

# APPENDIX I-17: TREND ANALYSIS – CHASSIS MANAGEMENT

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## Trend Statement

Changing equipment management practices with regard to chassis affects land use and traffic patterns in and around ports.

## Background

Chassis facilitate the movement of intermodal cargo from the ocean vessel to truck and freight rail. Chassis storage has typically occurred at maritime terminals and rail yards. Unlike ocean carriers in other parts of the world, including in Canada, ocean carriers operating in the United States (U.S.) have traditionally owned the chassis and provided it to truckers for their use in transferring containers between the ports and distribution and intermodal facilities as part of local trips (drays). Truckers are then required to reposition the chassis back to the terminal.

This model is a legacy of the early days of containerization, when ocean carriers invested in equipment in order to secure access to markets in the interior of the U.S. The model has worked in California (in Southern California in particular) because available land has allowed terminals to store chassis on site and to place containers “on wheels,” instead of stacking them, as a service to customers.

A shift in chassis management practices underway may result in a demand for storage facilities outside of the terminal gates and changes in traffic patterns for local truck trips to and from port facilities.

### Stacked Chassis – Lathrop Intermodal Facility



*Source: Caltrans, Office of Freight Planning*

## Freight System Implications

Recent chassis management practices required inefficient repositioning between inland distribution centers, warehouses and ports to return the equipment to its owner. However, this does not prevent truckers from arriving at ports with “foreign” chassis. Thirty-percent of all container transactions of all types remain associated with foreign equipment (Le-Griffin and O’Brien, 2013). In this case, truck drivers are forced to “flip” chassis on the docks at a flip line, replacing the foreign chassis with one belonging to the ocean carrier stored on site. The trucker must then return the foreign chassis to its owner. This necessitates more inefficient movements of equipment inside the terminal involving both chassis and utility trucks (UTRs) while the flip is occurring.

Carriers realized that the current model is not sustainable. At an estimated cost of \$8,000 per chassis, there were too many chassis being stored at too high a cost to carriers with not enough space. In other parts of the world, ports are more productive with less land. In order for California ports to compete with these other ports in accommodating greater numbers of containers in the future, California ports need to use port land more efficiently, which implies less chassis storage and more land devoted to staging and stacking containers.

Chassis management practices are also inefficient for truckers if they are required to deliver a container to one terminal and return a chassis to another location.

The recent recession has also encouraged changes in the relationship between the equipment owners and truckers. A large number of idle assets imply high expense and low revenue. As a result, ocean carriers are looking to pass along costs or get out of the chassis business altogether.

In June 2010, Congress passed “Roadability” legislation, which authorizes the Federal Motor Carrier Safety Administration to mandate various fitness tests for chassis. This is expected to result in more standardized equipment, eliminating the need for carriers to compete on the basis of their equipment’s reliability. This provided another incentive for ocean carriers to get out of the chassis business.

A number of carriers are pooling their chassis, permitting truckers to use the equipment for multiple trips without repositioning it first. There are many potential benefits of chassis pools. First, they allow more revenue trips and allow carriers to divest themselves of a portion of their equipment fleet, freeing up both capital and land. Also, the adoption of chassis pools rationalizes terminal operations, improves safety and reduces congestion by minimizing in-terminal moves as well as diesel emissions and bare drays.

Ocean shippers operating at the Ports of Los Angeles and Long Beach have developed terminal-wide chassis pools, i.e. pools of chassis belonging to different ocean carriers calling at the same terminal. These include the Los Angeles Basin Pool (LABP) which involves 25,700 units. Major contributors include China Shipping, COSCO, Hanjin, and Yang Ming. Other major chassis pools at the San Pedro Bay Ports include the Grand Alliance Chassis Pool (GACP), which contains 12,500 units and the New World Alliance (NWA) chassis pool, a partnership of MOL, Hyundai and APL.

Other industry models have been tested and adopted by individual ocean carriers: Maersk was the first to make a move toward divestiture. It transferred chassis ownership to a subsidiary, which rents the chassis to motor carriers on a daily basis. Some ocean carriers now require motor carriers to provide their own or rented/leased chassis, then invoice for the cost of chassis rental or roll it into their charge

rate. Some continue providing free chassis for certain high volume customers, but issue a usage fee for other moves. In some cases, an ocean carrier may still provide equipment to the motor carrier believing that control of the equipment allows them to provide superior service to customers, particularly those moving high volumes of containers.

## Planning Considerations

Chassis management changes such as increased use of chassis pools, third-party equipment leasing and direct provision by truckers has land use implications both at terminal facilities and outside the gates.

- On docks, fewer chassis mean more land available for stacking containers. The shift to management by third-party, neutral or “gray” chassis providers creates a need for chassis storage facilities for leasing companies, chassis pool operators and trucking companies near the ports and rail yards and at inland locations near distribution centers and warehouses.
- This has the potential to change intra-metropolitan freight flows, creating demand for infrastructure, including new access roads, particularly in the vicinity of the ports.
- Fewer truck movements mean reduced vehicle miles travelled (VMT) and emissions.

As the industry adjusts to these changing practices, insufficient chassis supply and a disjointed system is causing wasted truck trips, slow equipment turnover and congested terminals. The problem is exacerbated by the arrival of larger vessels at ports in Southern California in particular, creating a peak demand for chassis and yard equipment that is not being met under current conditions. Tom Heimergartner, president of Best Transportation in Port Newark, New Jersey, sums it up best – “It’s a circular situation – chassis shortages cause delays at terminals, and delays at terminals cause chassis shortages.”<sup>1</sup> The delay, in turn, is slowing the shipper supply chains. Container dwell time is rising and harbor truckers are experiencing unusually long turn times because the marine terminals do not have the types and quantities of chassis needed.

While the changes are being driven by the industry, the responsibility for providing facilities to manage pooled or gray equipment falls into a jurisdictional “no man’s land.” The Ports of Los Angeles and Long Beach and other key stakeholders have formed a Chassis Operations Group to find a more efficient chassis supply model for the nation’s largest port complex. In October 2014, the Port of Long Beach announced it was pursuing the development of its own chassis operating group to purchase, maintain and manage chassis and forming a Congestion Relief Team.

In September 2014, the Justice Department antitrust division agreed not to challenge a chassis use agreement between two major container pools to share their intermodal chassis in the ports of Los Angeles and Long Beach. Two enterprises would allow free interchange of chassis between their pools where they operate in the San Pedro Bay harbor.

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<sup>1</sup> “Three largest [US ports seek ways to resolve chassis crisis.” Joseph Bonney and Bill Mongelluzzo, *Journal of Commerce*, July 21, 2014.

## Resources

Le-Griffin, H. and T. O'Brien (2013) *Impact of Streamlined Chassis Movements and Extended Hours of Operation on Terminal Capacity and Source-Specific Emissions Reduction*. METRANS Transportation Center Research Report 07-08.

Intermodal Association of North America: <http://www.intermodal.org>

Ocean Carrier Equipment Management Association: <http://oceama.org>