

Agricultural Infrastructure

Infrastructure includes gas, water, sewer and energy transmission lines, telecommunications and transportation systems, including roads, rails, waterways and ports. Leaving aside irrigation infrastructure, which is a specialized topic, transportation systems are a particularly important form of infrastructure to agriculture because of the role they play in the distribution network. Better transportation infrastructure allows producers to more efficiently obtain inputs, move their commodities over large distances and access the global market. The high productivity of California agriculture is complemented by producers' ability to quickly bring their perishable and high value goods to market.

Economic growth during the 1990s led to more traffic, and rural traffic and freight transport also increased. As travel demand rose faster than the supply of highways, highways have become more congested and infrastructure more challenged (Brown 2005). For example, in 2001 more than one-third of California bridges were found to be deficient (Brown 2005). Without additional investment, the U.S. transportation infrastructure, including rail capacity will face significant strains (Brown et al. 2004).

Food accounts for 11 percent of total freight shipments in the United States. Moreover, agriculture is input-intensive, so fertilizers and feed additives must also be shipped to producers. When combined with inputs and processed food shipments, uses almost one-third of U.S. freight transport (Brown et al. 2004). The food sector uses more infrastructure per dollar of domestic consumption than other industries in the United States (Brown et al. 2004). Trucks are the most widely used system of transportation for agriculture, accounting for about two-thirds of all freight transport. Rail transport makes up about one-quarter of agricultural freight, and barges and multiple modes of transport make up the remainder of freight shipments. The dairy and meat industries are most reliant on trucks for freight transport (Brown et al. 2004).

Several of California's most productive agricultural regions are located in the center and far southeast of the state. On the other hand, most agricultural produce is consumed in urban centers along the coast or out-of-state. Therefore, agricultural output must move over long distances, making use of transportation infrastructure. Nationwide, 95 percent of perishables are delivered by truck and about 98 percent of fresh fruits and vegetables were delivered by truck in California in 2004 (Cowan 2005). About 100 percent of California milk is transported by truck from the farm to the processing plant, and most dairy products are shipped by truck again after processing. Truck transport is used for a high share of agricultural products in California because many of the goods produced in the state require controlled temperatures and fast delivery.

Funding for highway construction and maintenance comes primarily from the Federal government but is under control of the California Department of Transportation (CalTrans). In 2005, the U.S. Congress passed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; P.L. 109-59) which guaranteed funding totaling more than \$244 billion for highways, highway safety, and public transportation systems. California received more than \$17 billion of the total, with

most of the money going towards interstate and highway maintenance and construction, other surface transportation projects, bridge replacement and rehabilitation, and congestion mitigation. The legislation for this large investment in U.S. transportation infrastructure will expire in September 2009, and Congress is expected to begin working on a replacement bill during the 2009 session.

SAFETEA-LU designated state route 99 from Bakersfield to Sacramento as a high priority corridor. Termed the “California Farm-to-market Corridor” in the National Highway System, the route was scheduled to become an interstate highway, making it eligible for funding under highway reauthorization bills. At least \$35.5 million has been allocated to improving state route 99 between 2005 and 2009 (FHA 2005). Increased spending on route 99 may help agricultural producers by improving the roads that carry their products and lowering transport costs.

About 14 percent of perishables produced in the San Joaquin Valley are exported to other countries. A high share of these exports passes through the ports of Oakland, Stockton, Los Angeles, and Long Beach (Cowan 2005). Under SAFETEA-LU, the ports of Los Angeles and Long Beach were allocated about \$5 million annually from 2005 to 2009 (FHA 2005). The intermodal container transfer facility that serves the Los Angeles and Long Beach ports is connected by railway to stations in the Central Valley and to the largest rail facility on the west coast, located in Roseville.

In general, railroads are only used in the transport of “hard” products such as grains, nuts, onions, potatoes, and carrots. Transport by rail is cheaper than transport by truck for long-distances. Refrigerated railcar transport has high revenues, so railway companies have strong incentives to increase shipments of perishable agricultural produce (Cowan 2005). A significant increase in freight conveyance by rail would likely require increased investment in railway infrastructure and track upgrades. SAFETEA-LU authorized projects to expand and improve the California railway system. This expansion includes constructing or upgrading intermodal transport centers along the Altamont Commuter Express Corridor, which should alleviate congestion for freight trucks along route 99.

– University of California Agricultural Issues Center, July 2009

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