



*Foreign-Trade Zone and Industrial Park Consulting and Marketing  
Supply Chain and Security-Threat Assessments*

## **Rail Industry 2007 Update**

### **The Reality of Change in the Rail Road Industry and the Resulting Impact on Infrastructure Related Investments**

Many changes are occurring within the U.S. trade flow as the market experiences changes in international trade volumes and corresponding supply chains shifts. These changes and corresponding response by the rail road industry are having a direct and significant impact on the direction of infrastructure, industrial development and other investment opportunities. It is vital to understand the relationship between each player within the global supply chain network and how a shift in their services directly impacts all of the remaining supply chain participants. Recently, some key changes have occurred within the supply chain that have impacted the rail road industry, resulting in corporate changes to their service offerings.

First, the rail road industry is keeping pace with the strong demand for international intermodal traffic. However, the anticipated growth in volumes of new imports from China, SE Asia and emerging India suggest that there will be continuing pressure placed on current rail assets, requiring more efficient processing centers in the near future.

Second, in the past, ocean carriers have offered door-to-door service for international intermodal containers providing importers with a service called Inland Port Intact (IPI rates). This means that the container moves from the foreign port to the US port, to rail and to an inland destination from the inland intermodal rail terminal to the importers distribution center, all on the same Bill of Lading/Pricing process. However, the carriers have recently indicated a lack of will to support destinations inland beyond large distribution hubs, or beyond cities where they have significant volumes and can control empty container flow. This trend is essentially reducing the number of inland ports or gateways where service will be provided by the carrier. This shift reduces the number of destinations for the rail provider, increases the volume of destination-centric volume and improves reverse logistics volumes from key gateways.

Third, the rail operators are no longer willing to support the traditional "rail-served" buildings that stand alone or are concentrated in specific areas of a community or city.

Lastly, the increased volume of imported vehicles will require that the rail carriers re-engineer their approach to vehicle management and related assets. It was recently

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announced that Toyota eclipsed GM in total sales, driven by the recent Korea Free Trade Agreement. Additionally, the U.S. is preparing for an onslaught of vehicle from Chinese producers, with some entering the U.S. by way of vehicles assembled in Mexico (thus providing access to that market in parallel).

New “operational models” are emerging for the railroads as they seek to aggregate services into sites where they can build complete trains for a single destination from a port location, be it east or west coast. These “operational models” provide the traditional rail served importers with new challenges for traffic management, cost control, and in many cases, require decisions related to site selection and logistics models. There are four rail related infrastructure changes currently taking place and at various stages of maturity across all the Class I rail operators. These include the following:

### **1. Inland Port Logistics Hub**

This is a destination at an inland site where there is a significant population with an appetite for imported goods, a mature distribution system and a location at the intermodal rail terminal (which is located at the Inland Port Logistics Hub) with sufficient land to support distribution near or within the “fence line” of the rail ramp (logistics hub). These inland ports provide an operational advantage for the rail carrier by aggregating demand from a port to an inland hub with enough scale to create single destination trains from the port cities. The importer is provided with increased velocity in their supply chains, as they have access to import cargo discharged from the rail carrier within hours, not days, of arrival. Additionally, the importer benefits from a significant reduction in drayage costs and improved security by not having the “last mile” of transportation performed on the public highways, but rather on the private roads within the logistics park. The ocean carrier also benefits by not having to manage chassis and containers that travel great distances from the logistics hub, reducing turns in container utilization and lowering chassis control related challenges.

### **2. Rail Served Logistics Park**

The rail carriers no longer have the capability or desire to provide service to low volume rail users that use traditional rail car assets (not containers) such as bulk lumber cars, bulk plastics/ag cars or bulk box cars. There is not enough equipment or manpower to service every one of these current rail customers at their current locations. The other challenge in serving small users in multiple corners of any given community is found in the safety related to street grade crossings and the costs related to moving only a few cars to a site, then later transferring those empties to a rail served building in exchange for loaded cars. As a result, there is an opportunity to create rail served logistics parks where many of the smaller users of traditional rail car volumes are aggregated into a single site where the rail carrier can push in a complete train and engage with a Third-Party rail operator within the park to distribute the rail cars to the users (within the park). The challenge for moving forward with this type of endeavor is addressing the current user’s total supply chain

costs, as well as the developer's or rail carrier's ability to "flip" the user out of their current building and relocate them into a rail served logistics park (with many other users), all while maintaining reasonable or lower costs for the user's operations. Recently, some of the Class I rail operators have made this decision easy for the user by significantly increasing service rates for small users, which creates a cost structure that makes it impossible to sustain operations in the current users' locations. The ability to coordinate the development of a rail logistics park with the rail carrier and their current tenants is a key ingredient for success in this infrastructure investment scenario. This requires that the developer interface with several users in order to facilitate a timely move to the new logistics park in order to maximize efficiencies for the rail carrier.

### **3. Domestic Intermodal Parks**

Cargo movement is becoming more "hub-and-spoke" focused. There is an emerging demand for regional, domestic intermodal parks that provide a location where regional inbound and outbound domestic cargo volumes can be uploaded and moved to other regional hubs by the rail carrier. This allows the rail carrier to move long trains between specific inland ports or logistics hubs, and the truck operators to eliminate long-haul traffic on their systems. Essentially, these intermodal parks become relay centers between large hubs, and to some extent, provide a more robust relationship (ownership) between the rail carriers and the long-haul trucking providers. Driver shortages are mitigated, high truck-fuel costs for long-haul trucking are eliminated, and the rail carrier achieves high volumes dedicated between specific centers; all are components of a more efficient transportation system. (It should be noted that Yellow-Roadway, Hunt and Schneider all have sort stations located within miles of the Stockton Domestic Intermodal Park).

An added benefit to this business model is the ability to co-develop heavy weight corridors near the intermodal park, which allows heavy weight trucks and heavy weight containers to be transferred to businesses within the near region. Certain commodities that move on rail, in both domestic and international environments, benefit by being allowed transit on heavy weight corridors, gaining efficiencies and reducing supply chain total costs. As the ocean carriers make decisions to aggregate destinations, the configuration of intermodal parks is changing to accommodate cross-dock operations that convert international imported volume to domestic containers for inland movements. Thus, intermodal logistics parks located near inland ports where transloading activities will occur must accommodate buildings that support this new cross-dock or transload model.

### **4. Auto-Processing Centers**

This segment of the global logistics chain is changing rapidly and will continue to evolve in the next ten or so years. The reasons for these changes include new dynamics in the global automotive community, shifting market control, challenges in the domestic market producers, and emerging countries that will threaten current

market shares. Vehicles move by truck from factories overseas to outbound ports, where they are driven to special carriers in a process called roll on, roll off (ro-ro). At the port of discharge on the east or west coast, vehicles are driven off the ships and enter a vehicle processing center where certain accessories are added, post production modifications are accommodated, or after-market accessories are added prior to movement to the dealers. In most cases, the locations where vehicle processing occurs have capacity to perform minor repairs to paint, finish or fit, and many locations have mechanical support to accommodate any warranty issues that may have surfaced post production. From these processing centers, vehicles are moved by truck to regional dealers or by special rail cars to inland ports where they are unloaded and staged for truck transport to the regional dealers. During all this handling, vehicles must be monitored and tracked, inspected and prepped for sale, so that when a vehicle is ordered at a dealership, the delivery can be accommodated and the customer experience maximized.

Several opportunities and challenges exist in this sector. First, there are many transplanted factories from foreign countries (that have manufacturing centers and support systems) that need distribution from their plants to their dealership networks. For example, a train moving vehicles from Portland (imports) to Alabama may return with Hyundai or Mercedes Benz vehicles for distribution to dealers in the Pacific Northwest. The challenge for the rail carriers is that these foreign transplanted factories are not clustered in the historic locations within the greater Detroit region. The volume of vehicles produced in transplanted factories challenges the capacity of the rail carriers. They need aggregation points at interior “hubs” where these arrivals and departures can be managed, and corresponding trains built and manifested in a manner that provides the carrier with necessary efficiencies. Since these facilities only require smaller buildings for paint and maintenance, their primary requirement is improved parking space for vehicles staged for loading or unloading from the trains (at these hubs).

Land prices dictate locations away from higher priced industrial land, but population demands suggest the need for storage and processing close to the dealer concentrations; these factors translate into a site selection dilemma. While these sites would be ideally located at the same hub-and-spoke locations as the intermodal activity, the current Burlington Northern Santa Fe (BNSF)/Logistics Park/Chicago site suggests that space for distribution development is demanding significantly higher premiums than land reserved for parking vehicles, causing BNSF to seek sites further away from that center, but still on existing rail lines for vehicle processing into the Chicago market.

This white paper is meant to clarify the challenges of intermodal transportation and rail-served buildings in both the domestic and international sectors, and the secondary vehicle processing challenges faced by rail operators. In order for the new development models to be successful, it is imperative that rail operations staff and infrastructure investors build strategic partnerships to create joint solutions that can benefit both parties.