

The Mixed Train Concept: The Best of Both Worlds for European Rail Freight?

The competitive landscape for railroads in Europe is likely to change dramatically over the next 10 years, as a result of increasing demand for cross-border rail freight service, the continued entry of new operators, and shippers more willing and able to switch to the provider that offers the best service at the lowest price. In this environment, incumbent railroads will be challenged to keep market share and margins from eroding.

A key issue is the economics of how wagons (railcars) move, whether in trainload service (point to point, complete train for one customer) or wagonload service (single wagons for various customers, assembled into trains). Under a closed, non-competitive system, trainload service was seen to be the more economic choice, but liberalization has brought about a radical decline in profitability for this service. Since trainload flows are mostly stable and predictable, they have been subject to intense competition, particularly “cherry picking” by new above-rail operators. As a result, we are seeing prices fall by 2-3 percent a year, eroding margins.

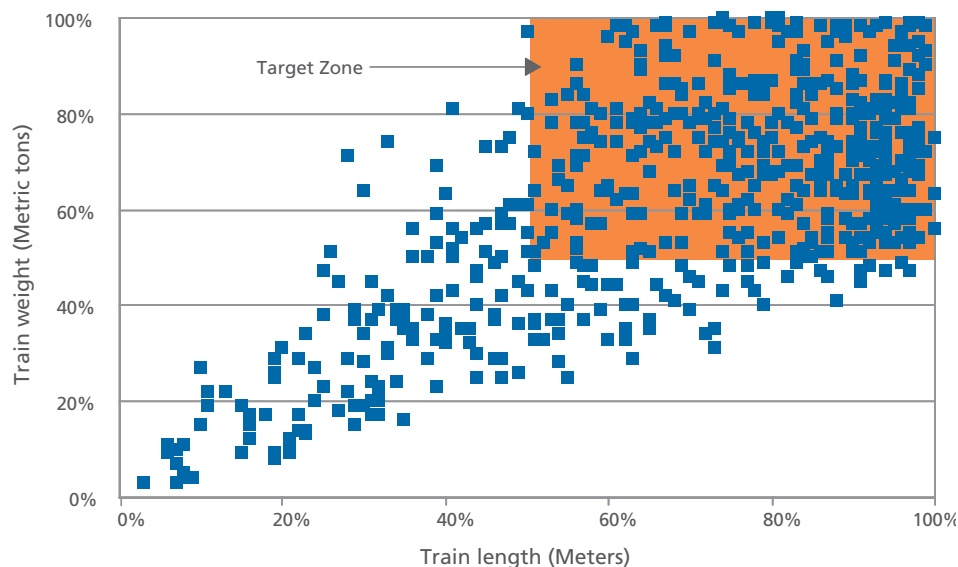
With trainload services under stress, it may be time for European railroads to take another look at wagonload service. Wagonload, because it involves assembling, sorting, and multi-point distribution of wagons for individual customers, generally has been seen as less cost efficient and more operationally complex. Oliver Wyman believes, however, that by developing “mixed train” services that meld the economics of trainload with the greater geographic coverage of wagonload, railroads can actually gain a new source of strategic control and competitive differentiation.

Using Capacity Wisely

The crux of the matter is that current rail service strategies make poor use of available capacity. European railroads often run three or more parallel product services (on different trains) that take no advantage of existing capacity on other services. Improving capacity usage makes rail more efficient and reduces operating costs—which can be passed on in the form of lower rates and better service for customers.

An analysis by Oliver Wyman of key European corridors determined that most trains operate well below the capacity of the path or the locomotive. Railroads purchase capacity equal to both the length and weight of a train. But trainload trains are routinely only half the permitted length, while many automotive and intermodal trains are too light. Interestingly, wagonload trains show the best usage of capacity, regularly operating at 70 percent of both key dimensions. Exhibit 1 shows the aggregate performance for all of the trains (wagonload and trainload) in a typical European corridor, as well as the “zone” of capacity usage that Oliver Wyman believes railroads should be targeting.

Exhibit 1 Tonnage and length capacity utilization on a typical European corridor



Source: Oliver Wyman analysis

The downside of traditional wagonload service, however, is that moving a single wagon may involve 4-5 trains and 2-3 yards. This high switching frequency has often been identified as the key reason for both the poor service and high costs of wagonload service. Unfortunately, some of the “improvements” railroads have made over the past 10 years to reduce costs—such as cutting the number of yards—have actually worsened the problem, forcing wagons to travel farther to be sorted through fewer yards. The question then is, how can railroads capitalize on the better capacity usage of wagonload, while also improving the economics of this service?

A “Third Way” Forward

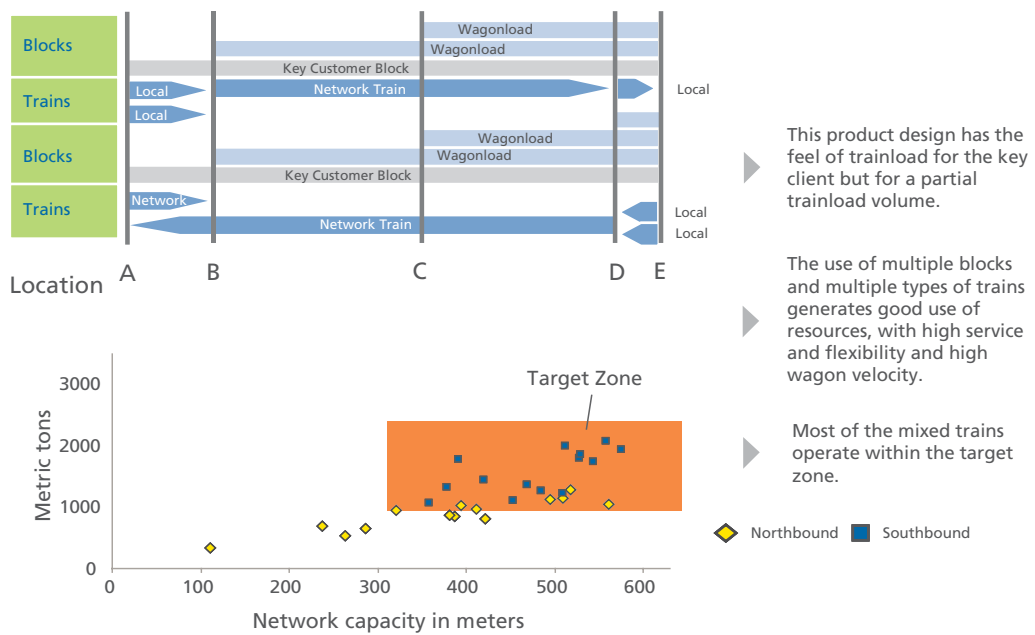
Oliver Wyman believes that it is possible to build a system that draws on the best aspects of both trainload and wagonload service. Doing so requires a change of planning perspective—from train-centered to wagon-centered—and a corresponding change in marketing—from selling trains and hours of transit to selling capacity and service levels.

In simple terms, the core of the concept is to develop more flexible ways of building train services. Railroads tend to run either a single-client trainload train or wait for enough wagons to fill a wagonload train. But a mixed train service could, for example, add wagonloads onto a too-short trainload service, building a longer, heavier train and thus maximizing capacity usage. Or, rather than holding wagons in a yard until enough going to the same place accumulate to fill a train moving once or twice week, a

“daily block” of wagons could be run, with additional wagons added on that are going in the same direction (but not to the same destination) to fill out the train.

As a case example, Oliver Wyman worked with Green Cargo in Sweden to develop a mixed train service. As shown in Exhibit 2, the mixed train makes very good use of an “anchor block” of wagons for one customer, plus smaller wagonload blocks traveling in the same corridor. As result, it has significantly better utilization than the typical trainload- or wagonload-only train.

Exhibit 2 Mixed train service concept at Green Cargo



Avoiding the Race to the Bottom

Whatever the actual planning, the focus of the mixed train concept is to break down traditional operational divisions and instead concentrate on meeting the operating objectives that are mostly likely to improve an incumbent railway’s profitability, flexibility, and strategic control—that is, reducing wagon handlings, reducing trains operated, increasing the stability of train operations, and raising the barriers to entry.

The traditional response to key customers’ service needs has been the creation of new irregular trainload services, which simply put more underutilized trains on the network, thereby creating a more complicated interface and planning/scheduling environment. And, by turning the railroad into a pure traction provider serving a concentrated shipper base, such a strategy plays right into the market forces that are destabilizing the industry and driving down profits.

Oliver Wyman’s mixed train approach, backed by a range of sophisticated operational planning tools, offers an alternative that allows for better allocation of resources while rebuilding the railway’s commercial offer to focus on service levels rather than product silos. This strategy can provide a predictable base business that can serve as a barrier to entry and enhance the potential for traffic growth and profitability, even as open access continues to bring aggressive new operators into the market.

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Oliver Wyman's Rail Operations Consulting Services and Software

Oliver Wyman assists railroads in designing and implementing a variety of operating strategies, including network restructuring, product design, yield management, asset management, and overhead reduction. To support these strategies, we have developed a suite of supporting software tools, including *MultiRail Enterprise Edition* and *MultiRail Passenger Edition*. Oliver Wyman has assisted most of the US Class I and leading European passenger and freight railroads in implementing network/operations optimization software tools and achieving operations excellence.

If you would like to discuss Oliver Wyman's perspectives on rail operational planning, please contact your Oliver Wyman account partner or one of the following partners:

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