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Integrated Transportation Management

Best-in-Class Companies View the World Differently

June 2007

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Executive Summary

Top performance in transportation management is a challenge. Despite technological advances and new levels of trading partner collaboration, only about 15% of companies are able to reduce their transportation spend year-over-year. Additionally, approximately one in four companies is able to maintain 97% or higher levels of on-time deliveries.

Best in Class Companies View the World Differently

While most companies are consumed with reducing freight spend as a line item in the budget, Best-in-Class companies view transportation management as a key to achieving a more wide-ranging supply chain success. Top companies understand that:

- If inbound lead times were more reliable, they could carry less safety inventory.
- If customer service representatives were more certain of when an inbound order will arrive they could accept orders for the goods that are in transit instead of having to refuse orders or create back-orders.
- If the warehouse had better visibility of inbound and outbound shipping schedules they could reduce labor requirements and use space more effectively.

Using Transportation to Improve Supply Chain Performance

Understanding supply chain interdependencies drives better decision-making when it comes to organizational alignment and prioritizing transportation initiatives:

- Best-in-Class companies are 68% more likely than Laggards to practice centralized transportation planning.
- Best-in-Class companies are more 76% more likely than Laggards to practice routing and scheduling of inbound freight.
- Inbound collaboration portals are used by 31% of Best-in-Class companies as an enabler to achieve savings in inventory carrying costs and warehouse labor costs.
- Of companies that operate private fleets, 44% of the Best-in-Class use a commercial application to determine, on a stop-by-stop basis, whether to utilize their private fleet or contract it out to a common-carrier. Average and Laggard companies generally use spreadsheets and manual methods.

Required Actions

- Laggard companies: Make process and organizational improvements prior to adopting technology solutions. Move to a minimum of weekly score-carding – a step that may need to wait until an updated transportation management system (TMS) is deployed.
- Industry Average companies: Deploy collaboration tools to gain visibility and improve inbound lead-time reliability. Then, focus on driving warehouse labor efficiency and in-transit allocation to realize cost savings and grow sales.
- Best-in-Class companies: Create true bi-directional workflows between Order Management, Warehousing, and Transportation.

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Chapter One:
Benchmarking the Best-in-Class

Aberdeen Analysis

Effective transportation management involves overcoming a host of real challenges—volatile fuel costs, capacity levels that shift like the wind, and ever-increasing customer expectations for shorter and more frequent delivery times. Top performance is traditionally determined by the ability of a company to weather all of these pressures and still manage to reduce their transportation spend while meeting their customers' needs.

In May, 2007, the Aberdeen Group surveyed over 150 shippers regarding their current performance levels and the factors that have helped or hindered them. Aberdeen found that those few companies at the top of their games have a fundamentally different approach to transportation management than other companies—an approach that transcends the old metrics and pressures, and leads to winning performance across the entire supply chain. This alternative approach by Best-in-Class companies was reflected in nearly every aspect of their operations—their view of the world, how decisions are made and prioritized, and the processes and technologies that they viewed as vital to success. What is this different approach?

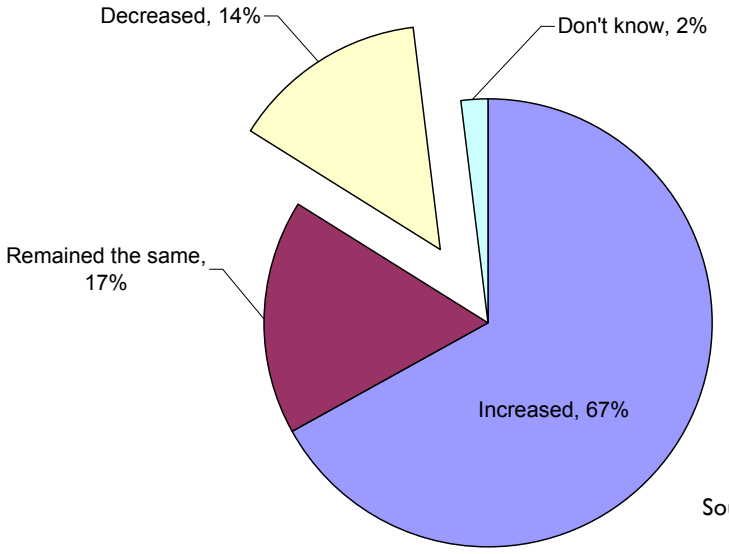
Fast Facts

- √ Best-in-Class companies view transportation as an integral part of an interdependent supply chain…not just as a cost to manage.
- √ Best-in-Class companies understand that effective transportation management can affect inventory policy, warehouse efficiency, and even revenue.

Excellence Isn't Easy!

First, let's examine what Aberdeen means by "Best-in-Class". Aberdeen found that only about 14% of companies have been able to decrease their transportation spend relative to revenues in the last two years.

Figure 1: Companies that Have Reduced Freight Costs, Year-Over-Year



Source: Aberdeen Group, June, 2007

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Further, only 25% of companies are able to deliver shipments on-time to their customers 97% or more of the time. Top performance is elusive indeed. In order to be considered Best-in-Class for transportation management, companies had to have high performance for three main key performance indicators (KPIs):

1. Reduced freight spend relative to revenues year-over-year
2. Percentage of on-time deliveries
3. Annual freight spend as a percentage of revenue

Each factor was assigned a weight, and overall scores were assigned to each company based on their responses. The top 20% of companies were classified as Best-in-Class. As the third metric is relative and varies somewhat by industry, it was weighted slightly less than the first two measures which indicate excellence across all sectors (Table 1).

Table 1: Companies with Top Performance Earn "Best-in-Class" Status:

Definition of Maturity Class	Mean Class Performance
Best in Class: **Top 20%** of aggregate performance scorers	• **Reduced** freight spend relative to revenues year-over-year • **97%+** on-time delivery • **3% or less** annual freight spend relative to revenue
Industry Average: **Middle 50%** of aggregate performance scorers	• **No change** in freight spend relative to revenues year-over-year • **85-96%** on-time delivery • **4-7%** annual freight spend relative to revenue
Laggard: **Bottom 30%** of aggregate performance scorers	• **Increased** freight spend relative to revenues year-over-year • **84% or less** on-time delivery • **8% or more** annual freight spend relative to revenue

Source: Aberdeen Group, June, 2007

Is Your Company Keeping PACE with the Best-In-Class?

As noted at the outset, Best-in-Class companies have a fundamentally different view of the world when in comes to transportation management. Aberdeen uses the PACE framework to express this view and contrast it with the approach of less successful companies. This method illustrates Best-in-Class key priorities when it comes to transportation-related Pressures, Actions, Capabilities, and Enablers (Table 2).

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Table 2: Best-in-Class PACE Framework

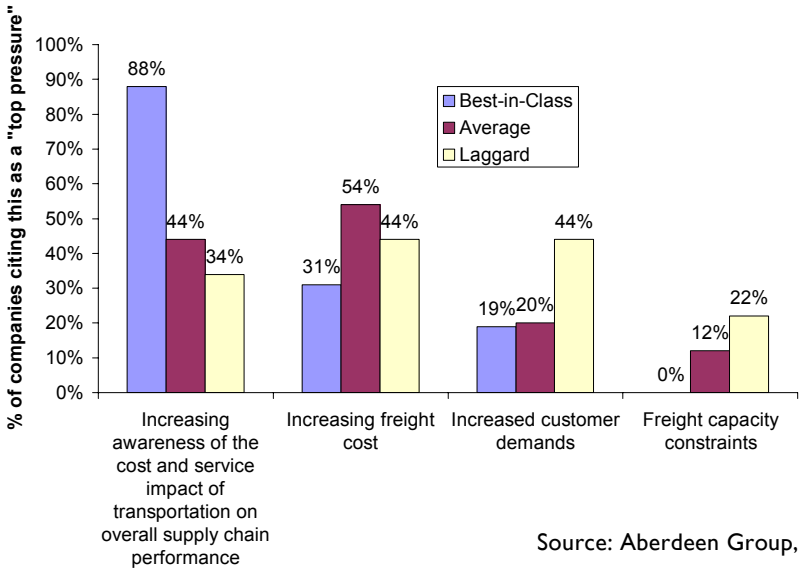
Pressures	Actions	Capabilities	Enablers
• Increasing awareness of the cost and service impact of transportation on overall supply chain performance	• Provide greater internal visibility to freight status and cost • Collaborate with carriers/suppliers/customers to create more economical transportation processes	• Centralized planning with localized execution • Measure and track transportation metrics on a daily or weekly basis • Routing and scheduling of inbound freight • Electronically collaborate with carriers and suppliers • Share access to inbound and outbound freight schedules for Sales and Warehousing personnel	• Transportation Management Software • Inbound Supplier and Carrier Collaboration portals with reporting milestones such as ready to ship, pickup appointment scheduled, in-transit points, etc. • Private Fleet/Common Carrier Optimization Technology

Source: Aberdeen Group, June, 2007

Top Companies Face Vastly Different Pressures

In today's world of fuel surcharges and increasingly shorter delivery requirements, one might expect that successful transportation management projects are primarily motivated by cost containment and customer service initiatives.

Figure 2: Top Pressures Companies are Facing



Source: Aberdeen Group, June, 2007

Top Pressures Felt By Best-in-Class Companies:

√ The biggest difference Aberdeen observed was that Best-in-Class companies feel pressure to make transportation decisions in an effort to improve overall supply chain performance, not just impact a single line item on a departmental budget.

However, the single biggest difference between Best in Class companies and all others was precisely the fact that top companies DO NOT focus solely on these pressures when making their decisions. The biggest difference Aberdeen observed was that Best-in-Class companies feel pressure to make transportation decisions in an effort to improve overall supply chain performance, not just impact a single line item on a departmental budget (Figure 2).

While it is certainly not wrong to focus on meeting customer demands and reducing freight spend, taking a myopic approach that ONLY addresses these pressures can often create problems in other areas of the supply chain.

Many companies have struggled to gain executive level support for transportation initiatives because the ROI may not be compelling enough to justify action. Taking a broader view of transportation's impact on other supply chain functions can provide a more accurate return-on-investment (ROI) for transportation projects and may help to move them from the back-burner and into the current-year budget.

Strategic Actions that Go Beyond Platitudes

When asked to indicate their high level strategies for improving transportation management, Laggard, Average, and Best-in-Class companies are all aligned around the same ideals—better internal visibility and greater collaboration with carriers and suppliers. These are not novel concepts to anyone who has attended a transportation conference or read an article in a trade journal in the last five years.

However, based on their overall responses, Best-in-Class companies possess a much greater understanding of the complex interdependencies between transportation and other supply chain functions like:

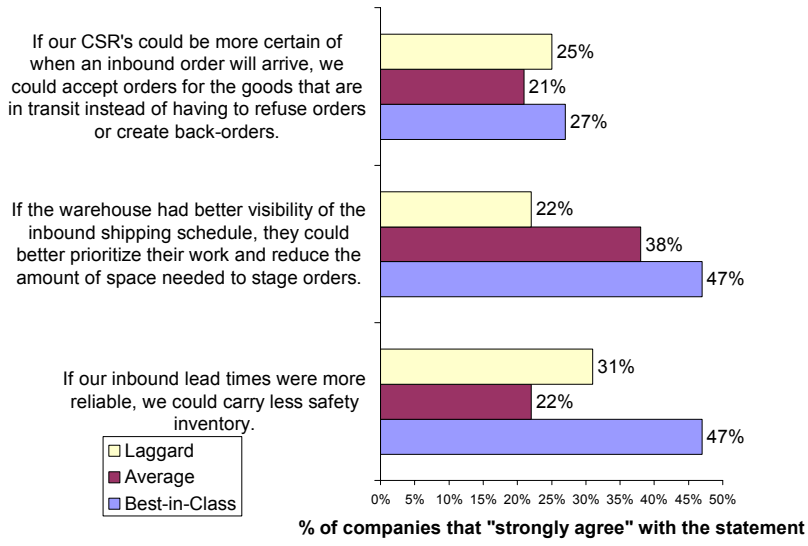
- Inventory carrying costs
- Improved warehouse efficiency
- Improved ability to accept orders and grow revenues

To probe companies' understanding of these relationships, Aberdeen asked each company how strongly they agreed with a series of statements (Figure 3). Their responses revealed that Best-in-Class companies truly view transportation as an interconnected part of their larger supply chain ecosystem and not just as a cost-center to be managed.

Top Strategic Transportation Actions Companies Plan to Take:

- √ Collaborate with carriers/suppliers/customers to create more economical transportation processes
- √ Provide greater INTERNAL visibility to freight status and cost

Figure 3: How Best-in-Class Companies View the World Differently



Source: Aberdeen Group, June, 2007

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Aberdeen Insights – What is "Integrated" Transportation Management?

Aberdeen's benchmark study found that only one in three companies truly understand that more reliable inbound lead times will allow them to carry less safety inventory. In contrast, 47% of Best-in-Class companies say that they "strongly agree" with that statement. As a result, Best-in-Class companies go beyond vague notions that visibility and collaboration are good things. By taking the blinders off, they realize how much savings are possible with reduced inventory levels, and they budget time and money for processes and technology that will give them this improved lead time reliability.

Furthermore, Best-in-Class companies grasp the relationship between transportation visibility and warehouse efficiency. When the warehouse does not have a lot of faith in the inbound shipping schedule, they must either overstaff to accommodate receiving and put-away or risk incurring detention and demurrage charges when inbound trailers cannot be unloaded right away. Errors in either direction cost the warehouse money and often do not become evident on any of the transportation P&L sheets. Companies that can truly connect these dots make sharing transportation data with the warehouse a top priority.

Lastly, effective transportation management can have an impact on revenue. If a company is out-of-stock of a particular item, they can still accept orders for it if they have reliable information about where the stock is in transit and when it will hit their distribution center.

Best-in-Class attainment starts with viewing transportation as an integral part of a larger supply chain, but cannot end there. Chapter 2 examines specific actions companies can take to better align transportation with warehousing and inventory policy.

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Chapter Two:
Benchmarking Requirements for Success

Are companies with top marks in transportation management really better at managing supply chain functions in general, or are the concepts discussed in Chapter 1 just lofty ideals that cannot be easily implemented? This chapter will reveal the answer, and discuss what Capabilities and Enabling Technology turn these concepts into a reality.

Competitive Maturity Assessment

Survey respondents fell into one of three categories – Laggard, Industry Average, or Best in Class — based on their characteristics in four key categories: (1) process capabilities; (2) organization; (3) performance management; and (4) technology usage. In each of these categories, Best-in-Class companies excel over Average and Laggard companies in clearly measurable ways (Table 3).

Table 3: Competitive Framework

	Laggards	Average	Best-in-Class
Process	Customer Service Visibility of Outbound Freight Schedules		
	16%	45%	50%
	Warehouse Visibility of Outbound Freight Schedules		
	22%	45%	69%
	Routing and Scheduling of Inbound Freight		
	25%	33%	44%
	Electronic Collaboration with Carriers and Suppliers		
	9%	17%	31%
Organizational Structure	Centralization of Transportation Planning		
	50%	60%	84%
Performance Management	Measuring Transportation Metrics On a Daily or Weekly Basis		
	10%	14%	24%
Technology Usage	• **23%** use a Commercial TMS • **7%** use an Inbound Collaboration Portal • **0%** have a commercial application to manage private fleet/common carrier decisions*	• **25%** use a Commercial TMS • **14%** use an Inbound Collaboration Portal • **0%** have a commercial application to manage private fleet/common carrier decisions*	• **52%** use a Commercial TMS • **32%** use an Inbound Collaboration Portal • **44%** have a commercial application to manage private fleet/common carrier decisions *

Source: Aberdeen Group, 2007

*Percentage of companies that actually operate private fleets who use this technology.

Fast Facts

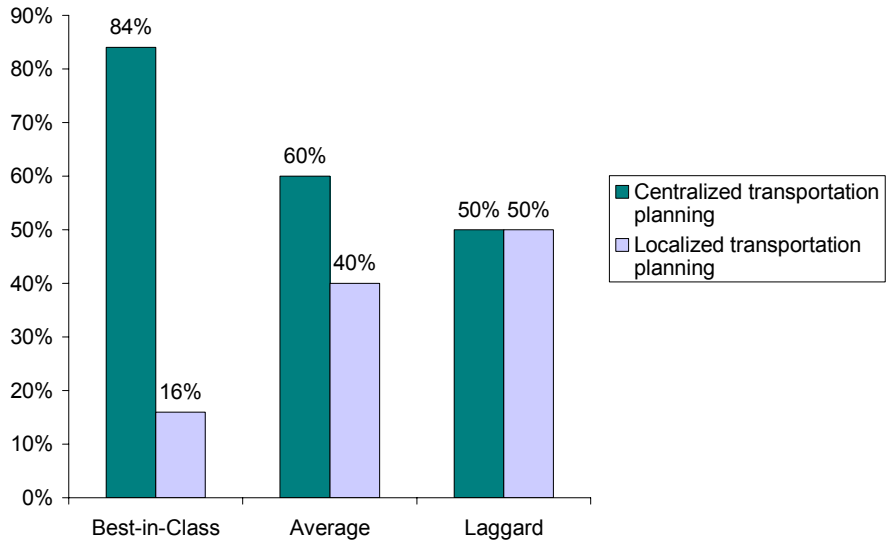
- √ Best-in-Class companies are 68% more likely than Laggards to practice centralized transportation planning.
- √ Best-in-Class companies are 76% more likely than Laggards to practice routing and scheduling of inbound freight.
- √ Inbound collaboration portals are used by 32% of Best-in-Class companies as an enabler to achieve cost savings in inventory carrying costs and warehouse labor costs.

Centralization – Pre-Requisite for Success

Aberdeen research over the last several years has consistently shown that centralization of at least some transportation functions must exist in order for any process or technology initiatives to have their full effect. Companies like Agilent Technologies, IBM, Hewlett-Packard, and PepsiAmericas have all had to make organizational changes—either prior to, or in parallel with—technology roll-outs.

Currently, 84% of Best-in-Class companies have centralized their transportation planning functions. With execution, approaches vary. Nearly half of Best-in-Class companies have centralized planning with localized execution (Figure 4).

Figure 4: Centralization Matters!



Source: Aberdeen Group, June, 2007

Centralized planning with localized execution allows for efficiencies such as common repositories for data and uniform reporting structures but still permits individual facilities to make localized decisions. Companies should also consider centralizing freight payment, even if day-to-day carrier selection and tendering are done at the local level.

In contrast, a lack of centralization is related to underperformance. More than one in three Laggard companies has a completely de-centralized planning and execution process with no visibility across locations or business units. This de-centralized approach hampers the ability of companies to streamline processes across order management, warehousing, and transportation operations. It can also result in higher transportation costs due to a lack of consolidation, pooling, and backhauls across facilities.

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Case Study: Rockline Industries Saves Thousands in Back-Charges Through Deploying TMS/OMS Connectivity in a Centralized Structure

Rockline Industries is the largest manufacturer of coffee filters and private label baby wipes in North America. The company ships product to large retailers with very strict delivery terms. If Rockline misses a delivery date or fails to comply with some other aspect of the contract, the retailer back-charges them for violating the contract. By 2006, these back-charges were costing Rockline millions of dollars. A frustrating part of this situation was that frequently, Rockline would ship product on time and still be penalized. Rockline's carrier would call the retailer to schedule a delivery appointment, and the retailer's receiving clerk would schedule an appointment that was beyond the allowable delivery time. Rockline would be penalized, even though the delay was in no way their fault. "Our customer's weren't communicating well internally, and we were being charged for it," says Matthew Connor, director of Logistics at Rockline.

In 2004, Rockline implemented a commercial TMS and centralized transportation planning and execution. In 2006, they decided to take advantage of the visibility and collaboration features of their TMS to solve their back-charge problem. Rockline implemented "service management exceptions". With this functionality, the carrier automatically transmits the scheduled delivery appointment to Rockline's TMS. Through an interface with their Order Management System, this delivery date is compared to the required delivery date in the customer's purchase order. If the scheduled date is later than the required date, an email is automatically sent to Rockline's customer service team so that the client can be contacted. Sometimes, the customer will change the scheduled date to match the required. Other times, they may elect to keep the later scheduled date, but Rockline is NOT charged for a late delivery. "Providing this level of connectivity between the TMS and the OMS is saving us hundreds of thousands of dollars this year alone," says Connor. "The project paid for itself in a matter of a few months."

Inbound Visibility – A Key to Lean Supply Chain Management

Best-in-Class companies are 76% more likely than Laggards to practice routing and scheduling of inbound freight. An immediate benefit to this approach is that direct freight spend can be significantly reduced as more efficient load planning is done and companies begin to leverage their purchasing power with carriers. However, a host of secondary benefits are realized as well, which are often ignored in the decision to implement this change. Consider:

- Routing and scheduling inbound freight greatly improves lead-time reliability. As a result, companies that are Best-in-Class for transportation management are SIX TIMES as likely as Laggards to have also reduced their inventory carrying costs year-over-year
- This improved reliability provides a company with the ability to accept orders for items that have not yet arrived at their facility. Most Best-in-Class and Average companies indicate they decline 3% or less of their orders due to insufficient

"Providing this level of connectivity…is saving us hundreds of thousands of dollars this year alone. The project paid for itself in a matter of a few months."

--Matthew O'Connor, Director of Logistics, Rockline Industries

stock. Most Laggards have no idea how they are performing—they either do not know or do not measure. Best-in-Class companies attribute their greater ability to fill orders to improved inbound visibility.

- In much the same way that improved visibility of inbound data has a positive impact on inventory policy and in-transit allocation, it can also have a powerful affect on warehouse efficiency. When there is greater certainty about when an inbound shipment will arrive, warehouse managers can more effectively plan their labor requirements and not over-staff. Greater inbound predictability is one of the reasons that **companies that are Best-in-Class for transportation management are TEN TIMES more likely to have also reduced their warehouse labor costs year-over-year than Laggards.**

A robust transportation management software (TMS) system is usually the starting point for this visibility. Within that platform, providers often offer carrier collaboration portals. Data exchange is ideally conducted via system-to-system connectivity using EDI or XML protocols, though smaller carriers may need to enter or upload data manually through the portal.

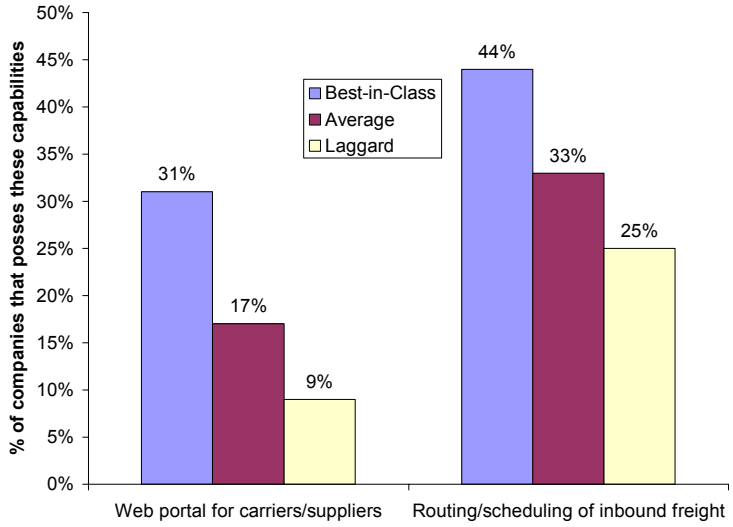
Supplier collaboration can be more difficult than carrier collaboration, especially if some vendors lack the technology infrastructure for sophisticated communication. This is where web portals have real value. Web portals allow any supplier with an internet connection to log onto the buyer's TMS and input basic information about a shipment—its ready-to-ship date, and even line-by-line breakdowns of which items can or cannot be filled. Most of these systems stop short of full purchase-order management, but are valuable tools for directing and tracking the physical shipment of goods. Figure 5 illustrates that Best in Class companies are more likely than others to manage inbound freight and to do so through collaboration technology.

Fast Facts

√ Companies that are Best-in-Class for transportation management are SIX TIMES as likely as Laggards to have also reduced their inventory carrying costs year-over-year.

√ Companies that are Best-in-Class for transportation management are TEN TIMES more likely to have also reduced their warehouse labor costs year-over-year than Laggards.

Figure 5: Inbound Visibility Capabilities



Source: Aberdeen Group, June, 2007

Once suppliers and carriers are communicating on the same platform, certain key milestones in the inbound shipment lifecycle can be noted. The example below illustrates some of the typical milestones involved in tracking an international shipment:

Table 4: Typical Inbound Reporting Milestones

Supplier	Expected ship date
	Ready to ship
	Routing instructions
Carrier	Pickup appointment scheduling
	Pickup by carrier
	Consolidator status
	Origin customs status
	Ocean ship status
	Destination customs status
	De-consolidator status
	Truck ship status
	Delivery appointment scheduling

Source: Aberdeen Group, June, 2007

Collaboration portals often allow carriers to schedule delivery appointments at the buyer's warehouse. Alternatively, this can be done in the dock management module of a Warehouse Management System. These systems treat each dock door as a schedulable resource and track utilization, manage delivery windows, and ensure trailer/dock compatibility. These systems have been much slower to gain acceptance from buyers as well as carriers. Many companies fear losing control of their inbound delivery schedule and still prefer to manage scheduling by having carriers call for appointments.

Update: Ace Hardware Reduces Inventory by 15% Through Improved Transportation Visibility

In September, 2006, Aberdeen reported that Ace Hardware had just implemented a program to improve inbound visibility lead time reliability. The primary goal of the project was to reduce inventory and free up capital for retail expansion. Ace had piloted the program with six (6) suppliers and was planning to expand it to another 30. Nearly a year later, has Ace met their goals?

At the time of this writing, Ace has implemented their inbound collaboration program with nearly 700 of their suppliers. The program allowed Ace to save $2.5 million in transportation costs in 2006, but Ace knew that the big savings were yet to come. For their top 30 vendors with high-cube products, Ace has reduced inventory by 15.4%! Overall inventory reduction has been close to 10%, due to inbound collaboration and other factors. For a company with nearly $4 billion in annual sales, an inventory reduction this large amounts to a tremendous improvement in profitability. Brian Cronenwett, Director of Supply Chain Logistics at Ace notes that technology alone is never the answer—an initiative like this must start with a firm understanding between external suppliers and internal stakeholders. "We got religious about improving inventory turns," say Brian.

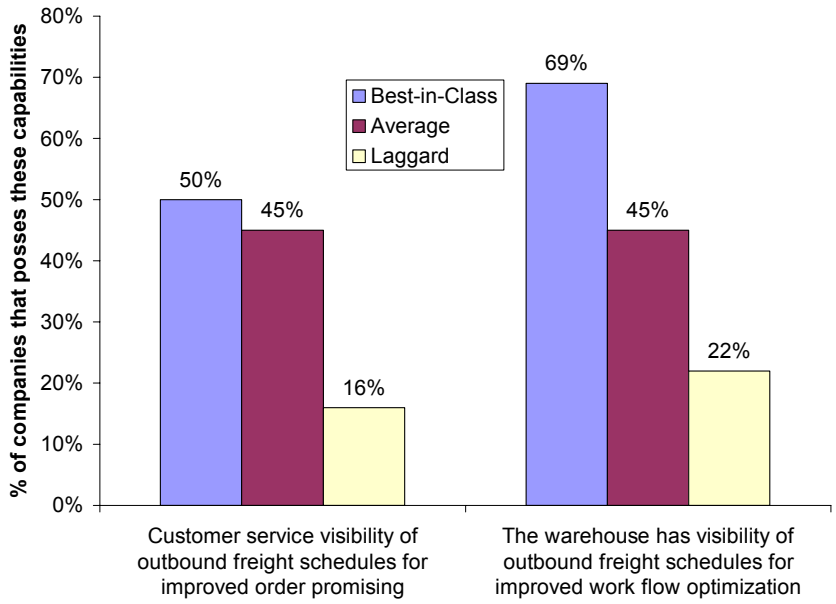
"We got religious about improving inventory turns."

--Brian Cronenwett, Director of Supply Chain Logistics, Ace Hardware

Outbound Visibility Adds Value Too

Best-in-Class companies are also more likely to share outbound transportation information internally (Figure 6).

Figure 6: Outbound Visibility



Source: Aberdeen Group, June, 2007

When warehouse order fulfillment processes are tightly aligned with the shipping schedule, labor supply can be more closely matched to actual requirements. In certain operations, less space can be allocated for outbound staging if the two schedules are tightly integrated.

When customer service representatives have visibility and control over outbound shipping rates in addition to availability, they can promise more accurate shipping dates to customers. Furthermore, in operations where "as soon as possible" shipping is not required, there are opportunities for load consolidation. If the scheduling group has visibility into outbound shipping capacities and warehouse labor capacity, they can schedule loads to be shipped more efficiently and picked at a time when labor is available.

Some companies have even allowed their customer service reps to have access to the load building tools in their TMS. With this capability, the CSR can up-sell the customer on additional product in order to create a full truckload shipment without incurring extra freight costs.

Case Study: Anderson Lithograph Reduces Administrative Costs Through Improved Outbound Visibility and Centralized Decision-Making

Sometimes, administrative costs alone are a compelling reason to improve transportation visibility. Anderson Lithograph, a leading provider of graphical design, printing, and publishing services, was struggling with the basic administrative functions associated with processing thousands of shipments from over 80 locations in North America.

Anderson shipped product with a variety of modes, including parcel, LTL, TL, air, ocean, courier, and multi-modal. Each of their locations used a mix of carrier-specific, or multi-carrier shipping systems, each of which had a separate interface to the company's ERP system. Manifesting and tracking involved manual keying of data into multiple systems. There was no easy method to audit freight invoices, a key concern for a publicly traded firm.

The printer made a strategic decision to implement a single shipment processing system to control the thousands of annual shipments. The system is able to process shipments with all of the printer's multiple modes and carriers, with a single interface to the ERP system. Manifesting is handled on one application, with the system maintaining the business rules for the multitude of documents which often have to accompany an international shipment, and automatically generates the bills of lading, pallet labels, and packing slips required for each order. Tracking and audit are currently done on one application with a consolidated view of all transportation status and costs.

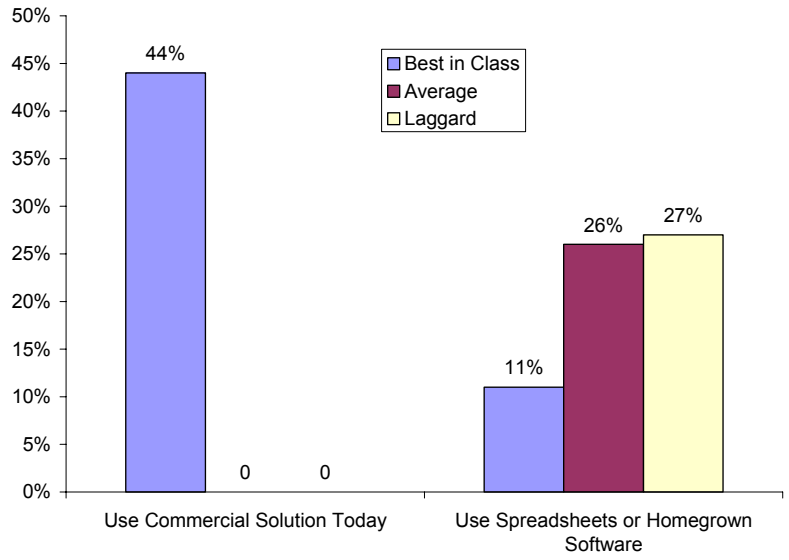
Run a Tight Ship Through Frequent Score-Carding

Another difference between Best-in-Class companies and their peers is that the top performers measure and report their performance more regularly. Daily and weekly reporting allows for mid-course corrections and creates an atmosphere where all stakeholders are aware of the factors that contribute to success. Monthly or quarterly reports tend to be "scoreboards"—outdated statements of what happened, rather than real-time tools to influence future performance.

Optimize Private Fleet/Common Carrier Decisions

About one-third of the companies Aberdeen surveyed report using a private fleet for some or all of their outbound freight. Over 60% of those companies believe they could save money if they improved their ability to determine when loads should be shipped using the private fleet or using common carriers. As Figure 7 indicates, most companies are making these decisions in a manual environment using homegrown systems and spreadsheets. Best-in-Class companies have shown a strong tendency towards adopting commercial applications to make these decisions dynamically on a load-by-load basis.

Figure 7: Tools Used to Support Private Fleet/Common Carrier Decisions



Source: Aberdeen Group, June, 2007

Of course not all private fleet operators have the same level of difficulty in making these decisions. Private fleet shippers often view their drivers as mobile customer service representatives. Thus, their decisions on fleet utilization are not based strictly on finding the lowest cost mode. Retailers may have relatively simple rules for making these choices (i.e. store shipments go via private fleet, catalog shipments go via common carrier) and do not require sophisticated decision support systems. Nevertheless, for the market segment where private fleet/common carrier decisions are primarily a matter of finding the "lowest cost carrier", a TMS module that makes these decisions dynamically can be a real key to more efficient outbound freight management.

Case Study: PetSmart Improves Dedicated Fleet Utilization

For large companies, collaboration isn't just for a tool to manage external relationships…it's often vital to get internal departments talking to each other. PetSmart, one of the largest retailers of pet supplies in North America, utilizes a dedicated fleet network consisting of five carriers and over 100 trucks for outbound shipments. Inbound shipments are primarily handled by common carriers. In 2006, the company decided that it needed to reduce its inbound freight spend by improving backhaul utilization across the dedicated fleet. The problem was, the inbound and outbound transportation departments operated independently of each other, and they weren't communicating effectively with their carrier network or suppliers.

In October, the company began a twelve-week process to configure four modules in their TMS to share information more effectively. The project was completed on schedule, and the new system was rolled out over a two-week period in February, 2007. With improved visibility and centralized management, PetSmart's planning department can examine opportunities for continuous moves and plan inbound pickups accordingly. By communicating more effectively with their vendors through a supplier web portal, PetSmart discovered that most vendors would allow a much wider pickup

"We've experienced significant savings in inbound freight through better sharing of information, both internally and externally"

--Chadwick Hamby, Transportation Manager, PetSmart

Case Study: PetSmart Improves Dedicated Fleet Utilization

window than was previously thought. As a result, PetSmart can often schedule a later supplier pickup to align with a backhaul opportunity. When a continuous move plan is created, it is then communicated to the carrier via an EDI transmission.

"We've experienced significant savings in inbound freight through better sharing of information, both internally and externally" says Chadwick Hamby, Transportation Manager for PetSmart. Hamby notes that the savings have been greatest in regions like New England and the Southwest where PetSmart has a high concentration of both vendors and stores. Centralized planning, greater internal visibility, and effective collaboration with suppliers and carriers have caused this $4 billion dollar retailer to see real savings across their supply chain.

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Chapter Three: Required Actions

Whether a company is trying to move its performance in multi-site distribution from "Laggard" to "Industry Average," or "Industry Average" to "Best-in-Class," the following actions will help spur performance improvements:

Laggard Steps to Success

- **Change your perspective!** Laggards have a myopic view of transportation that hurts their ability to achieve real supply chain savings. If you have had a transportation initiative shot-down by management year after year, try a different approach. Look at the impact that initiative will have across the supply chain: Will it help the warehouse be more efficient? Will it allow you to change your inventory policy for the better? Will it improve your customer service group's ability to accept orders and answer customer inquiries? What are all of those things worth? Once transportation projects are viewed as an integral part of a healthy supply chain, a lot more stakeholders become interested in the outcome!
- **Move toward a centralized transportation model.** This one is hard to dispute. Aberdeen's research has consistently shown that before technology benefits can be fully realized, there must be an organizational structure in place to deploy the benefits company-wide. When negotiating freight contracts, bundle all transportation across multiple business divisions and locations. Look for pooling, multi-stop, backhaul, continuous move and other shipping efficiencies across locations and divisions. In addition, rather than having a wall between your inbound and outbound transportation groups, plan loads together and take advantage of continuous move and backhaul opportunities. Allow for some localized variation for mode and carrier selection criteria, but have a common repository for data and a uniform reporting system.
- **Measure and report on a weekly, not monthly, basis.** Once there is a common reporting system in place, use it with frequency. This has benefits both inside and outside of the organization. Carriers are measured on the same metrics, regardless of which business division they are working with. Carriers will take the scorecard system more seriously if it reflects current data that is still fresh in the minds of their organization. Daily and weekly score-carding allows for mid-course corrections if certain carriers are not performing to plan. More frequent measures also can reveal internal process inefficiencies in a timely fashion; allowing them to be addressed. Is the Detroit warehouse consistently missing its driver turn-around time? Perhaps it is indicative of a warehouse labor issue, or of larger problems in yard management. Once detention and demurrage charges are factored into the equation, it may be easier to assemble the appropriate resources to tackle the problem.
- **Upgrade or replace your TMS if it does not support online information sharing for your enterprise and your supplier/customer/carrier community.** For companies that cannot justify a new TMS, look into having your IT department create an interface out to a corporate portal to provide access to shipment status and cost information.

Industry Norm Steps to Success

- **Use trading partner collaboration portals to gain inbound visibility.** The vision is set, planning has been centralized, and score-carding is a part of everyone's daily life. Now it is time to intelligently implement technology to attain the holy grail of supply chain initiatives—improved visibility.
- **Using Visibility, Part 1—Making Better Use of Warehouse Labor** Despite the accolades, visibility is still just a means to a larger end. One of the first ways to realize that end goal is to use the improved visibility to better schedule warehouse labor. Allow warehouse managers access to in-transit load status and let them gain confidence that loads will arrive more predictably than in the past and schedule accordingly. Misalignment of labor, though certainly not trivial, can be more rapidly dealt with than inventory issues, so it makes sense to start there. Have confidence in the data your system is giving you, and do not pad your labor estimates. If there are still issues with inbound accuracy, identify the source and deal with it expeditiously.
- **Using Visibility, Part 2—Allocate Against Inbound Product.** For many companies, this is a bigger leap of faith than lean scheduling of warehouse labor. Allocating against inbound product involves a level of confidence in your inbound data that will allow you to make promises to your customers for product that is not yet sitting on your dock. Despite this, a recent Aberdeen survey shows that 33% of companies are currently allocating product to customer orders before it arrives at their facility. Obviously, this practice is more suited to some industries than others. Establish an acceptable window of time (one day, one week, etc.) prior to expected arrival when sales can allocate against the order. Your company has paid a lot of money to acquire this visibility—now put it to use! Often, by fearing to fully take the leap, the last 10% of the visibility issues are never addressed…they languish and the whole initiative never fulfills expectations.
- **Using Visibility—Part 3—Change Inventory Policy!** This is where large dollar savings can be realized. The first two "baby steps" of re-scheduling warehouse labor and early allocation of product will remove any lingering issues with data quality, carrier and supplier compliance, and process inefficiencies. Once completed, they will inspire company-wide confidence in the reliability of inbound lead times—confidence that will be needed before you can embark on a revised inventory policy. Inventory problems, unlike labor and allocation issues, cannot be quickly solved. Shifting towards carrying less inventory at the distribution center level must be undertaken carefully and strategically. Start with drawing down levels of SKU's that have shorter lead times, or alternate sources of supply so as to recover quickly from any incorrect estimates. Establish a goal, set the baseline, and measure progress. The dollar savings can be significant, but do not rush in too fast.

Best-in-Class Steps to Success

- **Use automated inbound appointment scheduling tools.** Companies actually using these tools are ahead of the curve. The technology has existed for some time, but adoption rates have been slow, even among Best-in-Class companies. This is largely due to fear of losing control and having carriers overschedule during peak periods. Taking the time to build out business rules that you can have confidence in and starting to use the tool with a select group of carriers will drive multiple benefits. The transportation department is freed up from what is largely an administrative function and can truly manage by exception. Further, the cycle of manual scheduling—calling and leaving messages—is bypassed, removing just one more opportunity for delays out of the inbound process.
- **Fully align Order Management, Warehouse Management, and Transportation Management.** True bi-directional workflows between these three processes are not a reality yet. Various technology providers have dabbled with offering this capability, but for the most part, the technology has not been embraced due to larger process issues in the shipping community. In theory, full process alignment should operate like this:

  > A customer places an order for product that is available for shipment on Tuesday. Customer service sees there is a very high workload in the warehouse for Tuesday, so a representative considers shipping the product out a day later, on Wednesday. After some further analysis, he sees that if the customer is willing to wait until Thursday, the load can be combined with other orders and ship via a full truckload instead of an LTL. Customer service offers to split the freight savings with the customer in exchange for taking a later delivery, and the customer agrees.

  Sound far-fetched? Perhaps. In operations where delivery time is the most critical element to order fulfillment, warehouse labor and freight cost considerations usually have to take a back seat in order to make the delivery on-time. However, for situations where the distribution center has a wider delivery window available, making some combination of the above decisions can be a real tool for improving operational profitability.
  Aberdeen is talking to a company that is in the early stages of a project which will link the Labor Management System of the warehouse with the TMS and OMS so that orders can be scheduled around available warehouse labor. Another company has begun to allow CSR's to dynamically build outbound loads to take advantage of consolidation opportunities. Both projects are in the early stages of implementation, and Aberdeen hopes to do a case study on both examples once the results are quantifiable. Top companies are certainly exploring these capabilities. Perhaps your company can be one of the innovators to pave the way for real process efficiency in this area.

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Aberdeen Insights – Using On-Demand and Managed Services

Carrier and supplier portals are an increasingly common way to get a window on in-transit inventory. Often, the data sharing component to these projects cause companies to shy away from taking the leap.

However, one of the reasons that **Software-as-a-Service** (SaaS) models have been so readily accepted in the TMS world is due to the complexity of maintaining interfaces to so many freight carriers and suppliers. SaaS allows a company to quickly plug-into a pre-existing community of carriers that are already communicating across the software provider's network. New suppliers and carriers can also be added to the existing network relatively easily, where the software provider is responsible for maintaining the system-to-system interfaces.

More and more companies are also offering **managed services** in addition to software. Often, these providers will allow tremendous flexibility in how a company wishes to do business with them. In the full services model, the provider takes complete responsibility for managing freight planning and execution within a chosen network of carriers and can often offer audit and payment services as well.

Companies that cannot spare the internal resources to take-on a full "license and install" software project, or who are lack the expertise to execute these programs on a daily basis would do well to consider Software-as-a-Service or managed services models.

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Appendix A: Research Methodology

Between January and February 2007, Aberdeen Group examined the use of transportation management technology and researched the experiences and intentions of more than 150 enterprises in a diverse set of industries.

Responding executives completed an online survey that included questions designed to determine the following:

- The top pressures causing companies to improve their transportation management
- Key strategic actions companies plan to take in response to these pressures
- The level of understanding that companies have concerning the interdependence of transportation and other supply chain functions
- Which capabilities and enabling technologies have a strong correlation to improved supply chain performance

Aberdeen supplemented this online survey effort using telephone interviews with select survey respondents, gathering additional information on transportation management strategies, experiences, and results.

This study aimed to identify emerging best practices for integrated transportation management across industries and provide a framework by which readers could assess their own capabilities.

Responding enterprises included the following:

- ***Job title/function:*** The research sample included respondents with the following job titles: Logistics/Supply Chain (68%); Procurement (7%); IT manager or staff (6%); Business Process Management (6%).
- ***Industry:*** The research sample included respondents from a variety of industries, including: Transportation/logistics (17%), Retail (10%), Distribution (10%), Food & Beverage (10%). Other sectors responding included Computer equipment and peripherals, Consumer durable goods, Consumer packaged goods.
- ***Geography:*** The majority of respondents (75%) were from North America. Remaining respondents were from the Europe/Middle-East/Africa region (15%), Asia-Pacific region (9%), and South/Central America and Caribbean (1%).
- ***Company size:*** About 32% of respondents were from large enterprises (annual revenues above US$1 billion), 41% were from midsize enterprises (annual revenue between $50 million and $1 billion), and 28% of respondents were from small businesses (annual revenues of $50 million or less).

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Table 5: PACE Framework

PACE Key

Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:

Pressures — external forces that impact an organization's market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)

Actions — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product/service strategy, target markets, financial strategy, go-to-market, and sales strategy)

Capabilities — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products/services, ecosystem partners, financing)

Enablers — the key functionality of technology solutions required to support the organization's enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)

Source: Aberdeen Group, June 2007

Table 6: Maturity Framework

Maturity Framework Key

The Aberdeen Maturity Framework defines enterprises as falling into one of the following three levels of practices and performance:

Best in class (20%) — Transportation management practices that are the best currently being employed and significantly superior to the industry norm, and result in the top industry performance.

Industry norm (50%) — Transportation management practices that represent the average or norm, and result in average industry performance.

Laggards (30%) — Transportation management practices that are significantly behind the average of the industry, and result in below average performance

In the following categories:

Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process?

Organization — How is your company currently organized to manage and optimize this particular process?

Knowledge — What visibility do you have into key data and intelligence required to manage this process?

Technology — What level of automation have you used to support this process? How is this automation integrated and aligned?

Performance — What do you measure? How frequently? What's your actual performance?

Source: Aberdeen Group, June 2007

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Table 7: Relationship between PACE and Competitive Framework

PACE and Competitive Framework How They Interact
Aberdeen research indicates that companies that identify the most impactful pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute.

Source: Aberdeen Group, June 2007

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Appendix B:
Related Aberdeen Research

Related Aberdeen research that forms a companion or reference to this report includes:

Transportation Management and Visibility

The Transportation Management Benchmark Report (September, 2006)

The Supply Chain Visibility Roadmap (December, 2006)

Solution Provider Guide for Supply Chain Visibility (March, 2007)

The Next Logistics Automation Wave: International Transportation Management Technology (December, 2006)

Winning Strategies for Transportation Procurement & Payment (February, 2007)

Inventory Management

Inventory Management Technology Strategies for Distribution (February, 2007)

New Technology Strategies for Network Design and Inventory Optimization (December, 2006)

Inventory Management Technology Strategies for Mid Size Companies (November, 2006)

Technology Strategies for Inventory Management: How to Convert Inventory from Cost to a Competitive Advantage (September, 2006)

Warehouse Management

Technology Strategies for Multi-Site Warehouse and Order Management (April, 2007)

Warehouse Automation--What's Really Working For Pallet, Case, and Piece Pick Operations (January, 2007)

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com.

Author: Ian Hobkirk, Senior Analyst, Warehousing and Transportation
(ian.hobkirk@aberdeen.com)