Case study

The Evolution of Chassis Pool Models

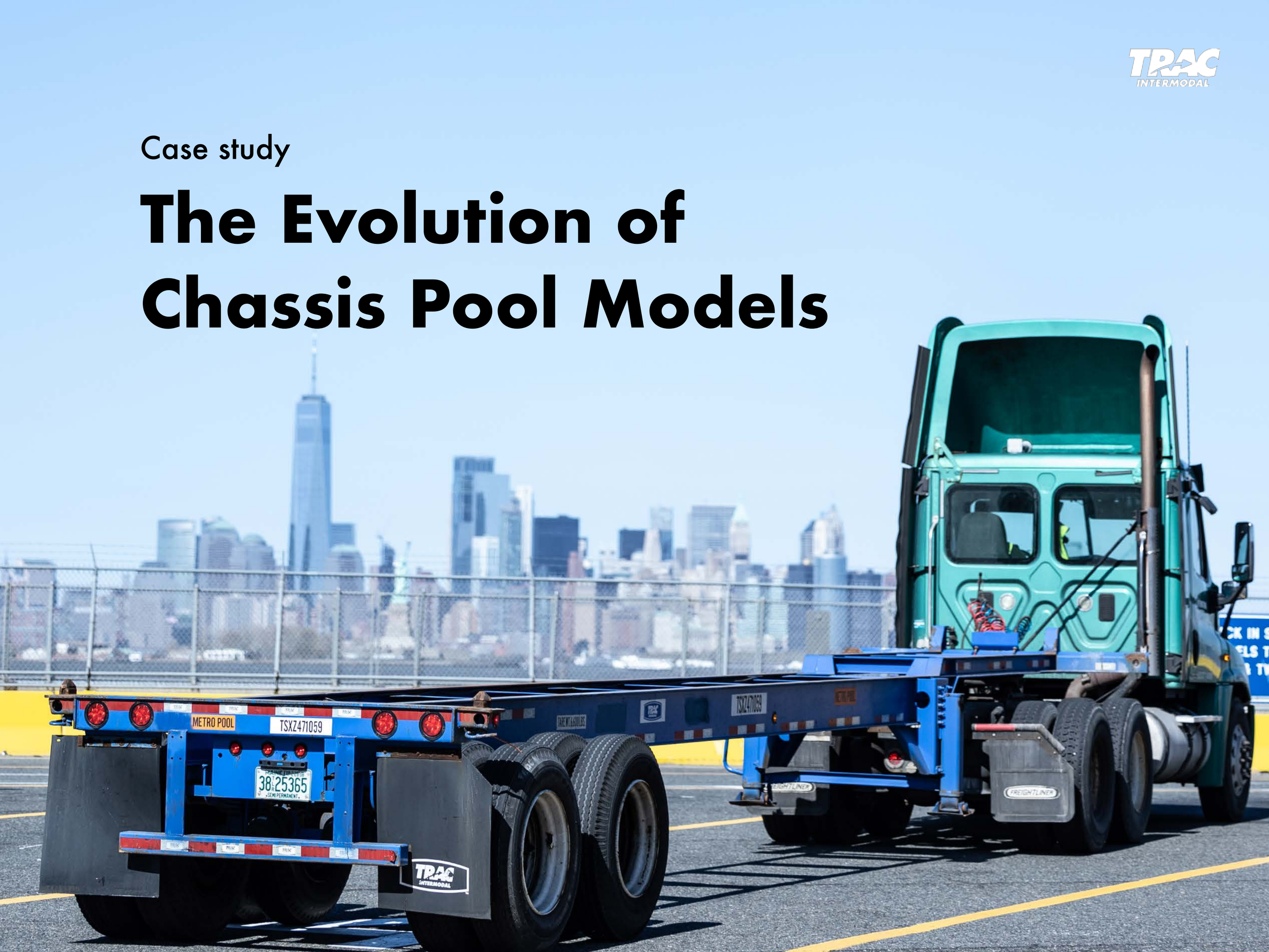


Table of Contents

Introduction

With today's complex global supply chains, multiple entities contribute to the movement of shipping containers from one location to another, whether over the road or on the rails. **As a critical link in the supply chain, chassis are the underlying equipment that makes container transport from a port to an inland destination warehouse or distribution center possible.**

A competitive, reliable chassis system helps deliver vast quantities of goods efficiently and cost effectively. Intermodal Equipment Providers (IEPs) remain the dominant owners, investors and lessors of chassis to motor carriers, BCOs, NVOCCs, port users and others.

The rise of chassis provisioning companies coincided with ocean carriers exiting the chassis provisioning business starting in 2009. Since then, IEPs such as TRAC Intermodal have invested billions of dollars in upgrading chassis fleets acquired from the ocean carriers, along with purchasing thousands of new chassis. This evolution in chassis provisioning helped pave the way for different pool models by which customers can obtain chassis.

Each region of the country has certain characteristics based on geographic areas and intermodal environments, which dictate the type of chassis pool model(s) best suited for that region. A wide variety of equipment options are available in every port and geographic area. Responding to different customer needs, IEPs are offering a wider range of tailored provisioning methods including leases of different durations as well as daily rentals.

While these models vary and continue to evolve, the fundamental benefit for customers with chassis pools remains the same: the ability to access the safest, best available equipment to meet their business needs at the most reasonable cost.

Multiple chassis provisioning models ensure competition across markets, giving customers the power of choice. These options allowed the industry to weather pandemic-related challenges such as longer chassis dwell times due to port congestion and changing cargo patterns. The new cargo patterns required the repositioning of thousands of chassis which IEPs undertook quickly with significant investments to help ease ongoing supply chain challenges

Primary Pool Models

There are essentially five main pool models in which customers can obtain chassis:

- **Single chassis provider model**
- **Gray pool model**
- **IEP Co-op or Pool of pools**
- **Motor carrier-controlled pools**
- **Private Pools**

Single Chassis Provider

Under this chassis model, one IEP owns and/or controls the chassis and provides it to a customer at a pre-determined rental rate.
The IEP manages the chassis, controls supply, and assumes responsibility for chassis maintenance and repair. A single chassis provider fleets and manages the pool, also known as a “proprietary”, “neutral” or “competitive” pool.

Competition among pool providers helps ensure that each IEP pool maintains their equipment in optimal condition. As IEPs have direct control over their chassis assets, they can better manage inventory and reallocate equipment to regions and areas in need.

Many IEPs have invested heavily to improve the quality and safety of their fleets by offering additional logistical services and premium chassis features such as ABS brakes, hub-piloted wheels, radial tires, and LED lights. These features help monitor chassis demand and ensure availability.

source: istock

The Port of NY/NJ chassis pool is an ideal example of this model. To help ensure chassis fluidity amid a surge in cargo volume at this busy port, each IEP maintains their own independent chassis pool at depots moved off terminal to nearby locations situated close to major thoroughfares. This approach has given chassis providers greater control over their fleets, while freeing up valuable waterfront property for processing record imports and exports.

TRAC Intermodal's Metro Pool, operating in the NY/NJ port complex, offers a product with a high level of interoperability as TRAC has secured agreements with a vast majority of ocean carriers within this market for carrier haulage (CH) moves while offering full interoperability for all ocean carrier merchant haulage (MH) moves.

Gray Pool – Independent Pool Manager

With a gray pool model, multiple IEPs contribute chassis to the pool, which is overseen by a single independent pool manager. Customers can use any chassis in the pool to move any ocean carrier's shipping container.

Gray pools can offer port operators certain time savings, as arriving containers can be placed on a gray pool chassis without having to match with a specific IEP chassis. Motor carriers can utilize the same pool chassis to transport all containers.

source: istock

The challenge for IEPs under this model is that they have made a sizable investment in the chassis they are contributing to the pool. Yet, IEPs give up control of their privately-owned asset to a third-party manager who has little incentive to control costs, as these costs are simply passed along to customers. Due to a lack of competition, gray pools tend to drive costs higher, reduce the quality of the equipment, and stifle innovation.

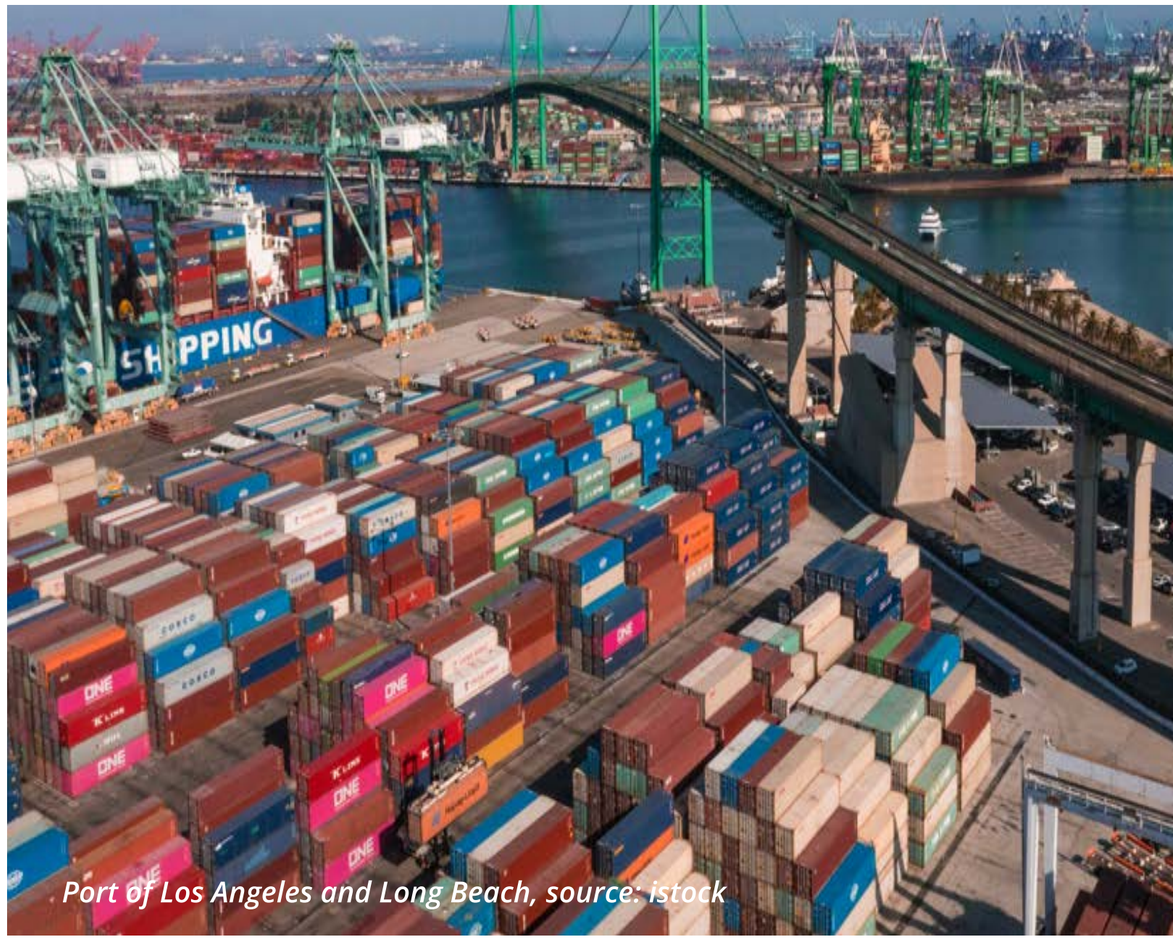
With gray pools, IEPs are not incented to invest, they lose the ability to influence customers' experiences, and miss out on the chance to differentiate their service capabilities or equipment quality from their competitors. Moreover, with regional gray pools, IEPs have less flexibility to respond to changes in cargo flows, as providers have less control over how they can reposition their assets to meet changing customer demand.

It is also worth noting that the role of gray pools has been diminished over the past decade. Customers are increasingly choosing other pool models. For example, the CCM-operated gray pools in the Gulf region (GCCP) and Chicago-Ohio Valley (COCP) have ceased operations.

IEP Cooperative – Pool of Pools

The pool of pools model was created by three chassis providers -- TRAC Intermodal, DCLI, and Flexi-Van -- at the Ports of Los Angeles and Long Beach. It is essentially a large gray pool, but unique to the Pool of Pools, each IEP operates and manages its own fleet.

Motor carriers can pick up and drop off chassis at any of the 18 pool locations throughout the Los Angeles/Long Beach port complex. Along with the convenience of being able to drop off chassis at multiple locations across both ports, motor carriers are also able to freely use chassis contributed byall three providers. Box rules, which is defined later within this white paper, facilitates the billing of this multi-provider fleet.



Port of Los Angeles and Long Beach, source: istock

Motor carrier - controlled pools

With this model, a motor carrier owns or operates a chassis that it has secured under a long-term lease. Motor carriers manage the assets, controlling the number of chassis available for their customers while managing M&R, as well as storage. This approach offers customers a guaranteed exclusive chassis fleet. Some motor carriers believe this gives them a competitive advantage when negotiating transportation services for a BCO.

source: istock

Motor carriers using their own chassis at a wheeled port or rail facility requires securing a chassis flip. When a “drop and pick” delivery occurs, the motor carrier leaves the container and chassis for off-loading and returns for pick-up later. Motor carriers assume the utilization risk, ensuring availability during strong demand and handling storage during low-demand periods.

Private Pools

Private pools, where a pool of chassis is established for one customer, began to gain traction with the ecommerce frenzy during the pandemic, an especially challenging supply chain environment. The explosion of online shopping and the critical need for faster transit times as well as quicker, reliable inventory replenishment drove the creation of private pools.

Dedicated chassis fleets help ensure that sufficient chassis are available to handle receiving shipments while keeping cargo progressing to its final destination. The IEPs who offer private pools must ensure sufficient supply, M&R capabilities, customer support and all other necessary pool management services.

source: istock

Emerging Pools

- South Atlantic Chassis Pool
- Port-Owned Pools

South Atlantic Chassis Pool

The ports of Jacksonville, Savannah and Wilmington, North Carolina have reached an agreement with the Ocean Carrier Equipment Management Association (OCEMA) and pool operator CCM to launch the South Atlantic Chassis Pool (SACP) in October 2023.

Port of Savannah, source: istock

The new offering, known as SACP 3.0, will reconfigure what was formerly a multi-contributor pool with a single-provider pool model with an estimated 60,000 chassis available to truckers, BCOs, ocean carriers and port users. TRAC and other IEPs currently contribute chassis to the present SACP 2.0, which will likely continue in a modified form in SACP 3.0.

The pool plans to use refurbished equipment to improve port fluidity, speed container flow in and out of ports, and meet customer needs across the region it serves. More than 75 locations across Alabama, Florida, Georgia, North Carolina, and South Carolina will have access to SACP 3.0.

Port-Owned Pools

Another dimension in chassis provisioning has been the emergence of two port-owned chassis pools. The first was at the Port of Virginia and the second is at the Port of Charleston.

The Port of Virginia formed the Hampton Roads Chassis Pool (HRCPII) in Norfolk in 2004 to address inefficiencies in its port chassis operations. The pool serves the Port of Virginia exclusively and now numbers 18,000 chassis, many of which are new or refurbished equipment.

The Port of Charleston has launched its own chassis pool during 2023. With this launch, the South Carolina Ports Authority (SCPA) is transitioning from the South Atlantic Chassis Pool (SACP). SCPA will control its own proprietary chassis pool spanning its three marine terminals. TRAC and Flexi-Van Leasing agreed to lease 5,000 high-quality chassis to SC Ports to fill a supply void with the Port's original manufacturer. The SCPA pool is expected to have 11,000 chassis.

Port of Virginia, source: istock

Confusion with Terminology

There is often confusion around some of the most commonly used terminology with chassis pool models. To address this situation, we wanted to identify and define some key terms.

Box Rules

This special provision exists today in just two operating environments in the U.S.

The first is the CCM network of contributor pools, which represents a small share of the chassis provisioning options around the country.

The second is the Pool of Pools in the San Pedro Port complex in the L.A./Long Beach area. Box rules is a methodology that ensures that equipment contributors that invested the capital to purchase and supply the chassis can effectively and efficiently invoice for the use of their assets, thereby improving fluidity. With box rules, there are no operational restrictions on motor carriers using the chassis of their choice. Motor carriers are not required to source their chassis from the Pool of Pools or from a CCM pool.

In fact, it has been recognized that a majority of chassis handling containers in the LA/LB complex are non-pool chassis being operated by individual motor carriers.

Carrier Haulage

Involves the movement of cargo from its origin point to its destination point. With carrier haulage, the customer has elected to purchase the transportation of their cargo door-to-door.

To enable this service, the ocean carrier needs the proper capacity to get the container from the point of origin to its final door destination. Capacity includes first mile transportation, ocean services, and final mile transportation.

To ensure service performance, the ocean carrier needs to be confident that the IEP has the proper chassis capacity to provide a high-quality service for the customer.

Demurrage

The fees charged by a terminal operator if a shipping container remains at the port beyond the allotted time when it was supposed to be picked up.

Merchant Haulage

The movement of a container where the customer contracts for only a port-to-port delivery of the container.

In this case, the customer -- which could be the BCO, NVOCC or a third-party intermediary -- manages the final mode of overland transportation after the import box is made available at a U.S. port, which includes supplying the chassis of their choice. Both haulage types reflect a massive economic investment by IEPs to keep the supply chain fluid, committing to fleeting chassis for all volume coming from ships or trains.

Grounded Environment

Operation model where containers are lifted and stacked onto and off chassis at the port terminal or rail yard. This set-up enables higher storage density.

Wheeled Environment

Port terminal or rail yard operation model where containers are lifted onto chassis prior to motor carrier pick up and remain on chassis when returned to the terminal, until ready for discharge.

Optimal Chassis Model

As we noted earlier, there are a variety of different chassis pool models, with new models coming online. There is by no means a “one-size-fits-all” approach to chassis provisioning. Some models work best in certain geographies, to best meet the needs of customers in those regions.

In TRAC’s view, we believe that grounded operations where chassis are located at off-dock locations may be an optimal model for the intermodal industry as it currently exists. The best example of this approach is at the Port of New York/New Jersey.

Consistently one of the busiest ports in the country, the Port of NY/NJ surpassed the Ports of Los Angeles and Long Beach in Q4 2022 to become the number one port of call in the U.S.

This achievement was powered by a 5.7 percent increase in volume from 2021 and a 27 percent increase since 2019. The Port of NY/NJ moved 9.5 million TEUs last year, which the Port Authority of NY/NJ did not estimate they would realize until 2029 or 2030.

The port has undertaken several major improvements over the last decade to accommodate increased cargo volume and to ensure port fluidity for motor carriers, BCOs and others. These include raising the Bayonne Bridge, deepening harbor channels, berth improvements and upgrading roadways to reduce travel times.

Moving Chassis Off-Terminal

Over the last several years, the Port of NY/NJ wanted to do more to increase access to quality chassis equipment and improve operational effectiveness for timely and efficient out-gating for port customers. One signature change that TRAC adopted together with terminal operators, the drayage community and others was to relocate chassis depots from inside terminals at the port to off-terminal locations. This effort was successfully implemented in the NY/NJ port complex from 2015 to 2017.

The move gave chassis providers greater control and oversight of their fleets, while freeing up valuable waterfront property to process imports and exports. The new locations for chassis yards are just minutes away from terminals near major thoroughfares, allowing motor carriers to pick up chassis quickly and efficiently from multiple depots.

The Port of NY/NJ has been able to maintain fluidity across its system, with minimal disruption. **The main benefits to customers have been easier access to high-quality, modern chassis equipment; greater chassis availability; greater choice in terms of which equipment, pool, leasing and/or direct ownership arrangement best fits their needs; reduced terminal turn-time by eliminating extra dwell time required to unstack chassis; and greater equipment reliability with more frequent equipment checks, systemic inspections and FHWA inspections.**

While the landscape is not truly identical to NY/NJ, on the opposite side of the country, LA/LB has many similarities to NY/NJ prior to its off-dock conversion. We believe an exploration and ultimately an adoption of a NY/NJ style off-dock chassis pool model, through a coordinated effort across all key stakeholders within the port community, would result in significant efficiencies for the entire southern California market.

TRAC's Continued Commitment

As the largest marine chassis provider and pool manager in the U.S., TRAC is committed to this marketplace, with **180,000 marine chassis** operating across **650 locations**, serving more than **6,000 customers** nationwide. Through its TRAC Services subsidiary, TRAC operates six service centers that provide chassis maintenance and repairs, ensuring premium equipment safety and quality while maximizing availability for customers.

Despite import volumes trending lower in recent months, TRAC anticipates that 2023 will be a record year for equipment investment. This follows a record year in 2022, when fleet investment was up 130 percent over 2021 levels. This continued commitment to investment ensures that TRAC is well positioned to help customers reap the benefits when imports likely rise again in the second half of 2023.

TRAC is committed to this marketplace, with **180,000 marine chassis** operating across **650 locations**, serving more than **6,000 customers** nationwide.

TRAC has invested more than **$1 billion** since 2015 in **renewing** and **growing** its **chassis fleet.**

Areas of Investment

TRAC's fleet investment is focused on three main areas:

New Chassis – Despite supply and manufacturing challenges related to a slowly improving supply chain, TRAC continues to explore adding new chassis.

Refurbished Chassis – TRAC's BlueEdge refurbished chassis feature reconditioned frames, two coat corrosion-resistant paint, new axle and brake components, new electrical wiring, LED lights, single-piece rims and OEM radial tires.

Upgraded Chassis – LED lights with a life expectancy of 50,000 hours that include recyclable parts and more durable, fuel-efficient radial tires.

Conclusion

Chassis pool models come in many different forms, designed to meet the varying business needs of motor carriers, BCOs, NVOCCs and other intermodal customers.

The chassis pool sector is evolutionary, as the emergence of new pools with different ownership structures and management types indicates.

There is no one-size-fits-all approach to chassis provisioning, as each region has its own port types, rail operations and transportation characteristics. Innovation-driven solutions to improve system fluidity will take on added importance in many markets to speed the flow of commerce.

TRAC is committed to long-term overall growth in port volumes.

> **There is no end to the investment cycle for us. You must continue to invest in repairing chassis, refurbishing chassis, and getting new chassis if you believe, like we do, in the upward linear trajectory... of global trade in general.**
>
> **Daniel Walsh, President & CEO**
> **TRAC Intermodal | TPM23 panel**

tracintermodal.com