

# **Tear Down This Wall!**

Part 2 of 3: Sizing the Savings Opportunity in Purchasing and Logistics Collaboration



## The Power of Collaboration

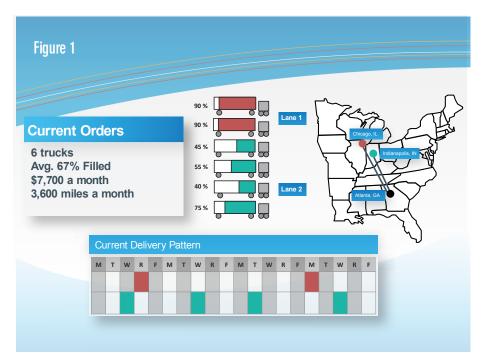
Create <u>NEW</u> savings opportunities with Purchasing and Logistics

This whitepaper is the second in a three part series describing how supply chain organizations can achieve greater savings through technology-enabled collaboration between Purchasing and Logistics. Part 1, "The Untapped Power of Purchasing and Logistics Collaboration," introduced a new way for Purchasing and Logistics to work together, focusing on opportunities and challenges that supply chain organizations face in this collaborative approach. Part 2 will focus on the results and scale of savings available through this approach.

In Part 1, we learned that the combined planning of replenishment and freight routing can result in a logistics savings increase of 20-30%, even within the most sophisticated supply chain organizations. Put in terms of cost reduction, this impact typically equates to a 7-10% reduction in total freight cost.

An increase in savings of that size is hard to ignore and will overshadow even the most aggressive year-over-year savings expectations for logistics. However, such significant results warrant a healthy suspicion. After all, how could such a simple notion of connecting Purchasing and Logistics silos drive results of this magnitude? If the opportunity is so large, why did this approach not emerge as standard supply chain strategy years ago? And finally, how can it be that these savings are not captured by current Transportation Management System (TMS) solutions?

This whitepaper will answer these questions and clarify this unique approach, using a real-world example.



#### Example

Figure 1 above represents the monthly flow of products in two sample freight lanes, in an environment without collaboration between Purchasing and Logistics:

Both freight lanes deliver product to the same facility, but the order patterns and delivery schedules are different. A Replenishment Buyer orders Lane 1 at near full truckload quantities, which ships twice per month. Lane 2 orders are placed in smaller quantities, as the product is required to be shipped at least four times per month.

These shipments fill an average of only 67% of the available trailer space, yet with traditional systems, neither the Replenishment Buyer nor the Logistics Planner would consider behaving differently. The Replenishment Buyer, mindful of freight cost impact, fills Lane 1 to near full truckload capacity, but cannot increase order sizes on Lane 2, due to product demand or shelf life constraints. Using TMS route optimization software, the Logistics Planner would ship Lane 1 as ordered, since it is considered full truckload, and would see no way to consolidate the freight on Lane 2. Logistics Engineers might approach Purchasing to place larger orders on Lane 2, only to be told that inventory turns cannot be decreased without risk of inventory obsolescence.

With both groups behaving "appropriately" according to their directives and incentives, it would be reasonable to think we are stuck with 67% utilization.

A second look, through a collaborative lens, shows otherwise. If ordering and routing options are considered *together*, a dramatic opportunity for increased freight efficiency emerges.

Figure 2 shows that we can scale down the truckload orders to free space to absorb Lane 2 into Lane 1. With synchronized order patterns and routing, the products now move in four full multi-stop truckloads per month. We have created a consolidation opportunity where one did not previously exist by proactively considering freight cost upstream in replenishment. This new inbound flow eliminates significant freight costs, while it simultaneously reduces inventory levels by bringing in product more frequently. This achieves the following results:

- 20% Total Freight Cost Reduction
- 33% Increase in Overall Inventory Turns
- 33% Reduction in Dock Congestion
- 19% Reduction in Total Miles Driven

The freight cost reduction is astounding, and is completely incremental to savings achieved through the traditional means of carrier rate negotiation or opportunistic mode shifts.

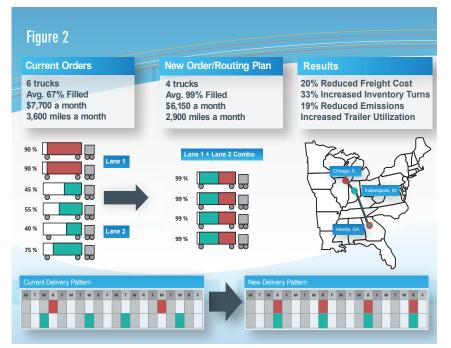
The impact is also meaningful outside of logistics: Figure 2 shows that a supply chain can achieve freight savings while also improving key purchasing metrics, operational metrics, and overall carbon footprint. Call it a "win-win-win-win" – that is the tangible power of a supply chain that connects organizational silos and acts as a single, integrated, proactive network.

Part 1 introduced three assumptions under the traditional silo approach to Purchasing and Logistics that block deeper collaboration between these teams:

- Assumption 1: Purchasing needs no further guidance. Our Buyers already try to order in full truckloads whenever they can.
- Assumption 2: Requests for order pattern changes from Logistics will generally be infeasible, as they do not consider customer demand.
- Assumption 3: Since logistics savings are based on freight consolidation, every attempt to save in freight costs will come at the expense of increased inventory levels.

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Tear Down This Wall!-Part 2 of 3: Sizing the Savings Opportunity in Purchasing and Logistics Collaboration



Our example above shatters all three assumptions for one "traditionally" counter-intuitive reason: *scaling down orders can improve logistics efficiency.* Under this new model, it turns out that the primary rationale for Purchasing to keep Logistics at arm's length is not only incorrect, on average it's the reverse.

#### **Scalability**

While the example above is just one scenario, this approach will scale across a full freight network. In fact, the average network is littered with similar inefficiencies. These opportunities are uncovered by considering the full range of possible adjustments to order size, frequency and timing—exponentially increasing the possibilities to mine for freight consolidations.

Instead of trying to fit pre-shaped puzzle pieces onto trucks, for the first time, an organization can take its network and cut the puzzle pieces the way it wants, allowing the pieces to fit every time.

Keep in mind that this is not restricted to LTL freight. Most larger logistics organizations have already greatly reduced their LTL through opportunistic consolidation. This approach improves the efficiency of all over-the-road and intermodal freight, including freight that is already riding on truckload equipment.

Just how many new routing possibilities are exposed in this approach? Consider a typical company with \$50 million per year of inbound freight spend: traditional route optimization technology within a TMS might look at six to eight million possible routing options over the course of a month of shipments. Over that same month, to examine all reasonable variations in order patterns, *eighty to ninety billion* possibilities must be considered. With so many new product flow patterns exposed, it is not surprising that significant new efficiencies appear that were previously hidden from view.

#### Results

As might be imagined, technology is essential to expose and assess the billions of new permutations for ordering and routing. When the right optimization algorithms are employed to uncover these "win-win-win" scenarios, the results can be surprising in scale. Technology-driven assessments of inbound freight networks large and small have shown that solutions that reduce both inventory levels and freight cost, such seen in Figure 2, are so prevalent that *the network-wide savings improvement of 20-30%* (or freight cost reduction of 7-10%) is accompanied by an average total inventory reduction of 1.5%.

The inventory reduction is a net result, meaning that the impact of scaling down orders (within reasonable constraints) is outweighing the impact of scaling others up. This fact changes everything, because while the savings number will get a CFO's attention, it is the inventory protection that will ultimately break down the barriers to true, operational collaboration between Purchasing and Logistics.

Lastly, a critical and substantial benefit of this approach is in environmental impact. Increased truck utilization not only reduces cost – it also reduces the number of trucks on the road. Additionally, a great number of these trucks are now running efficient multi-stop routes. *With these solutions in place, analysis has shown that companies can achieve a decrease in miles travelled of 10% or more.* This emissions reduction has a material impact on a company's overall carbon footprint.

Meaningful results. Unique approach. Now how do we make it happen? The third and final whitepaper in this series will focus on this question, describing the technology and operations changes required to translate this paradigm into real, measurable results within a typical inbound logistics program.

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### **About ArrowStream**

ArrowStream is a leading provider of dynamic and results-driven supply chain technology and services. Our proven supply chain solutions give businesses end-to-end, real-time supply chain data and visibility that better informs strategic decision making, improves operations and reduces costs.

#### For More Information:

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