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Planning for competitive port expansion on the U.S. Eastern Seaboard: the case of the Savannah Harbor Expansion Project

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ABSTRACT

With the expansion of the Panama Canal, port cities along the U.S. Eastern Seaboard are competing to attract the increased trade expected once the project is complete in 2015. Competition includes extensive investment in projects for port expansion, dredging, and multimodal transportation for greater hinterland connectivity, fueled in part by uncoordinated federal port investments without a larger strategic vision for national port and trade infrastructure. One of the competing ports is in Savannah, Georgia, which is the country's fourth busiest container port. Savannah is about to embark on a $652 million project that will dredge thirty-two miles of the Savannah River from 42 to 47 feet to attract and accommodate Post-*Panamax* container ships. The paper analyzes the geographic coastal impacts of port competition, and looks at the unique circumstances of the Greater Savannah Metropolitan Region in planning for future growth of its port. The case illustrates the geographic tensions of uncoordinated maritime freight and logistics planning with fragile coastal and riparian ecologies. The dramatic interventions in port excavation also demonstrate how global forces of technological change and port expansions in other parts of the world are reshaping local geographies.

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Introduction

With the expansion of the Panama Canal, port cities along the U.S. Eastern Seaboard—from New York to Miami to Houston—are competing to attract the increased trade expected once the project is complete in 2015. Of these ports (see Fig. 1), only Norfolk[1] currently has the channel depth and landside infrastructure to receive the Post-*Panamax* ships (with a fifty-foot draft and a 12,500-TEU[2] container capacity) that will pass through the expanded Canal (Conway, 2012a; Schwartz, 2012). Other East-Coast ports are either engaged in, or proposing projects that include port expansion, dredging, and multimodal transportation for greater hinterland connectivity, which are estimated to cost $20 billion (Schwartz, 2012; Spivak, 2011; Rodrigue and Guan, 2009). They hope to achieve conditions to receive Post-*Panamax* ships in time for the Canal expansion with the help of U.S. federal dollars. Ninety percent of world trade volumes move by sea (Rodrigue, 2010; CanagaRetna, 2010), and an American Association of Port Authorities (AAPA) report shows that in 2011 U.S. ports generated more than 13 million direct and indirect jobs, $650 billion in personal income, and $212 billion in U.S. federal, state, and local taxes (AAPA, 2012). With the majority of the U.S. population living in coastal regions,[3] and a strong correlation between per capita income and coastal proximity, it is clear that efficient, frictionless port functions and their ancillary activities are closely tied to the larger macro-economic health of the country (Hall et al., 2011; Rappaport and Sachs, 2003; Gallup and Sachs, 1998).

One of the competing ports is in Savannah, Georgia, located approximately eighteen miles inland from the mouth of the Savannah River. The Port of Savannah is the country's fourth busiest container port and the second busiest on the Eastern Seaboard after the Port of New York and New Jersey (Conway, 2012a; Guy and Alix, 2007). Savannah's port has achieved this success in spite of the fact that its 42 foot channel depth is the shallowest of North America's top fifteen ports, and the port has received less state and federal funding than any other East Coast port, which earned the port recognition in the Collier International 2012 Port Awards

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[1] While both the Ports of New York and New Jersey and Baltimore have 50-feet channels, each still have landside transportation limitations. See Schwartz (2012).

[2] "A 20-foot equivalent unit (or TEU) is an inexact unit of cargo capacity used to describe the capacity of container ships. It is based on the volume of a 20-foot long shipping container, a standard-sized metal box which can be easily transferred between ships, trains and trucks." (Knight, 2008, 6)

[3] Defined as areas within 80 km of an ocean or Great Lake. See Rappaport and Sachs (2003).

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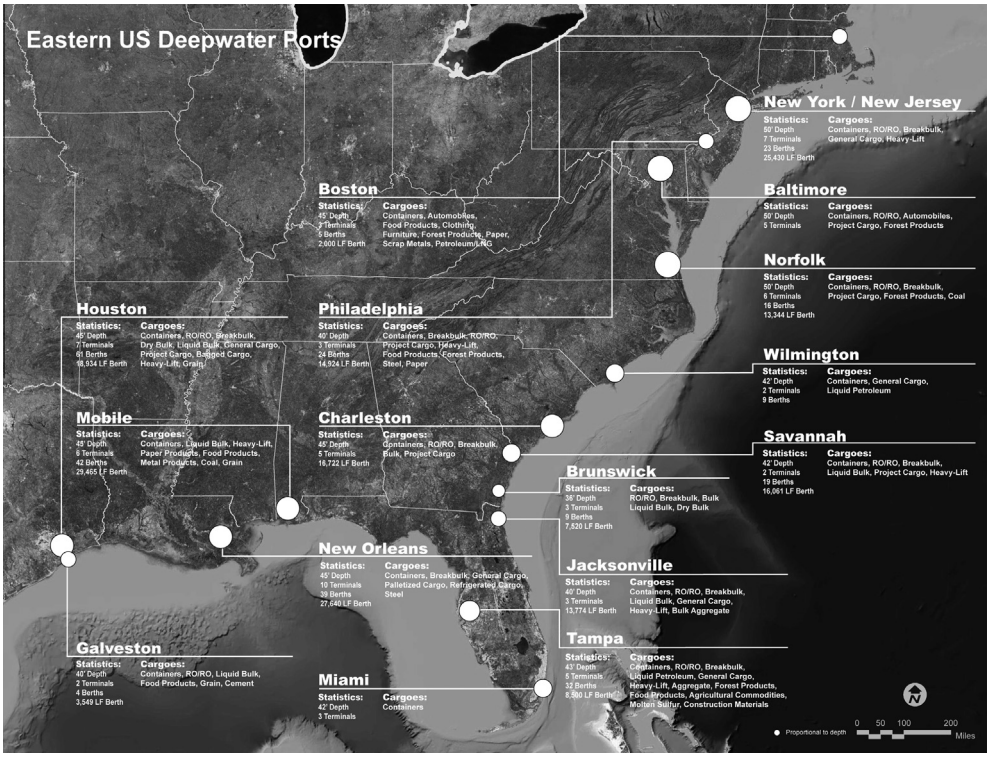

Fig. 1. Eastern US deepwater ports map.

as the port that offers "success for less" (Conway, 2012a; USACE, 2012). Savannah is an export center for goods throughout the Southeast, and it is essentially the port of Atlanta in terms of its imports destination (Dablanc and Ross, 2012). The port is about to embark on the $652 million Savannah Harbor Expansion Project (SHEP), which will dredge 32 miles of the Savannah Harbor navigation channel—comprised of 18 miles of the Savannah River downstream to its mouth, and 14 miles of the Atlantic Ocean entrance channel—from 42 to 47 feet to attract and accommodate Post-*Panamax* ships. While negotiations are still ongoing as to exact costs and payment responsibilities, Georgia has made it clear that SHEP is the state's highest trade infrastructure priority (GCIL, 2013), and most indicators signal that the project will go forward (Bynum, 2013; Leach, 2013; Mayle, 2013b).

The paper explores the geographic coastal impacts of port competition, and looks at the unique circumstances of the Greater Savannah Metropolitan Region in planning for future growth of its port. It incorporates geographic spatial analysis, historical archives, and secondary sources to construct a case study of the Savannah port and Savannah Harbor Expansion Project. It also considers the larger U.S. trade and infrastructure policies that frame the country's port competition. It concludes with policy and planning recommendations for national port strategy, which would establish more rigorous economic and environmental risk assessment for port expansion projects. The case illustrates the tensions of uncoordinated maritime freight and logistics planning with fragile coastal and riparian ecologies, complicated by historic, entrenched economic geography. Dramatic interventions in port excavation demonstrate how global forces of technological change and port expansions in other parts of the world are reshaping local port regions.

2. Competition and technological change in port cities

The study of port cities focuses on the dialectic between the port and metropolitan spatial change. The geography of port cities presents planners with a unique set of challenges for the spatial organization of buildings, roads, and topographical elements into "patterns that are derived from and recondition economic, social, and political activities and values" (Konvitz, 1978, 6). As technology, trade, and cultural imports come through the port, all can and do serve as mechanisms for urban and regional growth; either as the result of the ever-increasing spatial requirements directly related to the port activities, or through accumulated growth whose urban germination begins with the central port function (Meyer, 1999; Fujita and Mori, 1996; Hoyle, 1989). Today, the heterogeneous elements brought together at the port include: core and propulsive industries (port infrastructure, services, operations); dependent industries (maritime industry, freight traffic); functionally-linked industry (freight-forward agents, ship building and repairs); and, marketing industries related to the export sector (warehousing, distribution, banks, insurance companies, light manufacturing), along with the associate spatial agglomeration regional impacts and ancillary activities that grow up around these core industries (Hall and Jacobs, 2012; Olivier and Slack, 2006; Ho, 1996). As Hoyle and Hilling (1984) conclude, "the port is, therefore, both a cause and a result of development" (4).

Competition among cities and regions to attract global trade flows involves development strategies that seek to offer the appropriate infrastructural hardware and capacity, either offering better hinterland market connectivity or more competitive characteristics as a transshipment base (Notteboom et al., 2009). Over the last half-century, the streamlining process of containerization allowed shipping to go beyond traditional hinterland boundaries and into new territories to compete (Levinson, 2006; Vigarié, 1999; Hoyle and Pinder, 1981). Focusing on North American Eastern Seaboard maritime trade, Rodrigue and Guan (2009) argue that since the late 1980s ports have been more aggressively competing for hinterland trade service, particularly in the Southeast. Container trade throughout the United States surged from the period between 1997 and 2006, going from 14.9 million to 27.4 million TEUs, based largely on strong increases in Asian imports (MARAD, 2008). There