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Toward A Functional Market for Freight Car Capacity

by *Douglass Wm. List**

ABSTRACT

It is widely recognized that the existing freight car compensation systems result in significant economic and managerial inefficiencies. The deregulation of most freight transportation rates and modern information technology provide an opportunity to adopt a fundamentally different approach. A system that eliminates car hire and allowances altogether would be market responsive, work simply, result in appropriate incentives to invest, and avoid market power by any one participant.

Under the proposed system, the price of renting a car is unbundled from the price of rail transportation. Shippers rent cars from car suppliers in an unregulated market and railroads charge for all empty movements.

The system is advantageous to all participants. Shippers manage the equipment aspects of their business more efficiently; origin carriers can reduce the equipment costs of serving shippers; connecting carriers no longer face uncertainty regarding the car costs and empty movement of received traffic; and car owners have greater control over the use of their assets. For the industry as a whole, the proposed system improves empty distribution efficiency and eliminates the irrational behavior that results from artificially determined car hire rates and allowances.

While a dramatic break from the current arrangement, implementation of such a system is clearly feasible. Many changes to the regulatory environment would be necessary, but they pale in comparison to the regulatory problems that a car capacity market structure would solve. Fortunately, these changes are also consistent with trends already developing in the industry today.

INTRODUCTION

Few aspects of railroading have generated more interminable controversy than the freight car compensation systems. These systems consist of car hire, under which one railroad pays another for the use of freight cars, and allowances, which are a form of rental for so-called private cars owned by other entities. An entire generation of lawyers and consultants has made a living arguing about costs of ownership, definitions of transportation use, allocations of rentals to time and mileage, and the like. Even today, the railroad industry remains sharply divided over car hire by the

conflicts between debtor and creditor railroads and between the large Class 1's and their short-line connections. Disputes concerning allowances have been almost continuous for several decades.

From time to time, regulatory solutions have emerged, some resulting from compromises and others from Herculean efforts by the ICC to sort through the disputed issues. Each has fallen of its own weight as artificial solutions are undone by economic realities.¹ Inevitably, compensation fails to correspond to the value of using a car.

The real-world effects of these repeated failures are not fully understood. It is widely recognized that car hire rates that do not reflect market values send the wrong signals to those who purchase cars. For many years, car hire was too low to encourage acquisitions, which probably contributed to an inadequate car fleet. If compensation exceeds market value, it encourages excessive investment, as happened in some car types early in this decade.

Less fully understood are the ways in which inappropriate car hire invites costly manipulation of the transportation system. When car hire was insufficient, receiving railroads tended to hoard cars, requiring the ICC to order the cars returned. In the early 1980s, the opposite problem was caused by incentive per diem. The principal objective of fleet management for many car owners was to inflict as many cars as possible bearing high car hire rates on hapless connecting railroads in order to maximize car hire earnings. The receiving lines could not block receipt of the expensive cars due to mandatory interchange, but they could at least return them without reloading them, which undermined overall equipment utilization. Railroads began to develop mechanisms for retaliation against sources of unreasonably expensive cars, creating a level of mistrust within the industry.

These effects of flawed compensation systems have a little known but extremely damaging impact on interline rate-making and competitiveness. Each railroad, in pricing its received traffic, must consider the risk that expensive cars might be used, and that the cars might have to be returned empty. Where those risks are significant, the railroad must set freight rates higher than would otherwise be necessary, in order to avoid the risk of carrying traffic at a loss. This has the effect of reducing the ability of railroads to price close to costs and therefore reduces the number of markets in which railroads can compete effectively.

The systems of freight car compensation in place today reflect regulatory preoccupation over

the years with constructing a set of uniform car rental rates which ensured fair investment returns to investors in freight cars, be they shippers, railroads, or third-parties. Such regulation was assumed to be necessary: 1) to promote the free flow of equipment between independent railroads, 2) to protect the owners of that equipment from having their investment unfairly exploited by others, and 3) to encourage ongoing investment in equipment by ensuring that investors would be fairly compensated.

If these systems ever made sense, it was in the context of regulated freight rates and pre-computer information technology. The ostensible purpose of regulating freight rates was to ensure equal treatment of similar shippers while providing railroads with an acceptable return on capital. Why not regulate cars according to similar criteria, with equal rates for all equal cars and a regulated return on investment to the owner?² At the same time, real-time control by an owner of thousands of freight cars scattered over hundreds of thousands of miles of railroad lines controlled by hundreds of independent companies simply was not possible before the emergence of modern information and communication technology. Freight car owners had a legitimate, practical need for some sort of industry framework for the user/owner commercial relationship.

Neither of these conditions exists today. Freight transportation rates have been largely deregulated. Experience to date suggests that market competition has led to industry performance as good or better than that achieved under regulation for most parties (shippers, railroads, and the public) under most circumstances. Information and communication technology have advanced to the point where a car owner can readily determine the current location of his equipment and issue instructions for its disposition. Yet despite these changes, the car compensation systems of twenty years ago have remained largely intact—not because they are viewed as desirable, but because the industry has become paralyzed by fear among shippers, railroads, car owners, and regulators over the consequences of changing them.

The perception that the current system is inadequate is widely held. The Interstate Commerce Commission has now entered its fourth year of pondering proposals for a revised car hire system in *Ex Parte No. 334 (Sub-No. 6)*. But the divisions that have split the industry in the past continue to be evident.

This latest round of the debate has drawn an innovative suggestion by several railroads for "depreciation" of car hire. The basic structure of the car hire system would remain, but ICC regulation of car hire rates would be replaced by rules that allocate the power to set compensation between owners and users, the objective being to encourage bilateral agreements between railroads. Despite its innovative features and aggressive marketing by its proponents, this proposal has not drawn a consensus, even among the major railroads. Smaller railroads actively oppose it, believing that it gives receiving railroads undue power over car hire and would impose impossible accounting burdens. Perhaps in response, a group

called "POSSE" has marketed a more traditional form of car hire system with rates computed to react to conditions of car supply and demand.

The goal of this paper is to articulate a fundamentally different alternative. To date, all the major proposals for revision of the car hire system, including the proposal for depreciation, assume that the basic structure of the car compensation system, with all its complexities, should be retained. They assume that freight rate charges by railroads should continue to cover the provision of freight cars (in the case of allowances, even when railroads do not supply the car) and the transportation of empty cars, thereby exerting little pressure to reduce these enormous expenses. They also assume that railroads would continue to pay rentals to each other when freight cars pass through interchange, even though in theory the payment is merely a refund of that part of the freight rate that represents the rental of the car. As a result, even the most radical proposals envision retention of transfer payments, economically questionable subsidies, and an accounting morass that confuses economic relationships and, at its best, merely guarantees employment for accountants, lawyers, and regulators.

At the very least, it would be a tragedy for the railroad industry and the ICC to conduct a searching reconsideration of car hire—perhaps the most thorough reevaluation ever—without considering the possibility of fundamental changes that would eliminate the problems of car hire for the future. These changes would not be easy, but they are not impossible.

OBJECTIVES OF A RATIONAL CAR COMPENSATION STRUCTURE

The regulatory search for the perfect level of compensation may have proved to be futile, but it has at least served one useful purpose. It has identified a number of objectives that should be served by a rational freight car compensation system.

1. *Responsiveness to market conditions.* The most obvious lesson drawn from the collapse of the car hire and allowance regimes developed in the late 1970s is that compensation must respond to market conditions. Market prices promote efficiency. Many have noted, for example, that the market would not place differing prices on functionally equivalent rail cars merely because they carried different price tags when purchased. The market price of using any particular car should reflect the real costs of using that car for that movement, considering alternative uses of the car or the capital in it, empty movement costs, repositioning opportunities, suitability for the load, and other factors.

Although there is much disagreement concerning how compensation should respond to conditions of supply and demand, there is a virtual consensus that market responsiveness is desirable.³ Proposed revisions to a national car hire formula have focused on mechanical adjustments that would improve the correspondence between formula outcomes and market-driven compensation. Those who favor depreciation

ask instead why the industry should settle for imperfect replicas of a market that can operate effectively without regulation. They offer the obvious, but nevertheless important insights that car hire prices will be determined best if borne by the party that decides whether it is beneficial to incur them and that no formula can accurately mimic those market judgements.

2. *Simplicity.* In an industry where many thousands of transactions occur daily, involving hundreds of railroads that vary dramatically in terms of economic sophistication and information systems, a car compensation structure must work simply. One of the major attractions of regulated car hire formulas is that they provide a common set of rates that anyone can identify at all times. One of the potential problems of the deprescription proposal, even for large carriers, is the possibility that any given freight car may carry dozens of different car hire rates that could change rapidly. The data processing problems are not insurmountable but they are also not inconsequential.

3. *"Fair" compensation and incentives for investment.* Every investor wants to recover his investment and make a handsome profit, and who would not want a guarantee that this will always happen? The problem, of course, is that a compensation mechanism based on those objectives would produce too many cars for the traffic available and, by raising railroad costs, reduce the amount of traffic for which railroads are competitive. Conversely, a compensation regime that, by regulation or allocation of price-setting power, fails to return market value to car owners will lead to car shortages. An ideal car compensation mechanism will, like other markets, signal new investment by adjusting prices to the level that draws needed investment dollars.

4. *Avoidance of market power.* Perhaps the greatest objection to deregulating car compensation is a fear that railroads will thereby achieve and subsequently abuse substantial market power over car rental rates. Small railroads fear that large railroads will refuse to pay adequately for use of their cars. Private owners are convinced that, without regulation, railroads will choose to use their own cars in preference to private cars and will pay inadequate allowances to discourage use of private cars. The concern has been sufficiently forceful that proponents of deprescription have adopted an arbitration procedure as a dispute resolution mechanism. The risk, however, is that arbitration awards will establish a substitute system of regulation.

No car compensation structure has satisfied all these objectives with perfection. The case that ICC-regulated or collectively determined car hire is least able to satisfy them well has been made forcefully by others. However, to an even greater degree than the pending deprescription proposal, the elimination of car hire altogether, as outlined below, satisfies all these objectives.

THE PROPOSAL

Given that car hire and allowances have been around for decades, the proposal to eliminate

them is surprisingly simple in concept. Car hire and allowances can be eliminated by unbundling the price of renting a car from the price of rail transportation. In its place, all participants in rail transportation should honor the straightforward proposition that each service should be purchased by the users of that service directly from the providers of the service. In other words, shippers should buy transportation from railroads and rent cars from whomever will supply them.

Although we are accustomed to the present system, an outside observer would find it irrationally complex and convoluted. Under the existing system, carriers charge shippers freight rates that implicitly include the cost of renting a car, including the cost of repositioning it for another load.

When the car is a private car, a rental—computed on a different basis than the freight rate—is then refunded to the car owner, who may or may not be the shipper. This entire transaction is, of course, entirely unnecessary. There is no reason a shipper should pay a rental to railroads that do not supply a car, only to receive money back in the form of an allowance. Western railroads demonstrate the needless nature of this arrangement every day by transporting trainloads of export grain to the west coast, using private cars, at rates that involve the payment of no allowance.

When the car is owned by a railroad, the transactions are less obviously irrational, but even more convoluted. Again, the freight rate paid by the shipper includes an implicit component for rental and empty return of a railroad-owned car. Assuming the car is owned by the originating railroad, a receiving railroad then pays the owning railroad a rental charge for having the car on its lines. The car hire charge is not computed on the same basis as the freight rate charged by that railroad, and, in fact, may vary enormously depending on the car that is carrying the shipment.

It would be much simpler for the railroads to charge for the transportation services they provide and let the car provider charge for the car. Similarly, rather than requiring a shipper to pay a freight rate that includes the cost of moving an empty car home because no one is obliged to find a load for that car at its current location, the car owner should pay for the empty movement.

A proposal of this sort was suggested in general terms by John Richard Felton in *The Economics of Freight Car Supply* (1978), pp. 83–100. The proposal was embraced by the U.S. Department of Justice during the early 1980s. DOJ reasoned that the total elimination of these car compensation systems would not only eliminate the endless disputes about the extent and form of federal regulation, but would realign economic relationships within the industry in an economically rational way for the first time in a century.

The most effective and efficient way to simplify these relationships is to allow the market for freight car capacity, which already exists beneath the confusion of the compensation systems, to operate openly and without restraint. While initially appearing to be a radical departure from current arrangements, such a system can work quite simply. Here are the basic components:

1. Railroads pay no car hire or allowances on either loaded or empty movements.

2. The shipper rents from car suppliers (railroads, leasing companies, agents, or, implicitly, themselves) whatever cars it chooses at whatever rates the shipper and the supplier determine, not subject to ICC regulation, just as shippers today lease cars from leasing companies (and sometimes from railroads).

3. Railroad freight rates cover only the transportation of a loaded car, not the provision of the car or the subsequent empty movement of the car.

4. Railroads charge for all empty movements, subject to potential ICC regulation like any other transportation charge, and for storage.

5. Delay penalties (formerly demurrage), if any, are paid to the owner of the car.

These basic guidelines will be explored in greater detail in the remainder of this paper. However, they produce a number of corollaries which provide immediate insight into the interactions of various participants under the system:

6. Movement of empty cars is a transportation service, separable from the movement of loaded cars and subject to the same competitive forces in terms of price and delivery.

7. The opportunity for one party to force car hire payments from another party disappears.

8. All parties to a transportation movement know their equipment revenues and costs for that movement with a high level of certainty before they agree to participate and set their prices.

9. Artificial regulation-driven incentives for owners (railroads or shippers) to use their own cars in preference to other, more economical cars, disappear.

10. Compensation for the use of freight cars becomes indisputably based on market factors.

The concepts articulated in these rules and corollaries are discussed in more detail below.

Car Rental as a Shipper Responsibility

Clearly, the shipper is the final consumer of freight car capacity. Only he can decide what mix of car cost, car availability, car quality and car specifications best serve his economic interests. In order for the market to work effectively, the shipper must be able to choose freely the cars which best suit his requirements. In addition, he must know the true market price of capacity, where the market price reflects alternative uses of the car, empty movement costs and all the other economic ramifications of his selection.

Today, control over car selection rests heavily with the origin carrier. Unfortunately, there are presently several institutional forces which distort carrier selection of equipment. First, the current car hire system sometimes gives origin railroads incentives to give preference to cars they own or control in order to earn regulated car hire that exceeds the market value of the equipment (or to avoid paying regulated car hire to others in excess of equipment market values). Similarly, unreasonable allowances may discourage use of private cars. Second, the car service rules (constructed to restrict those empty movements that will be provided free of charge to the car owner) make it difficult to move empties out

of reverse-route to loading points on other railroads.

The transportation rate charged to the shipper includes an imputed charge for the use of the car, but this price fails to respond to market demand and supply. Buried in the freight rate and reflecting a past assessment of car value, these imputed rates fail to perform as true market prices. They are ineffective as signals to producers to expand or contract production. They cannot efficiently ration the existing supply among prospective buyers. Hidden in the freight rate, these charges do not help shippers make informed car sourcing decisions.

Under the proposed system, all rental charges due on a loaded movement would be paid by the shipper to the car owner. These charges would be known in advance to the shipper through price lists published by the car owner, supplemented by negotiated contracts where appropriate. In setting their car rental charges, car owners would consider not only the time and mileage required for the loaded movement, but also expected empty repositioning costs in terms of time, mileage, and transportation charges. Thus, the prices for equipment presented to the shipper would represent owner assessments of the total economic cost of providing that equipment to the shipper for that type of movement. Behaving rationally, the shipper will select for loading that equipment which he perceives to be most economic for the required movement, considering not only direct costs but also other economic factors such as car quality and reliability of supply.

New Roles for the Origin Carrier

Under the proposed system, the origin carrier takes on one of two distinctive roles in any particular transportation movement. Where the shipper actively manages his own car supply, the origin carrier becomes simply a provider of transportation services. In other cases, the origin carrier will assume the additional responsibility of providing equipment to the shipper as a service supplemental to the underlying transportation service.

Where the shipper actively manages his own car supply, the situation is similar to the relationships emerging today for private cars. Railroads are quoting "zero-rated" (i.e. no allowance payments to the car owner by the railroad) rates on these cars today. Shippers are independently making their own arrangements for equipment either through direct ownership or rental agreements with third parties. In effect, the proposed system extends this model to all cars.

In practice, many shippers will probably prefer to avoid the day-to-day process of procuring equipment. In these cases, it is likely that origin carriers will be asked to step in and provide an equipment sourcing service in addition to their basic transportation service. Car supply would be covered by a charge separate from normal freight charges. In this situation, the origin carrier becomes a "market-maker" in equipment, contracting or otherwise arranging for equipment capacity that is then resold to the shipper. Other entities

may also emerge as third-party equipment supply brokers.

It is important to note that when the origin carrier steps into the role of sourcing equipment under the proposed system, the environment in which it plays that role is very different from the environment in which it provides cars today. First, the shipper maintains control over the process through his underlying right to obtain cars from other sources. Second, the origin carrier lacks any ability to force car hire payments from its connections as a means of subsidizing its equipment selection decisions. Third, the new rules governing the right of car owners to price their cars and have them moved empty according to rates set by the carriers allow all of the economic ramifications of equipment selection decisions to be forcibly communicated to the origin carrier.

Connecting Carriers Have No Car Hire Obligation

Connecting carriers have today only indirect influence on the selection of cars forwarded to them by origin carriers. Attempting to exert this influence effectively on a daily basis across thousands of origin carrier decisions is at best awkward and difficult, and at worst completely ineffective. From both an economic and a managerial perspective, it is far more rational to eliminate altogether the connecting carrier obligation to pay car hire.

The proposed car hire system effectively eliminates two major (and unnecessary) risks faced today by connecting carriers: (1) uncertainty about car costs, and (2) uncertainty about empty movement obligations incurred on received traffic. Today, car hire rates on individual cars carrying received traffic may vary by a factor of two or three. At the same time, the empty movement obligation incurred by handling a specific car can range from zero to empty mileage in excess of the loaded move. Deliberate manipulation of the car hire system in recent years has muddied the waters further. Origin carriers and car owners have openly negotiated car leasing arrangements predicated on the origin carrier's ability to force cars with high per diem rates on to connecting carriers. Receiving carriers see the profitability of their participation in the traffic destroyed while car owners give bargain basement rates to origin carriers on the very same cars. No wonder interline traffic is so difficult to develop and maintain.

With the uncertainties of car costs and empty movement obligations eliminated, connecting carriers are free to focus on developing strong interline services. No longer subject to risks of exploitation by origin carriers, the connecting carrier can pursue received traffic aggressively in the context of well defined margins and a healthy, constructive, negotiating environment.

The Obligation for Free Empty Movement Is Abolished

The proposed system abolishes the concept of "free" transportation of empties. Once a car is

unloaded, it is the responsibility of the car owner to determine its subsequent disposition. Any railroad that moves or stores the empty car for the owner can charge for this service. Since these charges are known in advance to the car owner, they are reflected in his rate schedule for use of the loaded car. No car hire is paid on the movement or storage of empties unless it is part of a contractual agreement reached between the car owner and the carrier.

Direct owner responsibility for empty car disposition can be achieved much more easily than might first be realized. Owners do not have to issue specific instructions on each individual car. Instead, they can control most of their cars with a combination of waybill supplied instructions ("when empty, reverse route to shipper") and standing flow orders ("direct all empty ABC gondolas to railroad DEF at Junction City").

Carriers would establish "empty handling tariffs" in a manner similar to the way they set tariffs on loaded movements today. These tariffs would apply in the absence of any other agreement. As with loaded movements, carriers could be expected to enter into contracts with car owners (as "shippers") which supersede these tariffs. In addition, carriers would actually be in a position to compete for empty movements. Competition can indeed be expected to pull empty movements towards their most efficient routing without regard for the routing of specific loaded movements.

ADVANTAGES OF THE PROPOSED SYSTEM

The proposed system provides greater economic opportunities to all participants in the freight car management process: shippers, origin carriers, connecting carriers, and car owners. From a regulatory perspective, the proposed system is attractive because it uses market forces to replace regulation and collective industry action, while stimulating greater efficiency on the part of the industry.

Shippers

Historically, shippers have only been able to control equipment directly when they have been in a position to provide their own cars for dedicated movements. In most cases, such situations have been limited to movements requiring 100% empty return, and industry rules around the handling of empties have tended to encourage this practice. The vast majority of railroad traffic is not suitable for this arrangement either because the traffic is not sufficiently stable to allow for dedicated equipment or the economics of the traffic will not support 100% empty return for the shipper (especially if a railroad or trucker can achieve a much lower empty return ratio through use of a free running fleet).

Under the proposed system, shippers may choose among various sources of private equipment and railroad suppliers. They can bring cars in from sources other than the origin carrier if they choose to do so. They can actively seek to

out-bid other users of equipment in times of equipment shortages without having to re-negotiate their underlying transportation rates. In short, they can manage the equipment supply aspects of their transportation requirements as effectively as they do other aspects of their business.

Origin Carriers

The proposed system gives origin carriers major new opportunities to reduce the equipment costs of serving shippers. Today, even if an origin carrier can save the industry thousands of empty miles by reloading a foreign car, it evaluates the attractiveness of reloading the car in the context of its own economics, which may show use of the foreign car to be unattractive. Under the proposed system, industry-wide efficiency gains are reflected in the loaded car rental charges of car owners. A car owner can offer large incentives to a small regional carrier to make car selection decisions that will save the industry hundreds of empty miles, even if the on-line transportation costs to the regional carrier are increased. Whether managed through the shipper or the origin carrier, the end result is lower equipment costs that make origin carriers more competitive for traffic.

Connecting Carriers

The proposed system would radically increase the attractiveness of received traffic throughout the industry. In today's environment, equipment issues cast a dark shadow over railroad interest in received traffic. The existing car hire system, coupled with mandatory interchange and industry car service rules, creates a situation in which carriers have little to no control over their equipment costs on received traffic. Although transportation revenues are fixed by the shipment being handled, costs can fluctuate dramatically with the wide range of potential car hire rates on the equipment and the effects of different empty movement obligations incurred with receipt of specific cars. While regulatory changes have given connecting carriers more leverage to pursue these issues with origin carriers, the practical impacts have been disappointing. Consequently, connecting carriers must exercise extreme caution in pursuing received traffic—looking to ensure that the traffic will be profitable regardless of the equipment selection decisions made by the origin carrier.

The proposed system addresses these fundamental deficiencies in the arrangements surrounding inter-line traffic. All car rentals are charged to the shipper directly or through the origin carrier acting on his behalf. All empty movements are the responsibility of the car owner. The connecting carrier, which has no ability to control the selection of the car used for the loaded movement, is no longer saddled with the economic consequences of that selection process. The connecting carrier is responsible for providing connecting service, period.

Under these circumstances, railroads can pursue received traffic aggressively. The costs in-

curring in handling received traffic become directly controlled by the receiving railroad, and predictable with great certainty. Business which previously would have been turned away as too risky becomes attractive. Rate levels can be reduced to attract new business without fear that a change in car selection by the origin carrier will make the business unprofitable. Nor is there any concern about unforeseen empty movements generated by the traffic. The carrier sets its own rates for any empty movements it handles. It is up to the car owner to determine what empty movements will result from specific loaded movements, what these empty movements will cost, and how the cost of these empty movements should be recovered through loaded car rental charges. Best of all, the opportunity for origin carriers to exploit their connections is eliminated, facilitating the development of trusting relationships among carriers which are essential to the long term development of inter-line traffic.

Car Owner

For the car owner, the proposed system brings unprecedented control over car use while significantly increasing the role of the car owner in the management of the national rail system. For the first time, the car owner achieves absolute control over the use of his cars. Through his loaded car rental rates, he directly controls the conditions under which his cars may be loaded and the rates he is to be paid for that use. While he may be required to pay for any empty movement of his equipment, that movement cannot occur unless he has authorized it. All the mechanisms are in place to allow him to compete for business anywhere in the country, distributing empty equipment to maximize his economic returns, regardless of who has used the equipment previously for specific loaded movements.

To be sure, the proposed system puts a new responsibility on car owners to translate their car ownership and empty movement economics into loaded movement rental charges. At the same time, however, this new responsibility spawns dramatic new opportunities to compete and provide added value. Premiums can be charged for superior quality and availability. Profitability can be enhanced through careful management of empty flows and the loaded charges creating those flows. Opportunities in the car supply arena become driven by economics, rather than by regulation.

Industry Structure

From the perspective of the regulator or the economist, the case for the proposed system is overwhelming. Shippers are directly motivated to select the most economic car for each load. The powerful and destructive opportunity for origin carriers to unilaterally extract car cost subsidies from their connections through the car hire system is eliminated. All empty movement costs become explicit. Mechanisms are created for readily connecting all of the economic consequences of car selection back to the party making

the selection (the shipper or origin carrier) and for managing empty movements on a total system basis rather than in tight relationship to specific loaded flows. The incentive to add "fluff" to cars in order to drive up car hire rates is eliminated, while there remains a clear opportunity to charge a premium for true increases in value provided.

The system creates powerful incentives to improve empty distribution efficiency and provides the mechanisms needed to achieve these efficiencies. Car owner profit becomes tied directly to increasing loaded activity while minimizing empty movements. Empty movement and storage charges in themselves provide incentives for reloading, but become a truly powerful force when placed in a system where all of these charges can readily be passed back to the party setting the rates for using particular cars for particular loads. Payment for all empty moves encourages efficient "triangular" empty moves that utilize carriers and routes not involved in loaded patterns, and creates an environment in which such movements are treated as normal activity rather than exceptions to standard practice. The proposed system has the added attraction that it provides an opportunity to merge the treatment of private cars and railroad cars under a single system.

MECHANICS OF OPERATION

A good way to develop an understanding of how the proposed system would work in practice is to examine several of the individual pieces required to make it work.

Loaded Car Rental Charges

Each car owner establishes his own schedule of car rental charges. This schedule defines exactly under what conditions the owner's cars can be loaded and the charges which apply. It may or may not reflect loaded time, loaded miles, geography of origin or destination, risk of contamination, or time of use.

Unlike existing car hire rates, these charges would be value driven, not cost driven. The price of a car in the market would be determined by its utility to the user and costs of operation. What the car owner actually paid for the car may affect these variables indirectly, but would not form the sole basis for charging dramatically different rates on two different cars that are performing the same economic function.

The basic loaded car rental schedule would operate much as a railroad transportation tariff. It would provide a potential user with an immediate price for any conceivable movement. Where appropriate, the schedule would be replaced by bilateral contracts between car owners and individual origin carriers or shippers.

Empty Movement Tariff

Each railroad would establish a tariff for moving and storing empty cars. Like any other freight rate, these charges must reflect competitive con-

ditions, tempered by underlying transportation costs such as miles, speed of delivery, car type, tare weight, and geography of origin or destination. As with any other railroad tariff, it would regularly be supplemented by contracts between car owners and individual carriers. While it is conceivable that there could be inter-line empty movement tariffs, the general expectation is that most empty movement tariffs would be carrier specific. Car owners would handle movements with each carrier on an individual basis.

Transportation Tariffs and Contracts

The most difficult aspect of implementing the proposed system is the need to adjust freight rates to reflect the new system. Under the proposed system, the cost of empty transportation would be paid directly by the car owner and recouped, together with all car ownership costs, through loaded car rental charges paid by the shipper. Consequently, while divisions of transportation revenues could probably remain the same in most cases, transportation rate levels would have to be reduced to reflect the fact that it is now the shipper (and not the railroads) who is paying for the costs of providing the equipment, including the costs of empty car distribution.

Settlement Process

We have seen how the proposed system would work from a managerial perspective, but how would it be administered from an accounting perspective? There are doubtless several different approaches that could be taken. The terminating carrier could settle the waybill as today, but also send a copy (without freight charges) to the car owner. The car owner would bill the shipper for use of the car based on the waybill settlement record received from the terminating carrier. Alternatively, the system could be set up such that all dealings between the shipper and car owner are handled directly without railroad involvement. Any carriers handling a car as an empty would generate an empty movement waybill and use this as a basis for billing owners. The waybill would include a notation indicating the source of authorization for the movement (standing instructions contained in a specified document, verbal instructions from a named person, etc.).

Checks and Balances against Abuses

Any proposed new system should be rigorously reviewed for ways in which it could be abused in practice before it is implemented. This system, with its effective balance of power among the participants, shows intrinsic capability to discipline any attempts at abuse by a participant. Some potential abuses and their remedies are reviewed below.

- Carriers fail to move empty equipment expeditiously. Under the proposed system, each car owner would tender empty cars for movement

under the carrier's empty movements tariffs, absent another agreement. The carrier would have the same legal obligation to move the empty car that it has to move any other freight shipment.

- **Carriers use empties in the absence of authorization.** Car owners would have no obligation to pay for any empty movement they did not authorize, such as movements for operational reasons. Each empty car is the property of its owner and cannot be used by a railroad without compensation to the owner. Use of a car under any conditions not specified by the owner or private agreements would subject the carrier to legal action.

- **Carriers demand excessive compensation for empty movement and storage.** Such charges would of course be translated into increased rental rates to shippers from car owners, under which no traffic would move. This would be detrimental to the carriers, forcing them to charge competitive rates. In the vast majority of situations, shippers have competitive alternatives, and railroads cannot increase the total cost of using rail transportation without driving away their own business. In the unusual situation where the railroad has market power, ICC rate regulation is available, just as it is for other freight charges.

- **Car owners demand excessive rental rates.** Shippers always have the ability to lease or purchase their own equipment if the charges requested by other owners become too high. In fact, market rates for car rentals will become a major signal for when new investment by the industry in additional capacity is warranted.

ADJUSTMENTS TO THE REGULATORY ENVIRONMENT

Is it possible for a regulatory framework created during the era of regulation and premised on carrier responsibility for car compensation to accommodate elimination of the entire car hire system? The existing regulatory structures supporting car hire and allowances are well entrenched, and altering them presents a matrix of legal issues that no layman can address with confidence. Nevertheless, there is reason for optimism that the necessary adjustments can be made.

At the broadest level, some comfort can be taken in the fact that the Departments of Justice and Agriculture believed in 1980 that the car hire system could be abandoned. The ICC also identified the option of "direct rental to shippers" in its 1985 request for comments in its car hire investigation.⁴ Presumably, that was not a futile gesture. Nevertheless, the transition to an environment free of car hire would involve several components.

One important step has been made considerably easier by the ICC's recent decision, approved by the courts, authorizing railroads to charge for movement to repair facilities.⁵ For a fully rational car capacity market to operate, railroads must be allowed (or perhaps required) to charge for all empty movements, and there is considerable doubt that the railroads could do that without further ICC action. The ICC's decision, and the court's decision approving it, seems

to leave ample room for the ICC to determine that all empty movements are distinct rail services for which railroads may charge freight rates. All the policies of innovation and economic efficiency that justified charges for empty movements to repair facilities seem to call for the same treatment of empty movements generally. This would be a major step toward the creation of economic incentives for better equipment utilization.

The ICC should, of course, eliminate its prescriptions of per diem and allowances that require railroads to pay compensation under various formulas. This could be done either by deprecating the car hire and tank car allowances now subject to ICC prescriptions or by determining that car compensation may be entirely deregulated.⁶ The arrangements proposed here for payments directly by shippers to car suppliers should not be subject to ICC regulation at all, just as leases by leasing companies and railroads to shippers and among themselves today are not governed by regulation.⁷

No change in rate regulation is required, even though rates will change. Some may fear that railroads would use an unbundling of freight rates as a pretext for rate increases, but those increases cannot be realized where, as is usually the case, rates are subject to competitive pressure. ICC regulation remains where railroads have market power, including over movement of empties.

Finally, movement toward a car market system calls for elimination of any remaining antitrust immunity to set compensation. Due to disagreements among railroads concerning car hire and policy decisions concerning allowances (other than for tanks cars), the railroads have virtually ceased to use their immunities. Shipper and car owner organizations will have to follow suit.

If these regulatory adjustments seem extensive, they pale in comparison to the regulatory problems that a car capacity market structure would solve. The abandonment of decades of struggle to define car hire is only the tip of the iceberg. The ICC could also get out of the business of fielding demands for allowance regulation. It could terminate its SCOT-5 proceeding and let the market worry about whose cars should be used. And its regulation of rate bureaus could be greatly curtailed. From a regulatory perspective, as from the perspective of the industry's economics, a car capacity market makes sense.

CONCLUSION

There exists an opportunity for the railroad industry to adopt an approach to car compensation that would be market responsive, straightforward to operate, relatively free of regulation, and equitable to all participants in the freight car supply process.

The environment for handling empty cars under this system would facilitate a breakthrough in industry car management efficiency. The costs of storing and handling empty equipment become explicit. All of these costs are managed by the car owner, who can in turn directly incorporate them into his car rental charges for loaded movements. After over 100 years of operation, the industry

would at last have a viable means of managing the industry's car fleet on the basis of industry-wide economics of car demand, supply, and distribution.

Implementing such a system would require significant changes in how the railroads do business with one another, but these changes are consistent with numerous trends that can already be observed in the industry. Implementing any other system would probably only expend substantial industry resources in the pursuit of dubious economic gains, at the risk of erecting yet more barriers to the ultimate implementation of a truly market based system of car compensation.

ENDNOTES

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1. Any illusion that experience produces wisdom in this area must be tempered by the knowledge that three elaborate car compensation formulas adopted in the late 1970s after extensive study and enormous effort collapsed in the recession of the early 1980s. As several ICC decisions document, the car hire formula was designed in a manner that caused rates to fluctuate inversely with demand for freight cars. "Suspension of Car Hire Updates," *Ex Parte No. 346 (Sub-No. 7)*, ICC decision served April 29, 1985. Similar problems afflicted the tank car and covered hopper allowance systems.
2. Indeed, it may be that regulation of car compensation was far more successful than the regulation of the freight transportation the cars were supposed to be supporting. At the same time regulated freight rates were producing dozens of railroad bankruptcies and driving other railroads to seek non-railroad investments for their available cash, millions of dollars were being invested in freight cars by outside investors attracted by the high returns provided by car compensation regulation.
3. One group, the LO Shippers Action Committee, has maintained that federal law requires that compensation be set no lower than costs of ownership, regardless of market conditions. That argument, which is an invitation to economic disaster, has been rejected by the ICC and by federal courts. (*LO Shippers Action Committee v. ICC*, F.2d (D.C. Cir. 1988), petition for cert. pending.)
4. "Review of Car Hire Regulations," *Ex Parte No. 334 (Sub-No. 6)*, decision served April 29, 1985, p. 5.
5. *General American Transp. Corp. v. Indiana Harbor Belt R.R. Co.*, 3 I.C.C.2d 599 (1987), affirmed by the D.C. Circuit Court of Appeals in *General American Transp. Corp. v. ICC*, No. 87-1125 (April 14, 1989).

6. Tank cars are not owned widely by railroads and therefore rarely earn car hire. The negotiated settlement has not generated much complaint or demands for change. In the long run, however, rational economic relationships call for elimination of tank car allowances as well.
7. If necessary, such arrangements could be exempted from regulation without difficulty, given the extensive competition among car providers for shipper business.

SELECTED BIBLIOGRAPHY

Published Papers

- Dingle, A. D. "Freight Car Clearinghouse Experiment: Evaluation of the Expanded Clearinghouse; Freight Car Utilization/Demonstration Program," *AAR Report*, No. R-293, 1978.
- Felton, John Richard. *The Economics of Freight Car Supply*. University of Nebraska Press, Lincoln, Nebraska, 1978.
- Martland, Carl D. "Overcoming Fundamental Problems in the Car Hire/Car Service System." *Proceedings—Twenty-third Annual Meeting*, Transportation Research Forum, Volume 23, No. 1, pp. 549-560, Oxford, Indiana, 1982.
- Martland, Meyer, Sloss, Bray, and McCord. "Improving Freight Car Distribution Performance: Overcoming Institutional and Organizational Barriers to Change," *MIT Studies in Railroad Operations and Economics*, Volume 36, 1982.

Interstate Commerce Decisions

- Boxcar Car Hire & Service, *Ex Parte No. 346 (Sub-No. 19)*, unpublished decision served Sept. 12, 1986.
- Car Service Compensation—Basic Per Diem Charges, 358 I.C.C. 716 (1977) and 359 I.C.C. 138 (1978) and 361 I.C.C. 189 (1979).
- Car Service Compensation—Basic Per Diem Charges, 1 I.C.C. 2d 742 (1985).
- Exemption from Regulation—Boxcar Traffic, 367 I.C.C. 746 (1983).
- General American Transp. Corp. v. Indiana Harbor Belt R.R.*, 3 I.C.C. 2d 599 (1987).
- In the Matter of Private Cars, 50 I.C.C. 652 (1918).
- Investigation of Tank Car Allowance System, *Ex Parte No. 328*, 3 I.C.C. 2d 196 (1986).
- LO Shippers Action Committee v. Aberdeen & Rockfish Ry.*, 4 I.C.C. 2d 1 (1987).
- Mileage Allowances, *Tank Cars between Points in the United States*, 337 I.C.C. 23 (1970).
- Review of Car Hire Regulation, *Ex Parte No. 334 (Sub-No. 6)*, unpublished decisions served April 29, 1985.

Shippers Committee OT-5—Review of OT-5 Agreements, No. 38692, unpublished decision served Dec. 23, 1981.

Suspension of Car-Hire Updates, *Ex Parte No. 334 (Sub-No. 7)*, unpublished decision served Jan. 2, 1986.

Tank Car Allowances in Official Territory, 313 I.C.C. 435 (1961).

Tank Car Allowances, Southern Ry. Sys., 329 I.C.C. 466 (1967).

Court Decisions

Brue Corp. v. United States, 740 F.2d 1023 (D.C. Cir. 1984).

Bud Antle, Inc. v. United States, 593 F.2d 865 (9th Cir. 1979).

Consolidated Rail Corp. v. United States, 619 F.2d 988 (3d Cir. 1980).

General American Tank Car Corp. v. El Dorado Terminal Co., 308 U.S. 422 (1940).

General American Transportation Corp. v. ICC, D.C. Cir. No. 87-1125, decided April 14, 1989.

LO Shippers Action Committee v. ICC, 857 F.2d 802 (D.C. Cir. 1988).