

**Beyond the Crossroads:  
A National Conference on Transportation Infrastructure & Regulatory Policy  
Denver, CO**

**Transportation, Research, and the Surface Transportation Board  
May 27, 2009**

By Surface Transportation Board Acting Chairman  
Dr. Francis P. Mulvey

For many years, a need to understand transportation supply and demand played a critical role in developing economic theory, especially microeconomic theory. From the days of Jules Dupuis, through Ripley and his formula, to Nobel Laureates Bill Vickrey and Dan McFadden, transportation related issues were the linchpin for academic investigations of the determinants and behavior of transportation industry structure, costs and demand. Transportation Economics was a field of study at numerous graduate programs at major American Universities, including Penn State, Washington State, University of Maryland, UC Berkeley, MIT, Northwestern and others. In fact, when I taught at Northeastern University, we had transportation specialties in the economics department in the Liberal Arts College, the Business School and the Engineering College.

Part of the ongoing interest, no doubt, was rooted in the fact that, until the late 1970s and early 1980s, transportation was largely a regulated sector of the American economy. This somewhat atypical situation continued to foster interest in the sector, especially among those who saw regulation as largely unnecessary and even harmful to the American economy. The works of Friedlander, Kahn, T.G. Moore and J.C. Nelson come to mind. They all played a leading role in the regulatory reform movement.

In recent decades, interest in the study of transportation economics has waned—at least in large part as a result of the deregulation of the modes of transportation. To the extent academics have exhibited a continuing interest in the transport sector, their research has primarily focused on transit and airline issues. Transportation economics departments morphed into Logistics Studies and then into Supply Chain Management programs. These tend to be more practical, rather than theoretical. The study of railroad economics, especially those of the freight railroads, has clearly diminished. But, this may be changing. As there has been a renaissance in freight railroad activity, there appears to be a simultaneous renewed interest in understanding the economics of the industry.

I would like to focus today on recent activities at the STB that might help reinvigorate and advance academic interest in the freight railroad industry.

First, let me say a few words about the STB. The Surface Transportation Board is an independent economic regulatory agency charged with adjudicating railroad rate and service disputes and reviewing proposed rail industry financial transactions, among other areas of surface transportation jurisdiction. We retain some residual responsibility for certain water, motor and pipeline activities.

The Board was created by the ICC Termination Act of 1995 and is the successor to the former Interstate Commerce Commission. At its height, the ICC employed roughly 3000 people and occupied an entire square block in downtown Washington.

Today, the 3-member Board with a staff of 150 concentrates on railroads including overseeing rail mergers and acquisitions, adjudicating rate disputes between railroads and “captive shippers,” and undertaking public interest and environmental reviews of proposed railroad abandonments or new constructions. Much railroad traffic is either exempt from the STB’s jurisdiction because it moves under contract, or from active regulation because it has been deemed to be intermodally competitive. In rate cases before the agency, “captive” shippers challenge rates where the railroad is considered to be market dominant (i.e., there is no effective competition from other rail carriers or transportation modes). The Board measures market dominance quantitatively by comparing a railroad’s revenue to the variable cost of carrying the traffic. If the ratio of revenue to variable cost is less than 180 percent, the traffic is considered to be competitive and by statute the Board cannot hear the case. Many question the utility of this measure. Rate cases historically have taken years to adjudicate and cost both parties several million dollars.

The Board has undertaken, and will continue to examine, a number of reforms to its processes and procedures that will involve increased interaction with academics interested in transportation issues. First, the Board contracted last year with a respected economic consulting firm, Christensen Associates, primarily composed of academic economists at the Universities of Wisconsin and Oregon, to produce independent studies, on behalf of the Board, examining both rail competition and rail capacity issues. The STB took an arms length approach to the research in order to ensure an unbiased result. The competition study, undertaken partly in response to a GAO study on the rail industry released a year earlier, found that the recent increases in nominal rail rates (following years of decline in both nominal and real terms) traced more to cost factors than to an exercise of monopoly power. The study also found that the Board’s statutory reliance on the 180 percent revenue to variable cost measure was not a good proxy for market dominance. The study was remarkable in the level of detail provided with respect to the econometric modeling underlying the analysis. The report made it relatively easy for other analysts to replicate the results.

The second study by the same group addressed an estimate of rail infrastructure investments needed over the next quarter century. In particular, the study questioned the accuracy of prior forecasts of rail traffic growth such as the Department of Transportation’s Freight Analytic Forecast and the Cambridge Systematics’ study for the Association of American Railroads. The Christensen study found that a detailed sector-by-sector analysis showed the aggregate forecasts to be overstated. For example, DOT projected that rail coal traffic would grow by 78 percent between 2002 and 2030. But the Department of Energy, taking into account recent downturns, projects only a 24 percent increase and this assumes that current solar and wind tax credits will expire. It also assumes no more restrictions on green house gas emissions. These are heroic

assumptions. Rail coal transport forecasts are likely overstated. Similar observations apply to grain and intermodal. The Christensen study had the advantage of being able to incorporate the recent economic contraction. The study also generated a range of rail traffic forecasts depending on the overall level of economic activity as opposed to the point estimates of the prior work. The study also relied on more sophisticated forecasts of future economic activity, such as the OASDI forecasts.

The STB sponsored research calls into question the earlier findings that the industry would be facing a severe capacity crisis in the not-too-distant future. It does not wholly overturn the position that the railroads will need more resources to meet expected demand, but it does offer a more realistic assessment of the needs. So, whether the industry is capable of self-financing needed capacity improvements in the mid- to long-run remains an open question. Again, the STB's willingness to underwrite analyses that challenge the conventional wisdom has been a radical departure from the status quo.

Another area where the STB plans to involve the academic community is in its examination of the Uniform Rail Costing System or URCS. URCS is used to determine Board jurisdiction over rates charged by railroads, to adjudicate rail line abandonments and "feeder line" applications, and to regulate other matters where rail movement costs must be estimated.

This review is much needed, as URCS was adopted 20 years ago. In fact, some of the relationships that underpin the URCS database are based on work done back in the 1930s. The Board must determine whether, or what, modifications to URCS are required to reflect changes in railroad operations over the intervening years. The goal of reform would be to ensure that the costing relationships employed by URCS are as accurate, current, and effective as possible to enable the agency to perform its statutory duties fairly and expeditiously. It is particularly important to review URCS because of the key role it plays in the Board's adjudication of rail rate cases. Moreover, the STB has recently undertaken several changes to our rate resolution processes that place increasing reliance on URCS. First, we introduced a number of changes in how we handle large rate cases that were designed to lower their cost and accelerate their adjudication. One of these was to eliminate specific changes parties could make to URCS costs. Second, after many years of trying, the Board finally developed sets of procedures to handle small rate cases—those that do not justify bringing a full blown rate case. Both of these changes require a greater reliance on URCS.

This past April, the Board held a public hearing on URCS to explore means and areas of possible reform. We received testimony from several academic economists, as well as representatives of rail and shipper groups and other agencies. The Board received testimony on the inherent difficulties—for both the agency and its stakeholders—in bringing URCS up-to-date, a project that could take years and require supplemental funding from the Congress. I believe, however, that building a better regulatory costing system is a sound investment of taxpayer dollars. Presently, the Board's staff is assessing the testimony received in preparation for the hearing, oral

testimony provided during the hearing, and in any further written follow up submitted in the docket, and considering potential next steps.

The Board's economics staff has recently expanded and just completed an update of its rail rate study. Our economics staff has also been very instrumental in reassessing how we measure the rail cost of capital—a critical component in our measure of revenue adequacy. The railroad industry, as you all know, is very capital-intensive. Congress directed the Board to regulate in such a way that considers the railroads' need to earn revenues sufficient to maintain the national rail system and to attract new investment capital. The accurate estimation of an appropriate return on capital is a crucial regulatory function performed by the Board. The cost of capital includes the cost of both debt and equity capital. Calculating the cost of debt is relatively straightforward, but not so for the cost of equity. For years, the STB employed a single stage discounted cash flow model to measure the cost of equity capital. The Western Coal Traffic League argued that our approach was not consistent with modern finance practice and was overstating the railroads' cost of equity capital and thereby understating the industry's revenue adequacy. The STB held hearings on the issue, reviewed the academic and professional literatures, and consulted with a number of industry financial analysts, the Federal Reserve Board, other regulatory agencies and even the Board's Canadian counterparts. Based upon the input received from these sources, the agency revised the procedures it uses to estimate the industry's cost of equity capital.

To accomplish this, the Board first employed a capital-asset pricing model which divides investment returns into two portions: a risk-free rate and a premium an investor would need to hold railroad shares. The result was a somewhat lower result for the cost of equity capital than provided by the single stage DCF. The railroads noted that many of the problems with the original single stage discounted cash flow model could be corrected with a multi-stage model. Again, after serious study and consultation, the Board adopted a multi-stage DCF and now averages its estimate with a CAPM estimate. The Board currently is conducting its annual review of the industry's cost of capital (for 2008) and soon will issue a decision employing the agency's newly developed procedure.

The Board has become more dynamic in recent years, changing the way it undertakes its analyses and becoming more accessible to shippers. The nation's railroads and the STB might be on the verge of the most far reaching changes since Staggers. Legislation to eliminate the anti-trust exemptions for the railroads and to change the way STB regulates the industry are under consideration. I can't comment directly on the bills under consideration, but I can say that both Chairman Oberstar and Chairman Rockefeller are interested in reauthorizing the STB.

The STB has recently been charged with new responsibilities in the passenger rail area. This is a long-standing interest of mine as I wrote my doctoral thesis on Amtrak back in 1974.

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) gave the Board several new responsibilities in the passenger rail area, including the measurement

of Amtrak's on-time performance. Amtrak and the Federal Railroad Administration (FRA), in consultation with the Board and others, were directed by Congress to develop a system of standards for measuring on-time performance and other service metrics. Amtrak and FRA have since developed proposed standards and metrics that were subject to public comment. If final standards cannot be agreed upon by Amtrak and FRA, the Board will, upon request by a party, appoint an arbitrator to assist the parties in resolving the areas of disagreement through binding arbitration.

Under PRIIA, if Amtrak's on-time performance should fail to meet the statutorily prescribed 80 percent level for two consecutive calendar quarters, or should other, agreed-upon measures not be met, the Board can be called upon to investigate the causes of performance failure. The Board can also prescribe remedies, including damages, if it determines that freight railroads are the cause of delays.

PRIIA also gives the Board certain responsibilities related to commuter rail access to Amtrak's dedicated track on the Northeast Rail Corridor. Amtrak, the northeastern states, or the commuter railroads may petition the Board to establish a system for setting Amtrak's charges for commuter access to Amtrak's facilities if the parties are unable to reach agreement themselves. Congress also gave the Board authority to provide non-binding mediation when a commuter railroad seeks access to either the trackage or right-of-way of any other rail operator.

I have long believed that freight and passenger rail interests need to work together and present a common front to gain the attention of policymakers and achieve the public support necessary to develop the rail infrastructure.

The Board strives to let the parties settle disputes themselves through negotiation. I am very pleased by the Board's recent success, this past May, in mediating a large rail rate dispute to settlement by the parties. Non-binding mediation is an integral part of the agency's revised rate complaint process, and I firmly believe that with assistance from Board mediators, parties can achieve acceptable outcomes and avoid millions of dollars in litigation costs.

In sum, the STB currently has a very full agenda. The Board invites members of the transportation research community to take part in its proceedings and lend expertise to our deliberations. Just as academic researchers help shaped changes to the regulatory regime in the past, there are opportunities for them to do so again.

Thank you.

