounds. Delivery standards will be identical to ground transportation standards and specific rates will be negotiated with individual customers.

Fundamentally, the Postal Service's LTL offering requires the following steps:

1. Available space on scheduled trucks must be identified.
2. A customer must be found and matched to the available space.
3. LTL loads must be scheduled and payment arrangements completed.
4. National Distribution Center (NDC) yard personnel must be notified of expected arrival of vehicles that will be carrying outgoing freight bound for a specific destination.

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<sup>2</sup> Logistics Management, June 1, 2007.

5. Mail processing personnel must identify the specific route, trip, and trailer that will be used to transport the scheduled LTL loads.
6. An LTL freight staging area must be established and managed for incoming loads. This includes identifying the freight, labeling it for its specific route and trip, and flagging it for a specific dispatch time.<sup>3</sup>
7. When the freight arrives, it must be verified that all paperwork is in order, that the number of pallets equals the number planned, that the material is properly packaged, and that the freight has arrived on time.
8. Mail processing personnel must then transport the freight from the receiving dock to the staging area.
9. At the proper time, mail processing personnel must transport the freight from the staging area to the appropriate dock for loading and dispatch.

In sum, managing the receipt, staging, and loading of originating LTL shipments and the off-loading, staging and return of palletized freight at the various NDCs are difficult tasks, requiring significant origin and destination terminal operations that would grow based on the volume of the Postal Service offering.

### ***LTL Market versus Postal Service Capabilities***

Our consultant found considerable efforts were necessary to obtain information about the Postal Service's LTL service. While the process of obtaining service has improved considerably since the experiment began, it still requires that the customer be conversant with the service and does not seem to be well supported from a technical standpoint. On the other hand, our consultant found that private sector firms were much better prepared. All their customers had to do was complete a brief profile of their potential shipment on a user friendly web page, and call a toll free number where a knowledgeable sales representative immediately provided a price quote for a complex shipment. The sales representative could concurrently review the information that had been entered via their website. The entire transaction could have been completed in a few minutes.

We believe the Postal Service may lack LTL management capacity, sales staff, and marketing experience necessary to conduct a successful LTL venture. Contacts indicated rudimentary IT support, since responses to inquiries resulted in only simple e-mails and spreadsheets. As the Postal Service is just in the market test stage, we do not mean these comments to be critical of the efforts to date. However, adding such capabilities for a full service could be costly.

Our consultant found that the Postal Service's offering was basically for terminal-to-terminal service; although it was stated that door-to-door service could be arranged, in

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<sup>3</sup> It is assumed that LTL freight will be loaded either on the tailgate of the outgoing trailer or in the nose, and will not be mixed with mail.

practice it seems to be discouraged. The inter-city service seems limited to the city pairs the Postal Service serves with NDC hubs. A literature review of articles in the logistics industry suggests many believe the Postal Service offering will be weak relative to the current market.<sup>4</sup> While such comments may be motivated by the selfish concerns of competitors, it seems clear that the market is highly skilled, mature, and very competitive. While difficulties in customer service and industry perception may make the prospects look dim, the combined facts that the market is currently price sensitive and that the Postal Service is offering (perhaps inappropriately) low rates, may at least partially override the other serious shortcomings. Additionally, the Postal Service's approach of seeking out relatively, few large repeat customers could mitigate many of these concerns.

To gauge the Postal Service's LTL pricing relative to competitors, our consultant obtained quotes from both a private firm and the Postal Service. The quotes were based on a single LTL shipment, door-to-door, from Chicago to Minneapolis, consisting of five pallets of t-shirts, weighing 7,500 pounds in total. The private sector firm offered a price quote of \$956, while the Postal Service offered a quote of \$135, which did not include the door-to-door service that was requested. Nevertheless, it is clear that the Postal Service price is quite low relative to the competition. Theoretically, the Postal Service could sell an entire truck load of LTL freight between Chicago and Minneapolis for only \$702. Indeed, the Postal Service LTL pricing seems to be a bargain at least for shippers and may attract customers regardless of other shortcomings.

## **Implications for Postal Service Operations**

Managing the receipt, staging, and loading of originating LTL shipments and the off-loading, staging and return of palletized freight at the various NDCs are complicated tasks. The Postal Service runs a risk of negatively affecting its normal mail operations due to the irregular nature of LTL shipments and their likelihood of producing interference in work areas and docks, where space is limited during late afternoons and early mornings in particular.

LTL requires coordination and ad hoc decision making in the event of an irregularity. For example, if more mail than normal is received for an outgoing trip, a choice to remove either the additional mail or the scheduled freight must be made. If the disposition is to not load the freight, then coordinating follow up with the shipper must be made. Such ad hoc coordination may produce inconsistent decisions and customer service disruptions.

We have concerns when the product arrives at the inbound dock; significant coordination between mail processing managers, fork lift operators, yard personnel, etc., will again be required for these non-mail products. Contingency plans (and actions) must be developed, tested, and included as part of the normal operation. Moreover, the limited work space available on the docks would become more of a problem due to the ramped up logistics required of a larger LTL effort. While the Postal Service is aware of

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<sup>4</sup> Logistics Management, April 23, 2009.



this and has developed mechanisms for identifying and tracking these shipments, this may only reduce, but not eliminate these concerns.

The photograph below shows the inside portion of a typical line of loading docks. Obviously, there is not a lot of space for freight handling and such activities could be both dangerous and disruptive to standard operations.

**Figure 1: Postal Facilities Are Not Designed For Freight Handling**



The primary business conducted at an NDC is to receive, sort, and dispatch mail and we are concerned that any significant process foreign to the standard flow of mail will be disruptive to the entire operation. In the event that the Postal Service's LTL offering were to become popular, the negative potential implications on the core mail processing, transportation, and delivery operations of the Postal Service could get worse and potentially become serious. The photograph below depicts a typical mail handling area. There does not appear to be adequate space for safe handling of freight shipments and receipts beyond standard operations.

Figure 2: Typical Line of Loading Docks



## Inadequate Data Quality

The Postal Service's PRC filing notes, "Track-and-trace capability, including acceptance and delivery scans, and optional en-route scans will be provided using the Surface Visibility Program."<sup>5</sup> However, OIG staff obtained information during site visits suggesting the Postal Service's Surface Visibility scan information could be inconsistent. Data systems may lack the quantity and/or quality to fully support an LTL venture.

## Product Costing

Given the very low rates it is offering, the Postal Service seems to be taking an "anyhow" approach to its costing. The theory is that the truck is going there *anyhow*, so the additional space used by LTL pallets is very inexpensive. There are a number of problems with this approach. For example, as the excess capacity of a trip approaches 100 percent, the need for the service may be eliminated and the truck may no longer need to go there "anyhow." In the very short-run, adjusting capacity to meet demand may be difficult, but in the long run, capacity should be scaled (up or down depending on market conditions) to better reflect demand. In addition, the "anyhow" approach

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<sup>5</sup> *Ibid.* page 3 par. 1.

appears inconsistent with attributable costing theories and how other elements of the Postal Service estimate costs and attach them to products.<sup>6</sup>

For example, if a truck were completely filled with only LTL items (at about the rates that were quoted to our consultant), we believe this may not provide enough revenue to cover the total costs incurred. These total costs include not just the costs the Postal Service is paying its highway contractor, but also costs for such items as fuel, loading and unloading, transfers, facilities, and customer service.

We are concerned that the Postal Service, in attempting to raise money with its LTL offering, may in fact resist reducing the amount of excess capacity. This is because the LTL revenue may falsely appear to be near costless. In other words, the misconception that “the truck runs anyhow” may sway decision makers into thinking the additional revenue is somehow free when, in reality, eliminating the entire run would save substantially more money. Currently the Network Operations group is in charge of managing the LTL effort and we believe this should continue, as it will act to mitigate these concerns.

## **Truck Capacity Issues**

We have concerns that there are truck routes that could be eliminated, rather than offering LTL space on them. It takes 30 pallet positions to fill a standard 53-foot trailer. Data provided to our consultant and in the quarterly filing with the PRC indicate there are numerous routes where there is more than an entire truckload of available space available *every day*.

While there may be reasons for this related to mail processing schedules and dispatch times, there is a potential for cost savings from focusing the Postal Service’s intellectual and logistical resources on removing such trips as opposed to implementing complicated and limited LTL services. The Postal Service spends about \$3.5 billion every year on Highway Contract Transportation. Eliminating even a tiny percentage of trips could significantly lower this very high cost, and every cent saved would go directly to the bottom line. Particularly in a time of declining mail volumes, such issues need to be both carefully and continually reviewed. Alternately, the Postal Service is estimating LTL revenue at \$2.4 million per year (less than one tenth of one percent of highway transportation expense) and this is before subtracting costs – which could potentially exceed the revenue.

## **Regulatory and Contracting Issues**

U.S. Postal Service transportation contractors are not required to have Department of Transportation (DOT) operating authority to haul mail. However, Postal Service highway

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<sup>6</sup> For more information on Postal Service costing, please refer to the Summary Description of USPS Development of Costs by Segments and Components.

contract carriers who transport LTL freight might require DOT authority. Such issues will need to be resolved.

There are also concerns about liability. Would contractors be required to obtain cargo insurance to cover LTL freight shipments? Alternatively, the Postal Service could provide a “hold harmless agreement” to absolve the contractor’s liability. If so, would the Postal Service be liable to the shipper for all incurred cargo loss or damage? For example, LTL shipments might inadvertently include HAZMAT materials and someone could be found liable for any damages and injuries. Postal transportation may be required by their insurance carriers to increase liability coverage, which will increase insurance costs. These cost increases could even become a Postal Service expense if the contractors were successful in passing the costs onto the Postal Service. Even if the expense is not significant, the handling and processing of freight loss and damage claims still requires a considerable level of expertise, coordination, and administration.

## Reevaluate LTL Options

During the LTL market test, we suggest that the Postal Service critically reevaluate its strategy of selling available LTL space. Additionally, we suggest it explore buying LTL services. The Postal Service should also continue to focus its energies on optimizing its transportation network and work towards eliminating excess capacity, rather than attempting to sell its excess space. There are a number of potential options for dealing with excess capacity besides trying to sell empty space in the LTL market. For example, since more mail moves east to west, rather than sending a truck with mail west and trying to sell the return space, the Postal Service could consider buying one-way space for the mail and eliminating entire highway contract routes. We encourage the Postal Service to think creatively in terms of optimizing its network while still maintaining service commitments. Maybe it could even work with other transportation providers, particularly during a period of declining mail volume. However, such issues need careful and continuous analysis.

Entering the highly competitive, price sensitive LTL market as a *customer* has the potential to alter the Postal Service’s approach to managing its highway transportation capacity. Could peak load mail be flexibly transported via private LTL carriers, while HCR contractors could provide the baseline capacity below which requirements rarely, if ever, fall? This would mean a huge change in approach, but it offers opportunities for efficiency improvement. Clearly, such an effort would require careful thought and considerable testing and planning. For example, security of the mail, scanning mail for tracking and trace purposes as well as careful consideration of service standards need to be explored. As with the proposal to sell LTL, there may be complications and hurdles that would argue against the concept. However, now is an especially good time to start considering such an approach given the current capacity glut in the LTL industry. It is possible the Postal Service could find competitive rates by exploring long term, flexible contracts with major, reliable LTL providers.

## **Acknowledgements**

This is a Risk Analysis Research Center (RARC) white paper. It summarizes our research work on this topic and provides our analytical review and conclusions. The purpose of RARC white papers is to provide data and analysis for management review and deliberations, and to provide information to other interested parties.

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