GLOBAL SHIFT IN CONTAINER TRAFFIC AND ITS IMPLICATIONS FOR ECONOMIC DEVELOPMENT ALONG THE AMERICAN LAND BRIDGE

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Since the “container revolution” in the 1970s, seaports on the Pacific Coast have been the engines of economic development, regionally and nationally. But circumstances continue to change that threaten the long-term viability of the intermodal land bridge system that emerged from that revolution. These circumstances include railroads not maintaining rail lines critical to transcontinental container traffic and the shift in the locus of global production that raises the question of obsolescence for the existing infrastructure moving trade West to East from the Pacific Rim. The implications are enormous, especially for policy makers at the regional and local levels as they contemplate the potential gain and loss of economic development momentum in the interregional competition for growth and prestige. This research note discusses public developmental policy as both the core of the problem and a potential source for adjusting to the global dynamics of intermodal transportation.

Thirty years ago, a revolution in the intermodal movement of global trade, called the “container revolution,” was unfolding in the United States. Its birth was at public seaports on the Pacific Coast. By the 1970s, growth in foreign trade was rapidly outstripping the U.S. gross domestic product (GDP), principally because of the dramatic separation of production and consumption into two very distant parts of the globe.

For much of the 20th century, the U.S. population has been responsible for most of the world’s production and consumption of nonagricultural goods and services. What changed that situation was the emergence of Asian Pacific countries as the composite site for most of the world’s production. The unfolding of these two widely separated poles created pressures for a vastly enlarged transportation pipeline stretching across water and land from the Asian Rim to the population centers of the eastern United States and Europe.

In a book published in 1988, an analysis showed why Pacific Coast seaports were strategically located between these two attracting poles and how they responded with new techno-economic innovations to meet the challenge was completed (Boschken, 1988). Not all seaports met the challenge in those days, and ultimately, the system grew up around ports in the Los Angeles region and in Oakland and Seattle. Still, today, as shown in Table 1, most of the nation’s largest seaports remain on the Pacific Coast.

Culmination of the container revolution left us in the 1990s with a technically sophisticated and complex intermodal infrastructure of vastly increased scale and capacity. Handling principally West-to-East traffic, it is composed of fast state-of-the-art specialized ships, fully automated container transshipment facilities (i.e., huge 40-ton-capacity cranes, vast apron and laydown areas for holding the “pulses” of off-loaded containers, and computerized sorting and
Table 1: Top Five U.S. Cargo Harbors

<table>
<thead>
<tr>
<th>Seaport</th>
<th>1995 Cargo Value (in millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Beach/Los Angeles, CA(^a)</td>
<td>156,985</td>
</tr>
<tr>
<td>New York/New Jersey</td>
<td>67,211</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>37,113</td>
</tr>
<tr>
<td>Baltimore, MD</td>
<td>20,827</td>
</tr>
<tr>
<td>Oakland, CA</td>
<td>12,382</td>
</tr>
</tbody>
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\(^a\) Consists of two separate port authorities.

routing systems), transcontinental double-stack-unit trains moving containerized goods across the United States on an expedited land bridge, and an integrated global satellite tracking system.

The land bridge concept was originated in the 1970s by a Port of Los Angeles economist analyzing the fastest alternative routes to the East Coast and Europe. Finding a continental overland route involving dedicated unit trains to be superior to the traditional Panama route, he convinced maritime shippers of the concept’s feasibility. The subsequent innovation in intermodal infrastructure turned out to be an expensive public-private investment that greatly benefited American foreign trade and development of the global economy.

On the Pacific Coast, however, it also has been a powerful engine of regional economic development. As land use economists inform us, economic enterprise is advantaged by its proximity to transshipment centers (especially seaports). The incubation effect is created by the gathering of diverse enterprises seeking lower transportation costs, immediate access to transportation routes, and the synergy of a cosmopolitan business community. When transshipment centers, such as seaports, transform and innovate new techno-economic systems, large private sector gains usually result. Few realize, for example, that the spectacular emergence of Silicon Valley industry would not have happened without the antecedent increases in container capacity and vast improvements in transshipment economics.

However, there are now clouds on the horizon that have implications both regionally and nationally. Parts of the intermodal infrastructure have not been maintained, causing bottlenecks. For example, railroads have neglected critical container routes, especially tracks leading immediately from Pacific seaports to consolidation yards located miles away. Derailments and congestion are costly but now common, and estimates place the cost of solving the problems as high as $4 billion (Machalaba, 1996).

In addition, the postderegulation mergers of most of the nation’s competing railroads has led to the elimination of transcontinental routes and the reduction of available container railcars. The result has been long delays in containers trying to exit Pacific ports bound for the East. In many cases, ships have been diverted to the inferior Panama route to keep foreign trade moving.

Coincidental to the stateside bottleneck, Asian production sites have been moving from the North Pacific (Korea and Japan) to the South China Sea (Singapore, Southern China, Thailand, Malaysia). The recent Asian monetary crisis, originating in the South China Sea region, is a testament to how central this part of the world has become to global trade. As shown in Figure 1, this shift is reflected in containerized trade between Asia and the United States. With Singapore being the containerized transshipment center of this region, shippers now find a route west across the Indian Ocean and through Suez at least as fast and economical as the aging Pacific route (see map in Figure 2). Furthermore, as Europe gains market momentum through its economic union, shippers are likely to find new economies of scale in the enlarging Atlantic route that feeds both the United States and Europe.

Because well over half of American consumption of world goods occurs east of the Mississippi (and most of that along the eastern seaboard), a change in global routes not only reduces the need for Pacific seaports but eliminates a need for the increasingly plagued transcontinental land bridge. In fact, with pressures building throughout the 1990s for a shift, Pacific-route traffic already is losing ground to the Suez-Atlantic route.

Recently, the Atlantic-route advantage has been widened by separate new labor union contracts with Pacific and Atlantic ports. On the Atlantic, wage and work rule concessions that
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reduce transshipment costs were gained at the same time that Pacific longshoremen were ratifying new contracts that boost seaports costs (Machalaba & Mathews, 1996). Although labor is not nearly as significant a component of total costs as it was years ago, transshipment services are far more price competitive now (albeit not officially so) than they were before containerization. Since the beginning of 1996, even published cargo rates have been declining rapidly.

The implications of these confluent developments are enormous both for regional economic development and for numerous national economic issues. Realignment of an infrastructure as immense and central to the American economy as intermodal transportation raises public policy questions concerning everything from job displacement and retraining to the risks and rewards of railroad consolidation and to the impacts on urban land use and environment in affected regions. All of these may invoke the integrated planning requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA) as well.

Yet, except for the indirect effects of the North American Free Trade Agreement (NAFTA) and other global free-trade efforts, U.S. government policy has been mostly silent on dealing with this shift in intermodal routes. In part, this may be due to interregional competition that makes it difficult for the U.S. Department of Transportation or Congress to take sides in making policy that promotes one coast over the other.

Perhaps there is little for public policy makers to enact beyond favorable foreign trade policy, but there are still substantial transportation, employment, and land use planning issues to address. One example has to do with infrastructure capacity. Despite the boom in railroad consolidation and subsequent route reductions and bottlenecks, domestic cargo alone probably cannot, over the long run, fill the remaining transcontinental land bridge capacity. Spread laterally across the nation, this capacity includes specialized oversized flatbed railcars (rigged for the double stacking of chassissless containers), reinforced track along thousands of miles of land bridge routes, and container consolidation facilities in major Western and Midwestern cities (e.g., Denver, Chicago, and St. Louis).

What will fill the excess specialized capacity of this transcontinental rail system if the shift leaves the older Pacific land bridge route trailing a distant second to an all-marine Atlantic route? Could the railroad industry eventually face a need to redeploy fixed assets and perhaps further
downsize to avoid a fiscal crisis? Would the federal government need to design some bailout program as a backup?

Urban areas surrounding seaports have been economically bettered by transshipment declines. Take, for example, the contrasting experiences of Seattle and San Francisco. Seattle was blessed with an enterprising port management that had the foresight to anticipate the container revolution. As a result, the Puget Sound region received spillover benefits that coincided with the revitalized harbor, which included thousands of new jobs, a new stadium complex, waterfront parks connected by miles of walking and bike trails, and a downtown building boom. San Francisco, on the other hand, watched a confused and often corrupt port management make unwise harbor investments that would take its once-prominent working waterfront into permanent decline and fiscal crisis.

If the global route shift becomes permanent, what will happen to the revenue-generating capacity and economic growth momentum of Pacific seaports? Will the port authority enterprises be able to successfully diversify their economic development mandates that also must conform to requirements for maritime use? Are strategies apparent for converting port land to other equally productive economic activity, or will the local communities face a new source of fiscal drag? Like the military bases, which brought huge economic inflows to their metropolitan areas (e.g., jobs and business opportunities), seaports own large tracts of valuable urban land. But can conversion plans identify new uses that will provide positive externalities equal to those rendered by a previously productive container port? How much public money will it take, and what governments will provide it?

Looking toward the Atlantic coast, will seaports continue to modernize to enter the Atlantic-Suez route market and wind up with excess container capacity? During the first container revolution on the Pacific, an all-too-common experience was a “me too” attitude, especially
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Among smaller underfinanced ports that wanted a part of the action without a niche or strategy to compete. In places such as San Diego, Richmond, and Stockton, the result was unwise investment in facilities that were inadequately designed or that did not achieve the critical mass of a load center and were therefore noncompetitive and grossly underused.

This experience may be repeating itself on the Atlantic coast, where there are many cities with fine maritime water access but few consistent strategies for action and few well-defined market niches. According to data compiled by the American Association of Port Authorities, big differences exist in the growth of container facilities (1997). Aggressive modernizing efforts at Hampton Roads (Norfolk) and Charleston included strategies that allowed these smaller seaports to grow container traffic over the past decade by 250% and 140%, respectively. This remarkable market achievement is contrasted with the decade-long nongrowth experiences of ports at Boston, Philadelphia, New York/New Jersey, and Baltimore. Historically the largest in containerized facilities, these latter four ports nevertheless have much larger redevelopment potential. Combined, all the active Atlantic seaports could produce transshipment capacity far in excess of demand over the next 30 years.

What about environmental impacts? In thinking about becoming “players” in containerized cargo, seaports find themselves located along the Earth’s most delicate ecological habitat where the sea meets land’s edge. Potential environmental degradation is an issue at all growing ports for two reasons: (a) because of the need during development to dredge shallow waters for deep-draft ships and fill wetlands for large container lay-down areas and (b) because of operation, ship traffic increases effluents from accidental or intended spills and bilging of holds.

In both cases, a major advantage exists for ports that redevelop and modernize existing facilities over ports that develop by breaking new ground in delicate or undeveloped areas. From a comparative perspective, what hazards arise for harbor fisheries and wetland mammals and birds in either redeveloped or newly developed areas?

Would intergovernmental reviews (including those mandated by ISTEA) be able to respond appropriately to both redevelopment and new development strategies? Should environmental review and funding preferences be given to redevelopment, which is usually the strategy at more established container ports, or to new development, which is usually the strategy at smaller ports?

Because this transportation infrastructure touches everyone’s lives economically and socially, government policy makers at all levels should at least exercise a role in formulating scenarios and researching potential outcomes. The initial container revolution had enormous and mostly positive effects. This second revolution involving a return of foreign trade to the Atlantic may have an equally sizable but a more uneven distribution of costs and benefits across the nation. Here, lessons from the past may be instructive.

References


