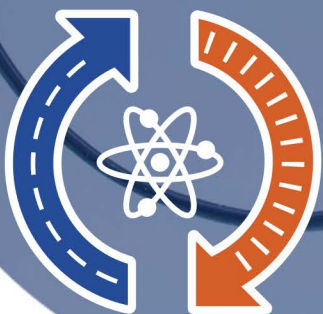


# What You Need to Know to be a Successful Intermodal Shipper



**InTek** Freight  
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Technology Driven Road & Rail Solutions

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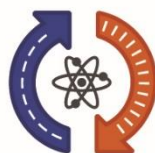
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## Setting Intermodal Expectations

Domestic 53' intermodal is a great service companies can bring into their supply chains as an alternative to truckload or to enhance their capacity on current truckload lanes. The intent of this eBook is to **highlight key areas within intermodal that allows for the most success**. One key point, as you read through this eBook is intermodal is “truck-like” not exactly like truck, so with that comes benefits that may be missed or opportunities to fail. So, with those thoughts in mind, read on.

## What Makes for a Great Intermodal Lane

### Length of Haul -

- 750 miles or more, although this benchmark is shortening with some intermodal lanes competitive against truck with as little as 450 miles when origin and destination deliveries are close to intermodal ramps.

### Dray Distance from Intermodal Ramps –

- The best intermodal moves have dray of 50 miles or less from the origin or destination ramps. As the length of haul increases, the opportunity to extend the dray miles and still be competitive against truck increases.

### Weight -

- Weight is 42,500 or less. (more on weight shortly)

### Transit -

- Freight can be planned to take into account transit is typically truck, plus a day. Transit it truck, plus 2 to 3 days when the intermodal box is interlined between two railroads.
- Be sure to ask whether the lane is run daily, so the transits match expectations.

### High Value -

- Intermodal has very few road miles, so the opportunity for theft is greatly reduced and looked upon favorably by insurance underwriters.

### Appointed Loads and/or Retail Deliveries -

- With intermodal lanes having the rail ramp close to final destination, there are greater opportunities for success on appointed on-time deliveries as compared to truckload options.

### Lane Visibility -

- For some shippers, visibility is holy grail of their supply chain and intermodal has tracking similar to that of small parcel shipments.

### Project Freight -

- Intermodal can be a great option for project freight because of its operational characteristics often fitting the ability to throw a lot of capacity at a lane in a short period of time.

## What to Know for Successful Truckload to Intermodal Conversion

The first step is to recognize intermodal has changed over the years making it a strong 53' solution for shippers. Intermodal is so good that many national asset LTL and truckload carriers use the railroad for their long-haul network versus truck.

There was an intermodal renaissance within the railroads investing heavily in infrastructure, technology, processes and their people. The results brought on-time service, capacity, lane expansion and transits to a point where it is very much a truck like service for both large and small shippers.



Part of the renaissance came the one-stop intermodal providers, often called intermodal marketing companies or IMC's. Unlike prior times, shippers no longer arrange origin and destination dray, plus manage the ramp-to-ramp moves with the railroads have also made it

much easier for shippers to utilize intermodal for their shipping needs. **The IMC's of today just need the origin and destination addresses and then handle the rest of the details for the shipper**, so operationally intermodal looks like truckload to a shipper.

### Place Proof of Concept Burden on Truckload

Here is a new one. Put the proof of concept on truckload. With the truckload market at \$200 billion and intermodal at \$10 billion most supply chains will still use more truck than intermodal. An IMC will expedite the decision for shippers as what is a good fit for intermodal and truckload.

### Differences in Asset and Non-Asset Intermodal & Truckload Providers

Asset and non-asset mean different things when talking intermodal and truckload. There are some definite advantages using an asset truckload carrier and using a non-asset truckload broker. The definition of intermodal asset and non-asset has been thrown out in the market to mean the same thing to many shippers, but the reality is asset and non-asset in intermodal is not as easily defined and there are various shades of the concept. With intermodal, there is always one part of an intermodal move that is done by a third party. Even the largest of IMC's do not own the trucks, intermodal well cars, locomotives or inter-modal ramps.

To further the point of asset versus non-asset differences, the truckload market is highly segmented, and carriers have access to the same highways as every other carrier. The truckload market is a great fit for non-asset brokers working the capacity, price and service, so it is transparent to the shipper. Within the intermodal market, each railroad has its own network and partners making many of the lanes exclusive to a provider. This exclusivity occurs more times than not, so it is key to tap into an IMC that has access to the entire railroad network. Also, the typical truckload broker has less success with intermodal, unless they have made a serious commitment to the service. A broker using intermodal for just price advantages struggle to provide a great intermodal service for their customers because as was stated earlier, intermodal is truck-like not just like truck.

### Evaluate Advantages and Disadvantages throughout the Year

There are a couple of points under the topic of evaluating advantages throughout the year: New intermodal ramps continue to be put online and taken offline, so a lane that was or was not an intermodal lane last quarter may be different this quarter. Truckload and intermodal



have capacity crunches at different times of the year, which makes some lanes head hauls at one time and backhaul at the other times. Planning and working the lane balance to the shippers advantage pays big dividends in price and capacity.

### Not an 'All-or-Nothing' Proposition

Intermodal for some lanes and truckload for some lanes does not always make sense.

**A few examples include:** the lane balance issues discussed above; transit sensitive lanes; and the capacity constrained lanes.

On transit sensitive lanes shippers can play the intermodal transit advantage on the weekend where a Thursday and Friday shipment will make delivery on the same day as truck. Another transit strategy is to plan truckload on the critical product, then follow the truck with an intermodal move that arrives a day later.

For capacity tight lanes, **intermodal tends to be able to throw more capacity on a lane**, so take advantage of the intermodal capacity and augment the lane with truckload.

A well executed 53' capacity strategy that engages both intermodal and truckload will save the company money; deliver a better intermodal and truckload service because they will be used for their strengths; put the shipper in a competitive advantage; and add capacity.

## Intermodal Weight – Most Common Issue for New Users

The most common issue for shippers transitioning their freight from truckload to intermodal is loading the container to be legally compliant with gross weight and the distribution of weight across the vehicle.

**The Federal Gross Vehicle Weight Limit of 80,000 pounds for tractor/chassis/container is the same for both intermodal and truckload.** The difference lies in the 53' COFC domestic intermodal container is roughly 2,500 pounds heavier than a standard dry van. This translates into the recommended maximum bill of lading weight to **not be over 42,500 for an intermodal load** versus the 45,000 shippers are accustomed to for a truckload shipment.

Unfortunately, many shippers entering into an intermodal strategy for the first time are either not properly coached through what needs to be done to account for the intermodal weight difference or they do not take it as seriously as they need to. Either way, not running within the legal weight specifications will cause a great deal of frustration for the shipper, as **costs and delays are incurred through reworking the intermodal container to be legally transported.**

The intermodal shipper is responsible for the load to be within legal weight limits, which in turn makes them accountable for all costs associated with a load being out of compliance. This responsibility comes as a surprise to many new intermodal shippers. The expectation is load weight and the distribution of weight is the carrier's responsibility, which is understandable considering this is what they have come to expect from their OTR carriers. The costs associated with a non-compliant load and re-working it to be legal include: scaling costs, possible fines, additional freight charges, labor cost to rework the load and other charges incurred to make the load compliant. **The 42,500 pound recommendation is based on the average container, chassis weight and drayage tractor weight.** Also, the shipment must be legal at both origin and destination ramps. There are occasions a load would be legal at origin, but not legal at destination. How you ask? The below scenario is an example that intermodal providers see play out almost every month for new intermodal shippers:

A shipper pushes the weight limit of 42,500 and edges over it. The load remains below the legal 80,000 pound limit because at origin the dray was done with a day cab, with less than half a tank of fuel. The trouble then comes in because the container is pulled at the destination ramp with a larger cab that came straight from a fueling station. **The additional weight in the cab and fuel pushes the total weight to be greater than the 80,000 pounds.** Now there is an overweight issue.

Since intermodal shipments, by definition, will have different dray equipment on both sides of the transaction this situation does occur. While we see this happen with newer intermodal shippers, it also happens with the most seasoned shippers, as well.



\* Federal Maximum Single-Axle weight 20,000 lbs.

In addition to the Federal Gross Vehicle Weight Limit of 80,000 pounds for tractor/chassis/container gross weight, there is also a **weight distribution requirement, which states axle maximums of 12,000 lbs. – Steers; 34,000 lbs. – Drives; and 34,000 lbs. - Trailer/Chassis.**

The diagram above illustrates the requirement in more detail. With the weight distribution requirement, there are times where a shipment could be legal on gross, but not on the distribution of weight and vice-a-versa.

A term to also get familiar with is harmonic vibration. This is the **vibration pattern that effects shipments that ride on the rail lines**. The vibration, while very subtle, does move the product front-to-back, as well as, side-to-side if product is not properly blocked or braced within the rail container. It is important to understand this vibration is different than occurs within a 53' dry van traveling over-the-road, so be sure to follow block-and-brace patterns provided.

Harmonic vibration is also the cause for many questions by new shippers unfamiliar with intermodal because a load is legal at origin, but not at destination. **Proper blocking and bracing will eliminate the issue, while also protecting the product**. Like the gross weight requirement, where the shipper is responsible, the **distribution of weight is also the shipper's responsibility** and they will bear all costs of the rework, as outlined earlier.

Also, shippers should know that some states may enforce additional limits on specific highways or on bridges and California limits the spacing from kingpin to the center of real axle to a 40' maximum.

While all this may sound complicated, it really is not all that cumbersome when a shipper partners with a reputable intermodal provider (IMC). The intermodal provider will walk the shipper through the requirements; engage the Class I Railroad for recommended load plans when there are questions; and in the more difficult cases, will send a Class I railroad representative to the shipper's location to provide additional education. The long and short of it is, the IMC and the railroad wants the shipper to be successful in the transition of truckload to intermodal, **so there are plenty of resources in place to make a smooth transition for the shipper to enjoy the cost savings; the additional capacity; the environmental savings; and the consistent service intermodal brings to the marketplace.**

## **The Intermodal Shipment Process and Equipment Used**

What does intermodal look like? This question means different things to different shippers. For some shippers they are asking about the process of shipping via an intermodal service, while others are asking what the equipment looks like. Before jumping in, we need to get through a couple of definitions.

**Intermodal is the transportation of goods by more than one form of carrier during a single journey.** In the case of domestic intermodal, a combination of truck and rail is coordinated and packaged by an IMC (intermodal marketing company), then sold to shippers as a simple door-to-door move.



**What's an IMC you ask?** An IMC can be either an asset or non-asset company that retails intermodal services to shippers for the railroads. Early in the development of intermodal service, railroads decided to not retail their intermodal service directly to shippers. This decision led to the advent of the IMC to perform the sales and marketing for the Class I railroads. Over time, IMC's evolved to provide not only sales, marketing and pricing, but also:

1. Secure container and/or dray capacity. (This is the only distinction between asset versus non-asset intermodal IMC's.)
2. Provide a layer of customer service support and reporting shippers obtain from other transportation modes.
3. Give shippers one call access to the West and East Coast railroads, since there is no one railroad that covers all the North American ramps

With the definitions behind us, let us look at the process of booking an intermodal load and the equipment used for intermodal transportation service.

### **The Process of Pricing, Tendering and Tracking an Intermodal Shipment**

Today's door-to-door intermodal transportation solution is packaged and serviced in the same manner as truckload, meaning shippers need only one point of contact for the entire process. There is no need to set up ramp-to-ramp rates with the railroads, then find dray carrier to coordinate the final mile delivery between the shipper's docks and railroad intermodal ramps. **Shippers just need to reach out to an IMC and share what lanes they would like to price or have the IMC do an analysis on all their lanes to see what lanes are a fit for intermodal service.**

#### Pricing an intermodal lane can come in a variety of solutions:

- All-in spot rate
- 30, 60 or 90-day rate, plus a fuel surcharge
- 1-year rate, plus a fuel. This pricing also comes with a guarantee on capacity throughout the year.
- Special project all-in rate

#### Questions that will be asked at the time of pricing include:

- Origin and destination zips
- Commodity

- Beneficial cargo owner (BCO). This is another term for who holds title to the cargo.
- Haz or Non-Haz
- Live load and unload; drop the container and chassis; build a pool for drops; or some combination of all the above
- Volume

After a price is agreed upon and credit has been established, the shipper would call the IMC to tender the load. **Once booked, the IMC will coordinate the pick-up at the shipper's dock;** draying the load to the origin intermodal ramp; ensuring the container makes the rail cut; and coordinating final delivery. **Throughout the life of the shipment, the shipper will either receive reports or login to the IMC's website to see the updates of the load as it travels from origin to destination.** Once the load is delivered, and the IMC receives the invoice and signed BOL from the rail-road, the IMC will send the shipper a single bill for the entire shipment.

Again, this could be a single spot move or a consistent program. **For consistent business, the IMC will want to have an onboarding call to introduce the operation team that would be involved with their business.** For more information read The Step-by-Step Guide on Implementing a Successful Intermodal Strategy.

Throughout a door-to-door intermodal shipment, the shipper's product remains on a 53' intermodal container and moved either by rail or truck, as described in the earlier definition of intermodal.



The vast majority of domestic intermodal transportation moving on the rail is done through the use of containers that are double stacked on a railroad well car.

When the driver arrives at the customer's docks, the container is on a chassis and moved via a truck drayman.

To the surprise of many new intermodal shippers is they have seen this equipment at their doors previously, but thought it was a standard dry van they were loading. **Like truckload, drivers can either pull to the door for a live load or unload, or they can work from a pool of containers that are on chassis in the shipper's yard.**

Once the intermodal load is at the railroad intermodal ramp, the container is lifted off the chassis and placed on a railroad well car, as shown below.

At the destination rail intermodal ramp, the container is lifted off the well car and secured to a chassis. There are some slight dimension differences for the various 53' container fleets IMC's access, so for more information read the Intermodal Container Dimension information located elsewhere in this e-book.

One additional item to address is how the product is positioned within the container it-self. **Weight is the most common issue we run across with new intermodal shippers and some long time intermodal shippers and the below best illustrates the loading requirements.** As a reminder, the guideline is to not load more than 42,500 of product and packaging material on any one intermodal container.

## **Intermodal Step-By-Step Implementation Plan for Success**

Here is a proven step-by-step intermodal transportation analysis and implementation plan to **help shippers successfully integrate intermodal into their network.** The process is fairly straightforward, although there are three critical issues to address for a successful road-to-rail conversion new intermodal shippers need to take into account.

As background, shippers and truckers have propelled intermodal transportation into the fastest growing segment of domestic transportation by converting truckload to intermodal lanes.

**A list of reasons for road-to-rail conversions are below:**

- Cost Savings
- Scalable Capacity Solution for Tightening Truckload Market
- Reliable and Predictable Service
- Reduce Carbon Footprint

While cost savings is the primary driver for truckload to intermodal conversion today, many anticipate capacity constraints in the truckload market to be the main factor for conversion in the very near future. With the background out of the way, let us jump straight into the process.

### Begin the Education Process

The very first step in the intermodal implementation process is to learn as much about intermodal as possible. **Do not fall into the trap of thinking intermodal is “just like truckload.”** Research intermodal service; intermodal market; what makes a good intermodal lane; and intermodal service providers. Truckload conversion to intermodal is not an all or nothing proposition. **There are areas where intermodal will exceed truckload and other areas truck-load will be a better fit.** The web is a tremendous resource for self-education on the topic of intermodal.

### Define Success & Obtain Management Buy-In

Define for yourself and management what will define success for the project. Management buy-in to the definition of success will prove useful in paving the way for change management and providing support throughout the entire process of road-to-rail conversion.

### Research and Evaluate Potential Providers

There are numerous types of intermodal service providers in the market, outside of the standard asset or non-asset question. Asset and non-asset intermodal providers are much different in structure and resources than asset and non-asset truckload providers. There are advantages to both, so again do not fall into the trap of “just like truckload”.

The key in the research and intermodal provider evaluation phase is to gather as much information as possible from various intermodal providers to leverage the collective knowledge with information gathered in the education step to further develop the ultimate intermodal solution.

We recommend not locking into one provider at this stage. Keep your options open and narrow the group down to four or five as you enter the next phase.

### Intermodal Providers Perform Freight Analysis

As the saying goes, “Rome wasn’t built in a day.” The same can be said for successful

transportation strategies. There is tribal knowledge within organizations that will need to be accessed at this phase for the best intermodal analysis.

This is not a pricing review, but an analysis of dock operation and equipment requirements at origin and destination, combined with an analysis of the company's lanes and their proximity to the North American intermodal ramps. **Not all lanes will have intermodal solutions.** The output at this stage will be a blueprint of the lanes that will be used for intermodal providers to bid the intermodal lanes.

### Obtain Pricing and Transits

With the blueprint in hand, send out the RFP. While there is a limited number of Class I North American Railroads, there are several solutions, so cast a wide net across the multiple intermodal service providers and make sure to include US, Canada and Mexico lanes.

Also, do not shy away from including your truckload carriers. Knowing they are going against intermodal service may cause them to re-visit their solution. During this step, you may need to revisit the vision of success you had for yourself and management at the very beginning. Not to worry if a change is needed here. This occurs in all types of projects. **Just remember to circle back around with management to help walk them through the new vision of success and what caused it to change.**

### Implement an Intermodal Solution

After the freight analysis is completed, shippers tend to get excited with the savings potential and want to go all-in. Our suggestion is **to fight this all-in urge and work with the selected intermodal providers identified in the pricing and transit step to develop a phased in solution starting with the simplest dock need and best intermodal service lanes first.** These lanes may not be the ones with the biggest savings. (Caution - if the intermodal provider wants to go all-in, you may want to evaluate whether you are teaming up with solution providers or a sales teams. There is a big difference!)

### Evaluate Outcome Against a Success Goal

With the intermodal implementation plan now in motion, it is time to evaluate the outcomes against the initial definition of success. With the analysis, **tweak the program and continue to**



implement additional lanes until the full plan is in place.

### Continue to Evaluate

The intermodal ramp network continues to evolve, as does a shipper's inbound and out-bound requirements, so do not think this is a one-time process. Continue to invite your intermodal providers in to learn more and help evaluate where other solutions could potentially fit within your transportation network. **Areas to also evaluate intermodal is for line hauls on LTL consolidations; line hauls on pooling points; and trans loading ISO boxes in and out of ports for better control of inventory placement and cost savings.**

## The Best Time of Year to Quote Intermodal Rates

Every year the 4th quarter push within the logistics and supply chain industry drives people to our website and to the phones looking for help on using intermodal as an alternative to the high trucking rates; the shrinking truck capacity; inconsistent service levels; and with help on filling in the blanks of their RFP's to meet the needs of their Finance departments yearly budgeting process.

The problem is the **4th quarter is less than optimal to field these requests because this is the same time of year the intermodal market goes through their "peak season"**. Now if your company has freight moving from East to West, this could be a boon for you, but much of the time the calls are coming from companies needing help off the West Coast.



The 4th quarter “peak season” is the reason freight moving from East to West has favorable intermodal rates, while intermodal rates coming off the West Coast are not the best. Rail-roads are fighting the 53’ container capacity needs they have in the West Coast. Many of the domestic intermodal containers end up going back to the West Coast empty, so they can meet the demand needs the railroads guaranteed their customers. **With that said, the East to West freight lanes see rate decreases, as railroads try to incent the market to place more freight into the intermodal market.** While the East to West customers are incented to move via inter-modal, customer needing help for West to East lanes find peak season charges that are put in place to help railroads offset the costs of moving empty boxes to the West Coast.

With all that in mind, **we advise all our current and potential customers to work their RFP’s and look for opportunities to transition their trucking lanes to intermodal lanes during the first 4 months of the year.** This is when rates fall back to an equilibrium where the best comparisons can be made and then transitioned to a full year program. The full year programs will incorporate capacity guarantees that protect shippers peak season surcharges charges, while also meeting their daily capacity needs throughout the year.

## **Final Thoughts**

Railroads do not sell retail, meaning **shippers cannot work direct through the railroads.** Shippers will work through what are called intermodal marketing companies (IMC’s). IMC’s buy on a wholesale level with the railroads and are the groups shippers work with to get their shipment from origin to destination. **The railroad and IMC relationship works extremely well with today’s door-to-door intermodal product.** The arrangement allows the railroads and IMC’s do what they are good at, while also allowing the IMC to layer on additional flexibility and reporting the shipper needs to run their business. The relationship also allows shippers to have one provider to work through and gain access to all railroads versus having to call the individual railroads for their respected West Coast and East Coast lanes.

**Not all IMC’s are created equal, so be sure to vet the IMC before moving forward.** The good IMC’s will be a great source of education and will hold your hand all the way through the process of converting your truckload lanes over to intermodal lanes. In some cases, the railroad will make their own recommendations.

For more, please go to our website and follow InTek Freight & Logistics on LinkedIn and Twitter.