Rethinking the drayage paradigm

Internet, technology can solve drayage problems, improve service and usher intermodal into another growth era.

By Theodore Prince

Intermodal is a transportation service which uses more than one transportation mode. While there are a series of transfers between carriers and modes, through intermodal movement requires a series of logical linkages that allow the movement to be treated as a through shipment in a single trailer or container.

To be competitive, intermodal transportation must provide an all-in, door-to-door transportation expense that is less expensive than the comparable truckload product. This is because truckload is considered faster and more reliable. In the past 20 years, research has identified several critical areas that determine intermodal’s competitive economics compared to truck. A great deal of effort has been spent on linehaul economics. The advantage of intermodal has been clearly identified. Terminal operations have been greatly improved through network design, terminal operating systems and outsourcing.

The last area available for major improvement is drayage. Since intermodal transportation involves ramp-to-ramp substituted truck linehaul, in order to provide door-to-door service that “looks” like a truck, intermodal involves drayage at either end of the transaction. Drayage is a tractor-only service. An equipment provider to the customer supplies the trailer or container.

The drayman provides pickup and delivery services between the actual customer locations and the linehaul terminal. In some cases, the drayman will provide interchange service between two different linehaul carriers. Drayman may also provide empty equipment repositioning for asset owners.

Drayage has long-standing problems. The primary obstacle has seemed to be the lack of cost-effective tools to support the business.

Market Structure and Behavior

Drayage is notoriously inefficient. Most pickups and deliveries are priced on a round-trip basis — either load/empty or empty/load. Empty miles are as extensive as 50 percent of movement. This increases expense for the purchaser and limits revenue for the provider.

The market suffers from a lack of participant transparency. Even if a drayage provider has its business concentrated with a single drayage purchaser, the provider will often work for competing drayage purchasers. Drayage providers have been unable to raise revenues because more purchasers are not aware of their service offerings. Drayage purchasers have the same problem. They cannot reduce the number of providers they use.

Drayage purchasers often have been required by their underlying customers to use a specific drayage provider (the "house" carrier) who may have protected his business by financial reimbursing of local purchaser personnel. Centralization of vendor selection was problematic due to technology, so purchasers were limited in their efforts to control this expense.

Billing has been, on occasion, a mutual-abuse game. Purchasers might pay slowly, forcing providers to invoice the same move more than once. Purchasers would need to decide between implementing cost-effective controls — or no controls at all. In some cases transaction processing costs exceeded the cost of the underlying service. Little process improvement has been visited upon drayage transactions, which are still manually completed.
Volumes have grown with the same way of doing business. Most software solutions have mechanized existing processes rather than improve them.

**Shipment Visibility**
Supply chain management today mandates greatly increased shipment visibility and tracking. The technology and tracking abilities of truckload carriers enable them always to know location and status of freight which is in their control. This is done using cellular communication and global positioning systems (GPS) offered by vendors like Qualcomm.

Similar solutions must exist if intermodal is to become a viable alternative to truck. While terminal arrivals and departures are reported, customer movements and status changes have traditionally gone undocumented. In some cases, such as harbor moves and cross-towns, even gate moves are not always reported — leaving customers to question whether the lack of reported movement is a reporting oversight or a service failure.

Truckload carriers use timely reporting to perform intermediate dispatches and maximize equipment utilization. Truckload carriers that are empty 10 percent of the time, quickly become former truckers. Because intermodal lacks such visibility, 50-percent empty movement and low utilization is not uncommon.

Wireless technology has advanced so that drayage providers should be able to provide real-time updates from the tractor on WAP phones or handheld devices.

**Intermodal Community Review**
A series of market force changes have forced members of the intermodal community to reconsider business practices and seek ways to improve profitability. This has traditionally been through cost savings in the form of lower unit costs for factors of production, but it may also happen with improved business processes and increased revenue.

Purchasers. Intermodal purchasers are faced with a wide variety of problems.

Steamship lines have functioned in a completely deregulated marketplace since the passage of the Ocean Shipping Reform Act, which took effect May 1, 1999. Before OSRA, drayage was often considered a discretionary expense controlled by the customer (and used as an indirect method of rebating.) Customer-nominated drayage is no longer required. Furthermore, industry consolidation (and the pending introduction of massive new capacity) has most steamship lines worried about the financial outlook over the next two years.

Intermodal marketing companies have found their margins squeezed by market entry of advanced truckload carriers (such as J.B. Hunt and Schneider) and the decreased willingness of railroads to grant generous incentives.

Railroads have found intermodal growth to be slowing. Some think that the few remaining railroads will start selectively retailing direct to major industrial customers — expanding their profit margins at the expense of the IMCs. The major barrier is the same as always — railroads have difficulty managing a door-to-door product.

Equipment leasing companies have also undergone major consolidation. To keep their assets moving (and earning money) they seek reloading "on the street" — before their equipment is returned empty.

Providers. Drayage providers face an overwhelming assortment of challenges. Customers are demanding improved service — and asking for investment in information technology. The drayage company’s costs continue to rise, yet they are often under pressure to forego rate increases — or even reduce rates. These demands on providers arise because purchasers of drayage face an identical set of problems.

Such stresses are the natural result of a large and highly fragmented industry. Drayage providers have been most successful on a regional or local basis. A drayage company doing $30 million in annual sales is considered quite large. Most large drayage companies do $10 million to $25 million in annual sales (that often include other lines of business such as terminal operation and warehousing.)

Several reasons contribute to this phenomenon. Foremost is a familiarity with a specific area and its customers, operating practices and equipment requirements. Moreover, a viable, cost-effective technology platform to provide management over a wider range has heretofore been nonexistent. There are a handful of drayage packages available, but their cost and necessary infrastructure have limited their implementation to only a handful of large companies.

Drayage companies face increasing pressure from externalities. The difficulty attracting and retaining drivers is well known. The trucking industry faces a critical driver shortage, which developed out of demographic shifts and a full-employment economy. There is an even larger shortage of mechanics. In addition, the price of fuel
and insurance has continued to rise faster than rates.

**Solutions**

For the drayage and intermodal industries to grow, the business has to change. Necessary profit improvement solutions fall into two categories. The first is to reduce expense. The second is to grow revenue.

**Reduce Expense.**

Expense reduction (upwards of $30 per transaction) can take place on both sides of the transaction (See Figure No. 1). Reducing overheads benefits both purchasers and providers.

**Dispatcher Productivity**

Drayage moves involve a purchaser’s tender to a provider and the provider’s acceptance or declining. There are also discussions about the appropriate rate and how to handle any accessorial charges that may arise. Today’s dispatch process is almost 80 percent consumed by manual processes, including telephone calls and fax messages. It is not uncommon for there to be 10 or more such events per single transaction. Many calls are repetitive attempts to resolve the same move.

The Internet has the capability of providing a means to mechanize this repetitive process and provide desktop visibility to dispatchers. This would also enable the dispatcher to eliminate most of their redundant manual work. In its place, they could handle more business and focus on adding value to the customer transaction (See Figure No. 2).

**Accounting Productivity**

It has been said that the entire combined profitability of an intermodal movement is less than what is spent by the involved parties invoicing and paying each other. It has been estimated that a manual invoice costs $20 to $50 to review and process for payment by each participant. A large part of this problem is the reliance on manual processing — especially the ongoing requirement for providing proof of delivery. Purchasers claim this is for claim protection, while providers feel that it is a subterfuge to avoid timely payment.

The industry needs a cost-effective way to process this information. Any paper document should find a way to be digitized and electronically stored. Purchasers need the ability to get line-item cost detail so that they can have accurate cost information for business profitability analysis. Too often, drayage expense is aggregated in a homogenous accounting class with no detail.

Finally, payment needs to be made on a more predictable basis. There are many cost-of-quality issues here. If billing was complete, timely and accurate, it would be easier for the purchaser to pay the invoice because there would not be any disputes over the charges.

Ultimately, the purchaser and provider could eliminate the invoice in favor of pro forma payment. The lower transaction expenses would offset many times any foregone interest from speedier payment. Some purchasers are starting to review their payment procedures because some providers are no longer willing to wait weeks — or months — for payment.

**Shipment Visibility, Communication**

Dispatcher and accounting productivity are dependent upon improved communication. Fifteen years ago, that would have meant using electronic data interchange. While EDI is common in the transportation industry, its expense is increasingly being viewed as excessive. A complete transaction (involving a series of messages) using a value-added network (VAN) would most likely cost about $10 to $14 between the purchaser and provider. Most rail transactions have been completely absorbed by EDI, but it is easier to justify the expense for an underlying transaction costing $1,000 (1 percent EDI overhead) than it is for a drayage move costing $100 (10 percent EDI overhead.)

A Web-enabled solution for drayage that linked drayage purchasers and providers would obviate the need for EDI.
**Grow Revenue**
Reducing expense and improving the drayage process are excellent results. But most purchasers and providers are seeking ways to grow revenue.

Circumstances are favorable for replacing the significant empty mileage (and expense) associated with drayage with revenue movements. Thus, the relationship of drayage expense to the overall intermodal cost could change. Drayage expense has always consumed a higher proportion of total door-to-door intermodal expense than has been indicated for its proportion of miles. This has limited the expansion of the intermodal market.

Figure No. 3 shows the potential impact. Today, intermodal is competitive with truck at distances greater than 750 miles (Point A.) A change in the intermodal production function could lower the distance threshold to 500 miles (Point B.) Changing intermodal drayage movement from 50-percent loaded to approaching 100-percent load could be accomplished by two basic approaches.

One is providing the purchaser with better visibility of the shipments and the ability to balance loaded moves to and from a terminal. This has always been the industry's intention, but increased volumes and specialization (e.g., one person handling imports and another person handling exports) has made it difficult always to match moves on a timely basis. It is always easy to look back and see what should have been done. It is much harder to make all the necessary arrangements at the time of a move's initiation.

Using a Web-enabled desktop for dispatchers should provide a much clearer picture of balancing opportunities. Improved shipment visibility would enable dispatchers to know exactly when a customer has released equipment. Today, it is very common for a driver, lacking any other instructions, simply to return with an empty. Draymen could also integrate other business segments. Many steamship line empty moves could be converted into domestic repositioning with closer drayage coordination.

The possibilities are even greater. Three-quarters of intercity truck movements are less than 500 miles. An intermodal dray that is currently empty in one direction could seek to fill that empty leg with short haul truckload freight. The drayage provider would perform this service in exchange for offering the purchaser a one-way rate, or the purchaser could enter the truck brokerage market.

Lowering the loaded cost of drayage transforms intermodal into a more competitive product for a larger segment of the market. Consequently revenue opportunities increase for both purchasers and providers. Intermodal providers could also benefit from the shortfall between truckload demand and supply.

Many exchanges and Web sites list demand for movement — but there often exists a shortage of capacity. Intermodal is a frequently viable alternative for these moves — especially on a spot basis — but intermodal surplus points have been hard to recognize.

Additionally, determining their desired repositioning destinations, and then scanning for opportunities which fulfilled these requirements has posed a formidable challenge.

The solution is to provide an effective interface between these surplus equipment opportunities and potential movement requirements. In some cases, the opportunity to have a steady supply of empty intermodal equipment for reloading may also affect lower drayage rates for the purchaser. This alone suggests significant profitability implications. It not only raises intermodal revenue for providers and purchasers, but it also eliminates empty repositioning expense and improves equipment utilization.

Drayage problems are well known, and most solutions are understandable. What has changed is that the information delivery capabilities of the Internet and the technology that can be provided is now cost-effective and sufficient to solve many of these problems. If drayage can take advantage of new technology to provide improved service at lower expense, then intermodal service could be entering another growth era.

Almost two decades ago, the introduction of double-stack technology contributed to an explosion of intermodal volume by changing the service and expense paradigm. Drayage has similar potential today.