Journal of Transport Geography 35 (2014) 158–159

Contents lists available at ScienceDirect

Journal of Transport Geography

journal homepage: www.elsevier.com/locate/jtrangeo

Book review

The Economics and Politics of High-Speed Rail: Lessons from Experiences Abroad, D. Albalate, G. Bel. Lexington Books, Lanham, Maryland (2012). £37.95 (Hbk). ISBN: 978-0-7391-7123-3

High-speed rail (HSR) has become a controversial topic in the transport and public policy arenas as a result of recent programmatic initiatives in several countries including the United States, China, Spain, the UK, and the European Union as a whole. There has been vociferous debate about the efficacy of developing HSR lines or systems, especially because of the very high costs involved and disagreements about HSR's benefits. This new focus on HSR has prompted increased attention from the research community, including a special section of the *Journal of Transport Geography* in May 2012 featuring diverse viewpoints on the topic. Another significant research contribution is this book, *The Economics and Politics of High-Speed Rail: Lessons from Experiences Abroad*, written by Daniel Albalate and Germa Bel, two distinguished economists from the University of Barcelona, Spain.

Albalate and Bel are to be commended for taking stock of what we have learned about HSR in the nearly fifty-year history of its operation since Japan's Shinkansen line between Tokyo and Osaka was opened in 1964. In the first part of the book, the authors provide an introduction to HSR development followed by an overview of the current HSR debate in the United States and the presentation of an analytical framework that is used in Parts II and III of the book. Based on the international definition of HSR, i.e., maximum speed greater than 250 kph (155 mph), this mode of operation that started in Japan was adopted by France in 1981 with the introduction of the *Train a Grande Vitesse* (TGV) line between Paris and Lyon, and was subsequently expanded to Germany, Belgium, the Netherlands, Italy, Spain, Switzerland, the UK, China, South Korea, and Taiwan. Today, there are more than 7700 miles of HSR in operation with over 3500 miles under construction.

It is clear from the outset of the book that Albalate and Bel intend to pour some "cold water" onto the heated enthusiasm of HSR advocates and supportive public officials by emphasizing the financial and economic shortcomings of HSR expansion. In the preface, the authors begin with a quotation from American economist and Nobel laureate Robert Fogel (1964) whose seminal book on railroads and American economic growth concluded that "the railroad did not make an overwhelming contribution to the production potential of the economy" despite previous and subsequent historical arguments to the contrary (p. xi). In similar fashion, Albalate and Bel note that only two HSR lines in the world (Tokyo–Osaka and Paris–Lyon) have been able to fully recover the costs of both construction and operation while other HSR lines in Japan, France, and other countries have not, although some lines have been able at least to cover their operating costs. The authors go further to show that investment in HSR expansion, especially in Japan and Spain, has caused considerable public debt burdens. They also extend their analyses beyond financial benefits and costs to include environmental and territorial issues. The authors feel that the debate over HSR "suffers from too much volunteerism and too little use of the available data and qualitative analyses," and that "deep reflection is needed" as countries such as the United States and the United Kingdom deliberate the implementation or expansion of HSR (p. xiii).

While the United States has not previously implemented HSR due to many historical and institutional factors, the inclusion of funding for HSR in the 2009 American Recovery and Reinvestment Act (ARRA) signaled a new political openness to developing HSR in the U.S. In Chapter 2, Albalate and Bel provide an overview of the recent activity and assessments of U.S. HSR development, including a focus on California which is the only true high-speed line being considered in the U.S. They chronicle a series of feasibility studies for the California system that produced forecasts of rising costs and declining ridership from each subsequent study. They also cite several studies investigating the environmental effects of HSR in California, especially highlighting those that cast HSR in a more negative light. Citing studies by O'Toole (2009), a noted critic of HSR and rail transit systems, as well as a life-cycle assessment of California HSR by Chester and Horvath (2010), the authors raise considerable doubt about the environmental benefits of California HSR in comparison with automobiles and aircraft. The last chapter in Part I of the book presents an analytical framework that includes financial and economic costs, network structure, impacts on mobility including intermodal competition, territorial effects, and environmental effects. This analytical framework is used in analyses of case studies in Part II and an overall evaluation in Part III of the book.

The case studies of Japan, France, Germany, Spain, China, and other experiences (Italy, Korea, and Taiwan) represent the heart of the book, and provide a comprehensive summary and analysis of HSR operations in each of these countries. These chapters are filled with useful data and analyses from other studies that highlight the performance of HSR, disaggregated by separate lines where possible. The authors' assessment of HSR in Japan and France is generally positive, noting the clear success of high-density trunk lines, but also pointing out lower returns on more peripheral lines. The success of the first HSR lines in Japan led to political support for extensions to less densely-populated areas that resulted in economic and financial problems for Japan National Railways, ultimately leading to its restructuring and privatization in 1987. Still, because of the strength of its main Tokaido and Tohoku lines, HSR in Japan remains viable. In France, the success of the TGV Paris–Lyon line led to further expansion with varying degrees of financial and social return. The authors point out that the economic effects of HSR in France have been extremely limited, and have tended to benefit the larger hubs (especially Paris) at the expense of smaller cities. HSR results from Germany have been compromised by the nature of its dual-function network for both freight and passengers as well as higher costs of construction and operation due to its more environmentally-challenging terrain. The authors reserve their sharpest criticisms for the case

http://dx.doi.org/10.1016/j.jtrangeo.2013.12.012

of Spain which now has the second-largest HSR system in the world (after China). They claim that the justifications for starting and expanding HSR in Spain were weak from the outset which has led to very poor financial and social benefits once the lines opened. They are especially concerned about the current state of Spain's economy and the opportunity costs of using public funds for HSR expansion. They conclude, "Very good reasons exist, therefore, for ceasing all further extension of the high-speed rail network in Spain, except for those sections whose entry into service is imminent (p. 111)." The authors suggest that China may be having similar experiences as Spain due to concerns with finances, corruption, and safety which led to the decision in 2011 to suspend 80 percent of its new HSR projects.

While the book is comprehensive, well-researched and full of useful information and data, there are a few analytical areas that could have been stronger. The comparisons between HSR and other modes show that HSR would impose prohibitive costs and questionable benefits in comparison to *existing* highway and air operations. The more effective approach would be to compare HSR with *expanded* highway and air operations that would be needed to accommodate the increased travel demand that HSR is designed to meet. Does it make sense to build new HSR lines or to build/expand highways and airports to accommodate future travel demand, or to do neither and live with the consequences of increased congestion? How many new lane-miles of highways would need to be built and at what cost in order to equal the capacity of one HSR line? If a cost-benefit analysis is to be conducted, it should be comparing proposed alternatives that attempt to solve current and future congestion problems, rather than assuming that the status quo is acceptable. Likewise, much attention is focused on public subsidies for HSR but there is little mention of the considerable public subsidies and favorable policies that have existed historically for automobile/highway and air transport infrastructure. Finally, it should be noted that while population densities and transit systems of U.S. cities are still not at the level of cities in Europe and Asia, they are moving in that direction and becoming more amenable to HSR consideration in the largest metropolitan corridors.

In summary, this book by Albalate and Bel provides a sobering assessment of previous experiences with HSR around the world, sounding a warning bell about the extremely high costs and uncertain benefits of this technology. They raise serious questions which should cause deep reflection for countries that are considering the development or expansion of HSR.

References

Chester, M., Horvath, A., 2010. Life-cycle assessment of high-speed rail: the case of California. Environ. Res. Lett. 5, 1–8.

Fogel, R., 1964. Railroads and American Economic Growth: Essays in Econometric History. Johns Hopkins Press, Baltimore.

O'Toole, R., 2009. The High Cost of High-Speed Rail. Texas Public Policy Foundation, Center for Economic Freedom, Austin.

Andrew R. Goetz
University of Denver,
Department of Geography & the Environment, Boettcher West,
Room 120, 2050 E. Iliff Ave., Denver,
CO 80208-0710, United States
Tel.: +1 303 871 2513; fax: +1 303 871 2201.
E-mail address: agoetz@du.edu