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Cross-Border Freight Flows at the Two Land Borders

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Cross-Border Freight Flows at the Two Land Borders

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by David Davidson & Austin Rose*

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U.S. Trade Flows, 2009

	\$ billion	%
With Canada		
2-way total	429.6	
U.S. Exports	204.7	
<i>By Mode</i>		
Truck	140.6	68.7%
Rail	20.0	9.8%
Pipeline	2.6	1.3%
Other	41.5	20.3%
U.S. Imports	224.9	
<i>By Mode</i>		
Truck	102.3	45.5%
Rail	41.0	18.2%
Pipeline	45.6	20.3%
Other	36.0	16.0%
With Mexico		
2-way total	305.5	
U.S. Exports	129.0	
<i>By Mode</i>		
Truck	89.4	69.3%
Rail	15.3	11.9%
Pipeline	0.8	0.6%
Other	23.5	18.2%
U.S. Imports	176.5	
<i>By Mode</i>		
Truck	117.0	66.3%
Rail	19.3	10.9%
Pipeline	0.2	0.1%
Other	40.0	22.7%
Both Combined		
2-way total	735.2	
U.S. Exports	333.7	
U.S. Imports	401.4	

Introduction. This article provides an overview of the flow of goods between the U.S. and its two NAFTA neighbors, Canada and Mexico. It is the job of border agencies to facilitate these flows, and this article seeks to explain some aspects of the scope of the job. There is much regional variation in the volume and composition of freight flows, and this variety inevitably has implications for border management policies.

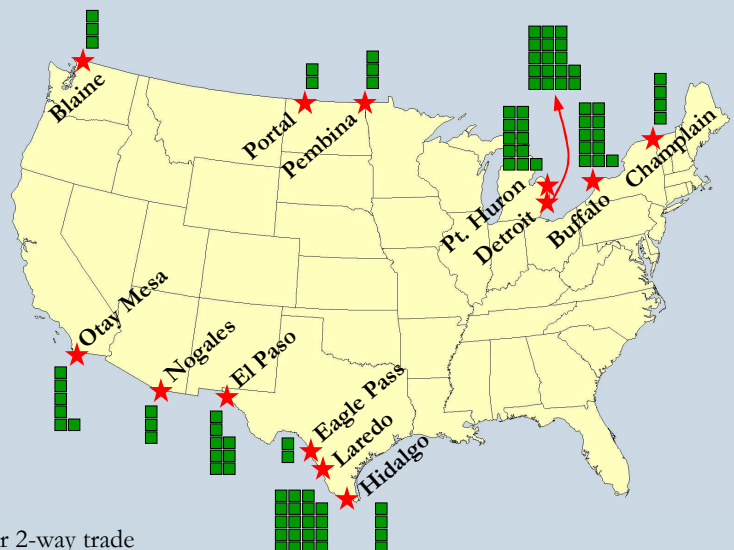
The article presents a U.S.-centric perspective, using 2009 data from the North American Transborder Freight Database maintained by the U.S. Bureau of Transportation Statistics.¹ The U.S. dollar is used as the measure of freight flow volume. While dollar value is an indirect metric of actual traffic (i.e., \$1 million of sawdust fills more trucks than \$1 million of iPods), it's used here because it's the only metric in the database applicable to both imports and exports at both the Mexican and the Canadian border.

The database presents data for 106 land ports-of-entry: 80 on the northern border, 26 on the southern. There are more actual crossings than that, but U.S. Customs groups some neighboring crossings into consolidated administrative ports.

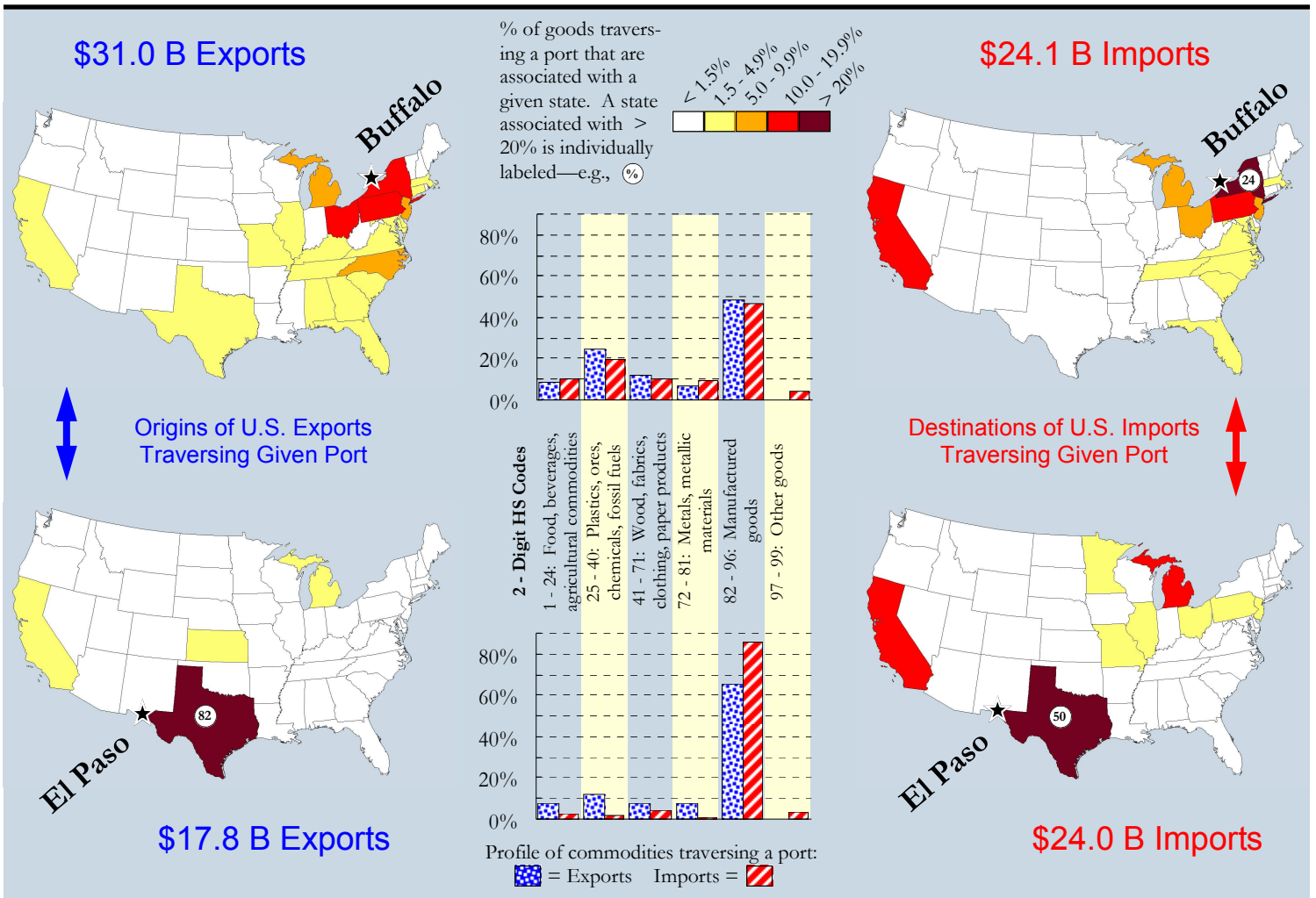
Balance of Trade. The sidebar figure presents trade-balance data broken out by transportation mode. Trade with Canada exceeds that with Mexico, and deficits seem to be the norm. But

2-Way Trade (Truck + Rail) Traversing the 13 Largest Ports

Each of these 13 ports handles > \$10 billion per year of 2-way trade (truck + rail combined). Together they handle 85% of the goods traversing the land borders. The remaining 93 ports handle:



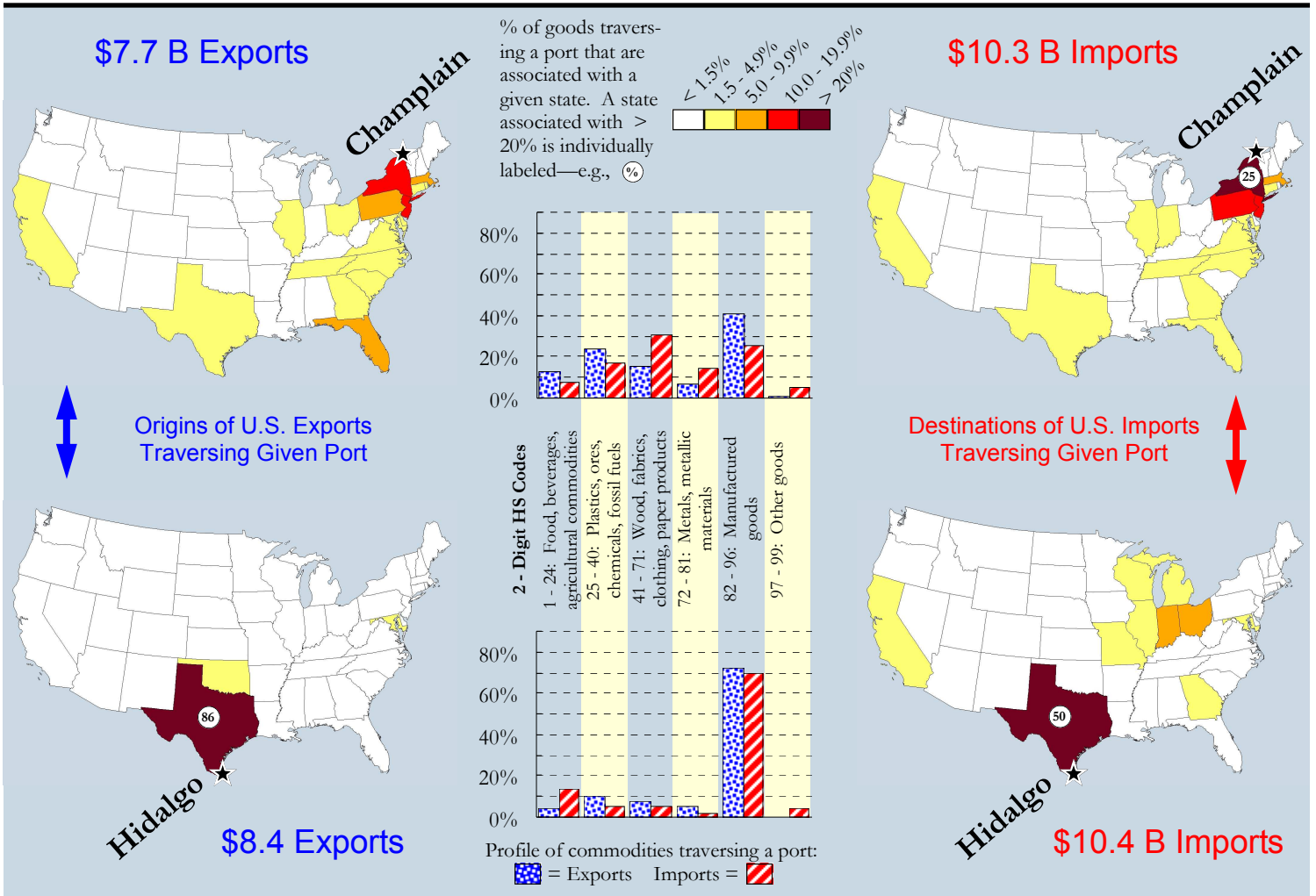
Buffalo and El Paso also support the manufacturing corridor, but goods traversing Buffalo are more varied. The economic might of California & Texas is also evident.



A Mid-Continent Manufacturing Corridor. Cross-border surface freight flows in the mid-continent region are heavily associated with manufacturing, as seen above and on the previous page. As is well known, there are integrated manufacturing supply chains that extend from Ontario and Quebec through the American Midwest to associated maquiladoras located in the Mexican borderlands. **All three NAFTA nations have a stake in ensuring the efficiency of freight flows along the mid-continent corridor.** There is a stunning congruity with respect to the group of U.S. states that are the source of exports and the destination of imports passing through Laredo and Detroit, the two busiest ports. Michigan and Texas are the “bookends” of the corridor, bracketing the states of Illinois, Wisconsin, Indiana, Missouri, Ohio, Kentucky, Tennessee, Georgia, and North Carolina. An overwhelming percentage of the goods (both imports and exports) traversing Detroit and Laredo fall within the “manufactured goods” category, although some *inputs* to manufacturing are exported to Mexico through Laredo (i.e., plastics, ores, rubbers, fossil fuels). As noted earlier, a U.S. trade surplus is evident at the northern border and a deficit at the southern.

California and Texas each have economies rivaling those of our NAFTA neighbors, as evidenced by GDP data: California \$1.8 trillion; Canada \$1.3 trillion; Texas \$1.1 trillion; Mexico \$0.9 trillion. The two states therefore serve as significant trip endpoints for trade flows through almost all of the large ports along both the northern and southern borders. In some instances, these states exist as

While Hidalgo is manufacturing-centric, Champlain handles a wide variety of goods (e.g., ores, agricultural, wood products), with imports exceeding exports.

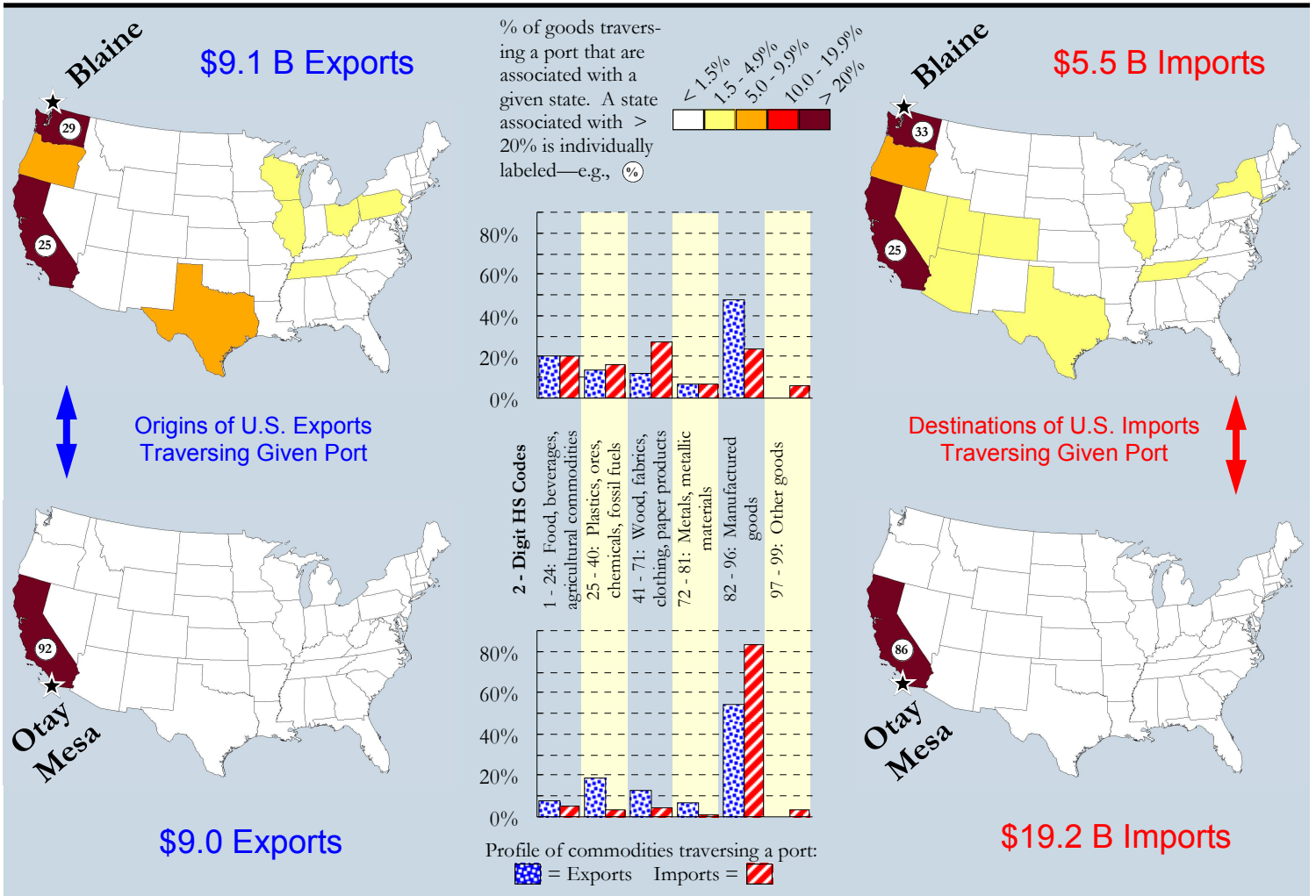


overwhelming endpoints for trips made through given ports—e.g., Texas is the origin of 82 percent and 86 percent respectively of the exports moving south through El Paso and Hidalgo; California is the origin of 92 percent of exports and the destination of 86 percent of imports through Otay Mesa. These instances of ports that have virtually exclusive linkages with a given state’s economy lend credence to a paradigm in which **states (rather than the federal government) might at times find it beneficial to invest in actual port-of-entry infrastructure.**

Other Patterns in New England and to the West. At southern ports, the manufacturing-centric pattern prevails along the length of the Texas-Mexico border. Hidalgo and El Paso have origin/destination patterns and commodity mixes very similar to Laredo’s. But along the northern border, differences are evident both east and west of Michigan. At Buffalo there is a lesser proportion of manufactured goods within the commodity mix, and further east at Champlain the mix is yet more diverse. Natural resources (agricultural, wood, ores, metals) become significant parts of the mix, and a trade deficit is evident. As expected in light of simple roadway mileage, Buffalo and Champlain accommodate Canada-U.S. trade flows associated with a group of New England and Atlantic Coast states—New York, Pennsylvania, Massachusetts, New Jersey, Maryland, and Virginia.

The Michigan ports (Detroit and Port Huron) are the ones at which the FAST trusted-shipper program has met with the most success, because the nature of the freight flows traversing those ports

Blaine and Otay Mesa accommodate trade flows along the West Coast Corridor, but Blaine also handles significant Asia-Pacific Gateway trade flowing through Vancouver.

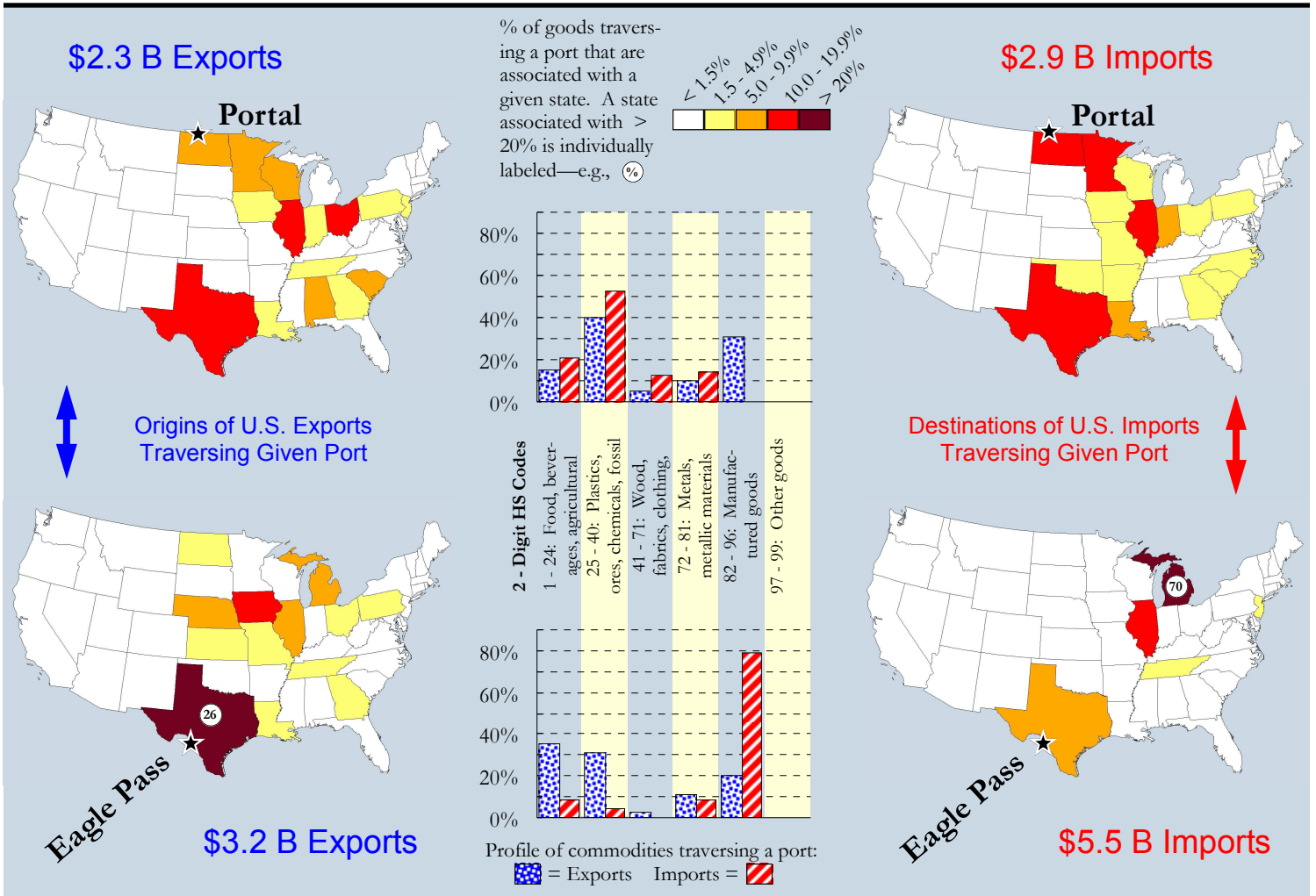


(e.g., sophisticated shippers, high value goods, need for prompt delivery in order to support just-in-time manufacturing, close proximity of shipper to recipient, easily secured supply chain) meshes well with FAST’s requirements. But it is well documented² that **in border regions other than Michigan, FAST’s design is not as well suited to the characteristics of cross-border freight flows.**

West Coast Corridor and Asia-Pacific Trade. Trade between Asia and North America is accommodated at several major west-coast seaports—Los Angeles, Long Beach, Oakland, Seattle-Tacoma, and Vancouver, B.C. While much of that trade is destined for eastern and midwestern population centers, a significant amount also moves north-south along the west coast, as evidenced by the trip endpoints associated with freight traversing the port of Blaine. California’s large economy is again both the origin and the destination of much trade, and the economic vibrancy of the Pacific Northwest coastal region (Eugene north to Vancouver) is also at work.

Corridors in an Era of Higher Fuel Costs. Cross-border trade feeds into a group of transportation corridors. One previously discussed corridor extends along a mid-continent route bracketed by Michigan and Texas; another extends from California to the Great Lakes; another extends from Blaine south to California. Much of the freight moving along these corridors is carried by truck. But these corridors are of a length such that moving goods by rail would be more efficient, were it possible to provide timely service to the many trip endpoints scattered throughout the Midwest and

Portal and Eagle Pass are unusual in that rail surpasses trucking: this page shows only rail data. The ports have differing goods profiles, but imports are key at both.



East. As fuel prices rise over time, it may become economically rational to invest in a freight rail network that enables such service. Together with high-capacity main lines, such a network would need a dense collection of regional feeder lines extending throughout the mid-continent manufacturing belt, including the portions of that belt that extend into Canada and Mexico.

Similarities & Differences, North & South. At both borders traffic is funneled through a small number of ports, so agencies can accomplish multiple goals (e.g., enhancing security, reducing air pollution, expediting trade) by ensuring optimal operation of those key ports. Also, each border contains a regional segment that is heavily oriented toward the mid-continent industrial sector, implying that northern and southern border management programs could be similar. There is diversity, though, along the breadth of the northern border, with resource commodities flowing south from Canada at the seaboard. This regional difference has proven problematic to the success of the FAST program along the border's entire length. Finally, the continued viability of our integrated NAFTA manufacturing paradigm depends upon efficient transportation corridors.

Endnotes

- * David Davidson is Associate Director of the BPRI. Austin Rose is a BPRI Thesis Fellow.
- 1. Database accessible at: <http://www.bts.gov/programs/international/transborder/>
- 2. For example, see Goodchild et al., "Cross Border Transportation Patterns at the Western Cascade Gateway: Implications for Mitigating the Impact of Delay on Regional Supply Chains," retrievable at <http://www.wvu.edu/bpri>