

**RAILROAD-SHIPPER TRANSPORTATION ADVISORY COUNCIL
Washington, D.C.**

**Position Paper
On
Short Haul Rail: Challenges and Opportunities
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Executive Summary

Most rail shipments are done over long distances – the average rail length of haul is more than 900 miles, and growing by about 1.6% per year. It was not always this way, but over time the speed and flexibility for short haul movements lead to truck domination of this sector. Nevertheless a substantial short haul rail market still exists for some commodities, and shippers, railroads and governments have sought to expand rail short-haul market share as truck costs have risen and road congestion has increased. These efforts have met with mixed success, and recent initiatives to increase truck size and weight (TS&W) could threaten existing short haul rail markets and stop progress toward expansion of these markets.

RSTAC

The Railroad-Shipper Transportation Advisory Council ("RSTAC") was established pursuant to the ICC Termination Act of 1995. Its 15 appointed members consist of senior officials representing government, shippers, and railroads. They share a common goal to strengthen the national rail industry to improve service levels and foster mutually beneficial relationships between large and small railroads and shippers, across all commodity groups.

RSTAC is charged to provide a private sector forum for the discussion of matters of concern to small rail shippers and small railroads and to provide advice on regulatory, policy and legislative matters to the Surface Transportation Board ("STB"), Secretary of Transportation, and Congress.

What is Short Haul Rail?

Short haul rail (movements less than 500 miles, often less than 200 miles) means different things to different shippers and railroads: a short-haul intermodal move may be longer than a long-haul aggregate transport. This paper will primarily focus on rail carload (merchandise/industrial products), with occasional reference to intermodal (TOFC/COFC) and bulk (coal, etc.) transport. Certain commodities, like aggregates, cement, and scrap steel are fundamentally short haul.

Opportunity of Short Haul Rail

Trucks logically dominate the short haul freight market, because of their inherent advantages of speed, just in time delivery, and flexibility. Even using ton-miles as a measure, trucks have 72% of the market, versus 5% for rail. Measured by cargo value, truck market share is undoubtedly higher – estimates range as high as 94%. Conversely, rail competes quite well in longer-haul

markets. By 2035, overall freight tonnage is expected to be double 2005 volumes, creating a search for additional transport solutions in short haul and long haul markets.

The truck dominance of short-haul markets represents an opportunity, because even a small penetration of the market would produce a large number of opportunities for modal shift.

Although overall rail capacity has tightened substantially, this may actually present an opportunity for short haul rail. Short haul movements can take advantage of “pockets” of underutilized rail capacity (either line or train capacity) that may otherwise go unused by longer-haul movements due to system wide capacity constraints. For example, in 2008 Norfolk Southern entered into a partnership with 10 short-line railroads to develop its Empire Link short-haul rail program in the Southern Tier and neighboring upstate regions of New York. This program allows short-lines to develop short-haul business within the region, using a set of Norfolk Southern local trains with excess capacity to connect the short lines. In this way, short-lines (who often have the local marketing expertise to find and solicit short-haul business), can use an underutilized portion of the network (including their own lines) to attract short-haul moves. The traffic attributable to Empire Link traffic has been, however, very limited and has not made a meaningful contribution to fixed charges.

One reason short-haul moves are attractive to transport providers is the potential for higher asset utilization. Higher assets turns (in loads/day or equivalent) are possible in short-haul markets. Rail is at a natural disadvantage in short-haul markets because of its lesser service frequency and need to aggregate multiple shipments into trains, but short haul markets can provide much high asset turns on rail equipment than average single-car shipments moving over long distances.

Short haul rail movements often avoid the system classification yards and many of the multiple-train handoffs that add much of the time to trips, enabling asset turns that are much more rooted in actual transit time and customer loading and unloading. For example, one short line turns railcars used in construction sand service 2.5-3 times per week by scheduling the rail movement during nighttime hours, letting customers load and unload cars during the day.

Shippers and/or rail carriers can make a better case for investment in equipment (either new or rehabbed) when it makes multiple-turns per week instead of the one-turn per month that is standard on equipment involved in many single car, long-haul movements. This investment can be further ameliorated if older or other lower-cost railcars are used in short-haul service. In short-haul service, the cars can get intensive mechanical inspection and quick repair if needed, and the cars are not usually subjected to the extra stresses of high-speed service or additional switching. This may be especially effective for the transport of commodities like metallic scrap, which can be moved in simple, uncomplicated railcars that are often converted from other obsolete car-types.

Alternatively, short-haul rail can be an inventory solution for customers. Material can be held in railcars that truckers cannot or will not hold, enabling buffering of stocks for facilities with limited storage. While this technique is commonly used in long-haul rail situations, it is applicable to short haul rail as well. Short haul rail can also be used to connect nearby warehouses and production facilities, as long as both are rail-served. For example, a paper mill

ships in wood pulp via long-haul rail to storage, then moves it via short haul rail when its plant is ready to consume the pulp. In this case, short haul rail allows off-site inventory storage, but enables the plant to receive pulp by rail, which is its preferred delivery method.

Customers can prefer short haul rail when they view they have sufficient control over the movements to make it an integral part of their supply chain. For example, steel mill railroads (many of whom are owned by the steel companies themselves), owe much of their activity to time-sensitive intra-mill movements that are integral to the steel-making process.

Short haul rail may be especially suited for high-volume moves. Looking across the spectrum of rail-carload moves, most rail origin-destination pairs average a single carload or less per day. This means railroads must aggregate shipments at classification points and shippers must often deal with inconsistent transit times and limited pickup and delivery frequencies.

In contrast, short-haul rail movements can be moved on a daily basis, sometimes with exclusive trains, if there is enough volume in the traffic lane. This is especially applicable when a round-trip can be made with a single crew over a single line. Higher volume enables a virtuous circle of more frequent service, better asset turns, and higher customer satisfaction. One utility successfully uses rail for a six-mile coal haul because its facility could not handle the volumes if it arrived in trucks.

Waste movements are an especially good example of this phenomenon. Rail shuttles connecting a single high-volume transfer station with a landfill have succeeded in several markets under 100 miles one-way, often providing a complete round trip in a single night. These rail shuttles also bring noticeable public benefits by eliminating a highly visible and sometimes noxious source of truck traffic.

Reducing truck traffic is a primary reason why governments and other public agencies have encouraged the development of short haul rail. The public sector sees potential in short haul rail the potential to overcome choke points and congestion, especially for repetitive, heavy movements that can have an outsized impact on road infrastructure and capacity.

Some agencies also see short haul rail, especially intermodal, as an important element in economic and port development. By having direct rail connections to inland ports or major distribution hubs (even those only a relatively short distance away), ports can help increase their serving area and make themselves more attractive to ship lines for additional cargo or calls.

Interest by the public sector can lead to public investment in rail or support infrastructure, in exchange for realizing the public safety and road congestion benefits that come from converting truck traffic to rail. Safety benefits accrue when rail cars replace truck moves and also because there is less opportunity for vehicle/rail crossing interactions. Additionally, the use of rail versus truck means fewer emissions and less congestion on roads.

These investments are also made for long-haul rail traffic (like industrial access funding for new rail sidings) but short-haul rail can be especially attractive because it is often located in one jurisdiction. A short line's 80 mile movement of sand was estimated to remove more than

17,000 truck trips a year from Kentucky roads, which helped the railroad win a Federal TIGER grant to improve its infrastructure.

Challenges to Short Haul Rail

While short haul rail has no lack of proponents, it is often a very difficult proposition to implement and to get to work efficiently and economically. These challenges have limited the applicability of short haul rail and restricted the shift of short haul movements to rail.

Many times, the barriers are simply geographic – there is no efficient rail route between natural markets. Over long hauls, mileage differences between rail and road routes tend to even out, and incremental circuitry of a rail route tends to be overwhelmed by other economic factors. But even a small mileage differential in a short haul rail route can magnify the service differential between truck and rail.

Other times, the rail route may be direct, but is inefficient due to routing constraints. For example, there is a sizable move of scrap within Ohio that is naturally suited for rail. The road distance is approximately 60 miles, and the rail route is approximately 80 miles. There is, however, no direct rail service between the origin and destination, and the track connections to facilitate this service are backwards. Therefore, the traffic must be backhauled to a major classification yard, adding a day to the transit time and increasing mileage from 80 to 195 miles. This circuitry could be overcome with investment and sufficient volume to generate a direct train or block, but that adds an additional burden to the short haul rail challenge.

Time can be as much of a disadvantage as circuitry. In many short haul markets, trucks can make multiple round trips per day, providing much higher service levels than rail. In all but the densest short-haul markets, rail can economically provide only a single pickup or delivery per day. This disadvantage is magnified by handoffs between trains, or between rail carriers. Even a single handoff or classification event can add a day or longer to a short-haul rail movement that would otherwise be measured in hours for either truck or rail.

Additionally, an exchange between trains or rail carriers can add variability and unpredictability to a short-haul rail movement that may not be tolerable in such a local move. Just as in the case of circuitry, a handoff may be a much smaller percentage of the overall transit time in a long haul movement, but is likely not able to be overcome in many short haul movements. Shippers also note inventory carrying costs as a time-based cost in their calculus for evaluating truck versus short haul rail.

Management attention is a critical element to make short haul rail work. The nature and volume of the millions of rail shipments moving in the US rail network means that handling must be systems-based, and management attention is focused on those systems and exceptions, not individual shipments. This paradigm may not, however, be applicable to making short-haul rail a success. A coal mine depends on short haul rail to move its product from mine to dock, and round the clock movements are scheduled to maximize the output of the production system. But even minor disruptions, like a broken rail, require quick management attention because of the lack of slack or recovery time in the transport plan. Many short haul rail movements do not have

the economics or density to support this type of constant management, and shippers chose truck versus short haul rail because of flexibility. For many shippers, trucks are the “easy button” to solve transport issues.

Rail capacity has become a larger constraint as rail traffic has grown over the past two decades, and more recently, as rail traffic has rebounded from the recent recession. As rail capacity tightens, carriers examine their lowest-yielding traffic, which is often short haul in nature. Additionally, system bottlenecks and choke points emerge. If a rail carrier has to choose between long haul and short haul traffic through a chokepoint, it will often choose the long haul traffic because it uses a greater part of the network and can have higher yields than the short haul traffic. Finally, carriers recognizing this type of capacity limitation will price accordingly, which can make short haul rail an uncompetitive economic position.

Capacity also influences railroad and shipper attitudes toward short haul rail. In leaner economic times, rail carriers with surplus equipment become more aggressive in pursuing short haul moves, and shippers may be more open to considering short haul rail as they seek additional options to limit transportation costs. Capacity limitations can also affect the reliability of shipments, and make the short haul moves less attractive to the shipper because the product is perceived to have been reduced.

Price is the largest challenge to the success of short haul rail. Competition and cost to serve make it difficult to assemble an economic proposition for short haul rail that works for both the customer and the rail carrier. While most rail movements face truck competition of some form, truck competition for short haul movements can be especially sharp. Short haul moves are attractive to many truckers, drawing more competition than long-haul moves for all but the most specialized of shipments. Truckers feel more confident about their economics, are in greater control of their assets, and can better recruit drivers for short-haul moves, especially repetitive ones. This competition pushes price towards variable cost levels, making it difficult to compete unless rail brings other shipment size, weight, or material handling advantages.

Just as the price shippers are willing to pay for short haul movements is challenged by competition, short haul rail plays to the inherent cost disadvantage of rail. Short haul rail tends to have fewer line haul miles (where rail is more efficient), smaller train size (higher train sizes are more cost effective), and additional handlings as a proportion to the overall move (which adds an additional cost move). In the end, it is the inability for rail carriers to compete effectively on price that prevents the conversion of more short haul movements to rail.

Potential Challenge of Truck Size and Weight Increases (TS&W) to short haul rail

Numerous changes have been proposed to truck size and weight regulations this year, at both the Federal and State levels. On the Federal level, bills have been proposed that would set uniform 97,000 pound limits, up from the current national standard of 80,000 pounds, while competing legislation has been introduced that would freeze current size and weight limits and would extend those limits to the entire National Highway System. This would have the effect of reducing higher limits that are in effect for portions of some states, like Maine. A number of

arguments have been made concerning efficiency and safety, for example, but this paper will focus only on the potential impact of increasing TS&W on short haul rail.

Changes to truck size and weight could disproportionately hurt short haul rail. As noted above, the economics of short haul rail are often tenuous. Generating an adequate return for the carrier at a price acceptable to the shipper often depends on the railcar's higher capacity (volume or weight) versus truck - this extra unit capacity enables truck competitive rates. It naturally follows that easing of TS&W regulations that narrow that capacity differential make short haul rail less competitive with truck.

Changes to truck size and weight would not convert all short haul rail traffic to other modes, but studies indicate substantial diversions could come from both long and short haul rail traffic if national size and weight limits were raised. This may be of special concern to short line railroads, for which lost short haul carloads may be more difficult to replace than for the Class 1 railroads, and for public agencies concerned about the health of the rail network, especially the viability of "last mile" services that could see cutbacks with the loss of short haul rail traffic.

An example of this phenomenon is aggregate movements within the state of Michigan. Michigan permits trucks weighing up to 164,000 pounds on its roads. By contrast, Illinois generally allows 80,000 pounds maximum and Indiana's maximum ranges from 80,000 to 134,000 pounds on specially designated routes. The effect of these weight restrictions show up in the movement of bulk commodities by rail, especially aggregates. Surrounding states have substantial short-haul movements of aggregates by rail, but there are very few of those movements within Michigan, especially in the industrialized I-94 and I-96 corridors across Michigan where one would expect substantial consumption, and corresponding rail movements given the lack of water access. To the extent aggregate movements happen by rail, they often use a set of rail/truck transfer terminals that have developed within Michigan, across the border from states with lower weight limits. Rail is utilized to get aggregates into Michigan, and it is then transloaded for furtherance by truck throughout the state. This phenomenon has contributed to the weakening of the short-line rail network in Michigan, especially in the northern, less-industrialized portion of the state.

A similar situation occurred in Colorado. Hops are produced in the state's fertile San Luis Valley, and were traditionally railed to in-state breweries. A change in state truck weight laws allowed the conversion of this traffic to highways. To date, local railways have been unable to recapture this traffic and this has hurt the viability of the short line rail network in the southern part of the state.

Other Issues

The majority of short haul rail moves involve a capital discount of some sort – use of fully depreciated equipment, for example, or explicit funding for terminal construction. If the public sector sees public benefit in short haul rail versus trucking, there will need to be a sharing of those public benefits with the parties involved if short haul rail is to grow more quickly. For example, grants to shippers for (new or improved) rail access are common in many states. Additionally, governments or port authorities have supported inland terminals and provided

incentives for shippers to use those services. It takes active encouragement and financial support for short haul rail to produce the kind of benefits (congestion and emissions reduction) valued by the public.

In 2003, the STB modified its rules concerning railroad trackage rights in a way that has helped some rail carriers pursue short haul business. In the proceeding (Ex Parte 282), the Board specifically allowed for the grant of temporary trackage rights, that is, rights with a predetermined end date. Since these rights do not extend indefinitely like traditional trackage rights do, railroads have on occasion been willing to grant these rights to other carriers to pursue short-haul business opportunities. Other operating or commercial considerations may preclude more grants of these kinds of rights, but the regulatory barrier has been lowered.

Summary

Since even before rail deregulation in the early 1980s, railroads and shippers have been looking for a formula to improve the competitiveness of short haul rail. This effort has met with mixed success, primarily due to the price challenges posed by truckers and the configuration of the rail network to favor long hauls. Recent progress and changes in the marketplace (like increased fuel prices) could lead to an increase usage of short haul rail, but potential increases in truck size and weight could threaten many short haul rail moves.