

## Trend Analysis: Chassis Management

### Trend Statement

Changing equipment management practices with regard to chassis have the potential to affect 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 United States. 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 currently 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.

### Freight System Implications

Current chassis management practices require 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. 30 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 are realizing that the current model is not sustainable. At an estimated cost of \$8,000 per chassis, there are 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 will have to use port land more efficiently, which implies less chassis storage and more land devoted to stacking containers.

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 is 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, it allows more revenue trips and allows 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 are being adopted by individual ocean carriers:

- Maersk has transferred chassis ownership to a subsidiary, which rents the chassis to motor carriers on a daily basis.
- With Orient Overseas Container Line (OOCL), motor carriers provide their own or rented/leased chassis, then invoice OOCL for the cost of chassis rental or roll it into their charge rate.
- The Mediterranean Shipping Company (MSC) continues providing free chassis for certain high volume customers, but issues a \$25 usage fee for other moves.
- American President Lines (APL) has no plans to change their practices, believing that control of the equipment allows it provide superior service to customers.

## Planning Considerations

Chassis management changes such as increased use of chassis pools, third party equipment leasing, and direct provision by truckers will likely have 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.

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 April of 2013, the ports issued a Request for Proposals for port-wide chassis management services.

### 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>

