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THE INTERMODAL COACH: CREATING A PASSENGER INTERMODAL TRANSPORTATION SYSTEM

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> Every great advance in science has issued from a new audacity of imagination. *John Dewey*

Global Logistics and Intermodalism are buzzwords describing the new millennium's emerging transportation paradigm. Global Logistics simply acknowledges that, as the global marketplace expands and strengthens, many future transportation schedulers will be concerned with scheduling and routing the movement of goods and materials throughout the world in the regular course of business. Intermodalism describes an approach to planning, building, and operating the transportation system that emphasizes optimal utilization of transportation resources and connections between modes. Intermodalism is the cornerstone of the National Transportation System concept advocated for the United States in the early 1990s by then Secretary of Transportation Frederico Pena.

Transportation policy in the United States has traditionally focused on single elements: automobiles, buses, trains, trucks, ships, and airplanes. In an intermodal transportation system, these elements are connected in a seamless system that is efficient, safe, flexible, environmentally sound, and meets the needs of travelers and shippers.

Currently, there is a large amount of energy being focused within the transportation community on the concept of creating a worldwide passenger intermodal transportation system. Such a system, if properly implemented, would most surely hold out the promise of similar efficiency gains realized by the worldwide freight intermodal transportation systems that have been and are continually being constructed throughout the world. Adding to the excitement

surrounding conceptual passenger intermodalism models being debated is the potential technological utilization of a well-constructed Internet portal as a tool to congeal the disparate elements of future passenger and freight intermodal systems into a seamlessly functioning system.

Which conceptual model of a worldwide passenger intermodal system will become a realization in the future? What technological tools will be required of this future system? Only time can provide the final answers to these questions. However, the author firmly believes that his bold, imaginative vision of a future segment of passenger intermodalism will prevail within the marketplace. Of course, other visionaries will greatly improve on it to the benefit of the marketplace. The author believes a main element to future passenger intermodal systems will be the Intermodal Coach (patent pending). Far-sighted business leaders and policymakers are supporting the concept.

The Intermodal Coach can simplistically be described as a vehicle that combines a luxury intercity passenger bus with a standard 20-foot intermodal freight container transporter. Such a combination allows the operator of the vehicle to capture two independent streams of revenue: passenger and freight. Either stream of revenue holds the potential for the operator of the vehicle to be profitable, but both together allow for synergies that will maximize profits.

Background

Before we outline the future passenger intermodal transportation model, let us review the vision for US transportation policy as stated in The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA):

> It is the policy of the United States Government to encourage and promote development of a national intermodal transportation system in the United States to move people and goods in an energy efficient manner, provide the foundation for improved productivity growth, strengthen the Nation's ability to compete in the

global economy, and obtain the optimum yield from the Nation's transportation resources.[1]

Moreover, the recognized benefits of a well-established intermodal transportation system are enormous. As stated in the Final Report of the National Commission on Intermodal Transportation, intermodalism offers the US the promise of: (1) lowering overall transportation costs by allowing each mode to be used for the portion of the trip to which it is best suited; (2) increasing economic productivity and efficiency, thereby enhancing the Nation's global competitiveness; (3) reducing congestion and the burden of overstressed infrastructure components by shifting use to infrastructure with excess capacity; (4) generating higher returns from public and private infrastructure investments; (5) improving mobility for the elderly, disabled, isolated, and economically disadvantaged; and (6) reducing energy consumption and contributing to improved air quality and environmental conditions.[2]

The economic impact of these benefits can easily be felt when we realize that the United State's transportation system currently accounts for 16.8 percent of the US Gross National Product (GNP).[3] Fully one-sixth of an American household's expenditures, on average, go for transportation of goods and services. The current freight intermodal partnerships forged among rail, truck, and ocean carriers have begun to demonstrate the promises of intermodalism and will most surely cause the significant expansion of the current freight intermodal system throughout the 21st century. Furthermore, advanced information technologies, expanded use of air freight, sophisticated logistics operations including just-in-time delivery practices, and other industry factors are expected to drive a substantial increase in intermodal freight traffic.

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[1] 49 C.F.R. 302(e) (1999).
[2] National Commission on Intermodal Transportation, Final Report, *Toward A National Intermodal Transportation System*, at 3 (September 1994).
[3] Id. at 6.

Passenger Intermodalism

Intermodalism is far less developed in the US when it comes to moving people than freight. Individual modal systems have traditionally been planned, built, and operated with little regard for coordination or connections. Too often, the bus station is too far from the commuter rail station, or the transit line stops too far from the airport terminals.

Passenger transportation, which historically has been more dependent than freight transportation on public sector programs and funding, has moved less quickly to an intermodal system. The Intermodal Coach is a tool that allows certain segments of the passenger intermodal system to grow without the need of public sector programs and funding.

The current status of passenger intermodalism is not totally devoid of progress. Some signs of progress have been shown since passage of ISTEA. Bus and rail transit systems more often coordinate schedules and farecards. Amtrak and intercity bus lines are recognizing the need to provide coordinated schedules and interline ticketing, and multimodal passenger stations are on the drawing boards around the country. But these efforts are not enough.

One of the main objectives of the intermodal passenger system should be to provide seamless service to passengers, offering mobility to both urban and rural residents. Intercity bus and airline carriers have substantially reduced service to rural areas. If America is to have a complete national intermodal passenger system it must include opportunities for all Americans, including isolated rural residents and residents of the Nation's urban areas who have lost mobility options.

Rural isolation is becoming epidemic in this great nation. In rural areas, often the only means of transportation available is the private automobile. Substantial contraction of intercity

bus and air services since deregulation has resulted in abandonment of key passenger services to many small communities.

Most politicians and policymakers helping to shape the future transportation paradigm seem to be ignoring the special needs of rural Americans. Currently, sixty-two million people live outside metropolitan areas, many lack access to automobiles.[4] Many of the rural elderly are in poor health and not licensed to drive. Currently, thirty-two percent of rural residents live in areas with no public transportation.[5] Mobility for people living in the rural areas must be an important consideration in developing national transportation policy especially in conjunction with other national policies, such as preventing rural flight which adds to urban congestion.

If rural passenger revenues are not sufficient, then an additional source of revenue must be developed to support rural transportation needs. That is exactly the capability of the Intermodal Coach.

A passenger intermodal system that is able to support itself financially is a system that will foster public support because of its independence from government subsidies. Moreover, a self-supporting passenger intermodal system can easily be exported to other areas of the world with similar needs.

The Intermodal Coach is a Revenue Generating Tool of Passenger Intermodalism

As stated in the introduction, the Intermodal Coach can simplistically be described as a tool that combines a luxury intercity passenger bus with the transport of a standard 20-foot intermodal freight container. Such a combination allows the operator of the vehicle to capture two independent streams of revenue: passenger and freight.

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[4] Id. at 12.
[5] Id.

There are many possible ways to operate the freight portion of the Intermodal Coach. The operator of the Intermodal Coach can load an intermodal container at a port facility and then transport the container to an intermodal staging yard in another part of the country. Thus, the Intermodal Coach could be operated in a manner similar to an intermodal truck trailer chassis.

Alternatively, the operator of the Intermodal Coach can place an empty container on the freight area of the vehicle and operate the Intermodal Coach much as a conventional truck trailer. The operator would back the Intermodal Coach to loading docks at warehouses or various other places of loading. The container would be loaded with freight and then the operator would transport the goods to other locations and unload the freight in a manner similar to a conventional truck trailer.

The vehicle is purposefully designed to accommodate both methods of utilization as the current intermodal networks are located in selected geographic locations. Either method of utilization will have numerous variations, so in a sense, the operation of the Intermodal Coach is only limited by the amount of creativity and ingenuity the operator possesses.

Of course, the most important question from the marketplace is will the Intermodal Coach actually be competitive on the freight portion of the passenger/freight combination? To answer this question, the marketplace should first realize that while the Intermodal Coach cannot directly compete with trucks in all freight markets, it will be able to compete in many markets, some of which are the most lucrative freight markets. The Intermodal Coach hauls up to 1,164 cubic feet of freight weighing up to 20,000 pounds. Of course, the Intermodal Coach will not be competitive when hauling heavy bulk freight such as cotton, Italian marble, or roofing granules. However, that does not diminish the importance and revenue generating potential of the innovation.

The Intermodal Coach is perfectly situated to compete in many identified markets which will more than provide enough freight to supply the number of Intermodal Coaches that will be utilized by passenger carriers worldwide. Just a few of the identified choice freight markets for the Intermodal Coach are mail, package express, expedited freight, and LTL. Of course, each of the identified markets will require the Intermodal Coach to be operated in a somewhat different manner. The flexibility of the Intermodal Coach to operate in these distinct manners is what will allow it to easily gain worldwide acceptance.

The Need for a Well-Constructed Scheduling Tool

For the Holy Grail of a seamless intermodal system serving both passengers and freight to operate efficiently and effectively, technology must be developed to allow joint scheduling of both passengers and freight. Current well-constructed offerings either concentrate on passengers or freight, not both. A well-constructed Internet portal would be the most obvious tool to make the joint scheduling a reality. Using a web-based portal would allow shippers and travelers all around the world to access the same equipment schedules.

The site would need to be user-friendly for customers ranging from a sophisticated corporate shipping department, attempting to ship a container of manufactured goods to a distant customer, to grandparents trying to schedule a trip to see the grandkids located in a neighboring state. Added to the complexity of scheduling different modes of transportation is that now the modes may be combined in the same vehicle. It could be quite likely that the grandparents and the container of manufactured goods travel on the same Intermodal Coach for a large portion of their trip. Alternatively, the Intermodal Coach could be on a route that delivers the passengers and the freight to the nearest Amtrak station or airport for a connection that allows the remainder of the trip to be transported on a different mode.

Examples of Operation

One profitable operation would be regularly scheduled expedited freight movements between major cities. Following is an illustrative example of how a possible expedited freight movement between Chicago and Denver would operate with the Intermodal Coach. The operator of the Intermodal Coach would first load express passengers in Chicago. These express passengers could possibly be Midwest ski vacationers or simply could originate from connecting bus routes. The expedited freight container would then be loaded and the Intermodal Coach would immediately depart for Denver as an express bus. The operator could man the vehicle with two person driver teams and run the vehicle virtually non-stop over the route. A galley in the vehicle could provide refreshments for the passengers between refueling stops. The refueling stops being the only stops the self-contained Intermodal Coach need make.

The other end of the freight spectrum could be demonstrated with the use of the Intermodal Coach on currently unserviced rural routes with the freight being provided through a mail contract. The Intermodal Coach could stop at the rural post offices along its route and pick up passengers that have previously been devoid of a connection to the national transportation system. The mail contract would make the route profitable even if there were few or no passengers on certain routes on many days. The operation of the Intermodal Coach in this manner will allow routes to be served that would never have been served previously or would have required heavy governmental subsidies. In times of fiscal restraint, in particular, the Intermodal Coach brings many opportunities to gain maximum benefits and revenues from minimum resources spent.

Arguably the largest potential freight market for the Intermodal Coach is the LTL market. The LTL companies, which consolidate smaller shipments into full truckloads, have used

railroads for intermodal shipments for many years. Labor agreements negotiated in 1994 permitted LTL carriers to move up to 28% of their intercity linehaul miles on rail intermodal. Prior to this, use of rail intermodal was no more than 10% of any company's linehaul miles and most companies' use was far less. This has changed, especially in the West, to the point where several large LTL carriers are moving as much as 25% of their miles on rail intermodal.[6]

The Intermodal Coach could easily cause an explosion in this segment of intermodalism. Many people believe the Intermodal Coach's largest potential market will be in scheduled route by current bus operators who are looking to capture freight revenue. Conversely, it may be a contest whether it is actually easier for a current LTL company to operate the Intermodal Coach and add passengers to their current freight networks. The LTL companies already have the freight networks in place and operate between the major population centers most traveled by bus passengers.

The LTL carriers could utilize the Intermodal Coach over their existing networks and gain an additional stream of revenue from the passengers transported. The freight currently being hauled in the LTL carriers' fleets of 28-foot "pup" trailers could easily be diverted into the 20-foot containers on the Intermodal Coach and the LTL carriers could have their drivers operate the Intermodal Coaches over the same routes they currently operate. Many of the LTL carriers have nationwide networks and operating the Intermodal Coaches over heavily traveled routes between major cities could add greatly to the revenue and profitability of companies that are currently only marginally profitable.

[6] GERHARDT MULLER, INTERMODAL FREIGHT TRANSPORTATION 82 (4th ed. 1999).

The Future of Intermodalism

Eventually, the lines of demarcation of where one mode ends and the other begins may almost disappear. The focus will be on customer service. Instead of containers growing larger, which was the case since the intermodal freight transportation revolution started more than 40 years ago, the trend might be toward smaller size units. For example, with intermodal freight transportation becoming a major factor in the systems approach to logistics management, many shippers require smaller volumes, more frequent deliveries, and faster transit times to meet reduced inventory requirements and faster response to market opportunities.[7] Additionally, these services must be continuously reliable.

Although the Intermodal Coach is a radical idea, many of the intermodal industry's pioneers probably started with equally radical ideas for their time. Malcom McLean, widely recognized as the father of containerization, was an outsider in the ocean transportation industry. He had no long-term experience in the industry that would prejudice his plans about what could and could not be done with a trailer when removed for its chassis and placed on a vessel. The result is today's Sea-Land Service, one of the world's largest intermodal transportation companies. Several decades later, the leadership at American President Lines (APL), an ocean carrier, saw the advantage of moving containers on railroad cars and moving them across the North American continent in unit trains, allowing them to concentrate their vessel operations in the Pacific. And later, Sea-Land Service, APL, and a number of other carriers moved on to the next rung of the customer service ladder by introducing EDI and logistics management in their total service package.[8] These and other pioneering breakthroughs, many considered radical at

[7] Id. at 400
[8] Id. at 400-01.

the time, enabled them to become leaders who established the benchmarks by which subsequent companies had to measure their own perfomances.

One thing certain is that the problems of today will be addressed and hopefully solved by the technology of tomorrow. The problem of developing self-sufficient passenger intermodalism can easily be solved with the systematic use of the Intermodal Coach. However, for the technology to become widely accepted in the marketplace and to be used to its potential, there is a critical societal need to change how we look at our current transportation paradigms. Without doing so, we will most certainly perpetuate the old transportation paradigms instead of creating efficient new transportation paradigms for the 21st century.