SmartWay Transport Partnership
U.S. Environmental Protection Agency

A Glance at Clean Freight Strategies: Gate Accessibility for Drayage

Improved gate accessibility can increase terminal throughput while reducing time trucks spend idling in queue. This helps trucking companies save fuel while reducing greenhouse gas, nitrogen oxides and particulate matter emissions. Extended gate hours and gate systems improvements could save over $1,000 in fuel costs and eliminate 5 metric tons of greenhouse gas emissions per truck annually.

What is the challenge?

Drayage truck traffic peaks during certain seasons and times of the day creating inefficiencies for the pick-up and delivery of cargo. Daytime peaks in truck volumes reflect the terminal gate operating hours, warehouse hours, and the timing preferences of shippers for pick-ups and deliveries. Traditional gate hours combined with inefficient gate access can result in lengthy lineups at gates and increased turn times. In a U.S. Maritime Administration survey, gate hours of operations were identified as an impediment to "efficient and effective cargo movement" at 38% of the country's largest container ports. These peaks in drayage traffic, which often coincide with commuter rush hour traffic, not only increase fuel costs and delivery time, but also exacerbate air pollution.

What is the solution?

Gate Accessibility

There are a number of options that can improve the efficiency and throughput of terminal gates. Reversible gates allow trucks to enter or exit depending on the demand for either service. Two-stage gates allow for the verification of information at one gate followed by actual gate inspection. Terminal staging areas allow for the quick drop off or pick up of a trailer. These strategies make more efficient use of otherwise idle gate capacity, reduce idling time and improve fuel efficiency.

Time-Shifting

Shifting a portion of truck traffic to evening and weekend hours can reduce both the number of trucks waiting at terminal gates and those entering local highways during peak hours. Time-shifting programs require operational changes by port management, terminal operators, shippers, warehouses, and labor organizations. Components of comprehensive time-shifting strategies include extending hours of operation for terminal gates, and warehouse and shipping facilities, ensuring labor availability and initiating incentive programs such as peak shipping charges.

The results are in . . .

Studies have shown that a 50% reduction in wait time is possible through improved gate accessibility. Savannah, New Orleans, Los Angeles are just a few of the ports that have implemented extended gate hours or individual gate improvements. Extended hours can benefit terminals with increased container throughput and customer satisfaction. Trucking firms/drivers benefit from increased number of turns per shift, increasing income and providing an incentive to attract drivers into the industry.

The Port of Savannah has nearly doubled container volumes in recent years. Over the same period, truck turn times have decreased on average from

75 minutes in 2000, to 42 minutes in 2004. This has been achieved by a combination of gate and yard planning measures. The port has extended gate hours, added additional specialized traffic lanes and implemented a two-stage gate system.

Terminal operators at the Ports of Los Angeles and Long Beach have established PierPass, a not-for-profit company whose mandate is to address congestion and air quality in the port regions. In July 2005, PierPass launched its OffPeak program to shift 15-25% of cargo to off-peak hours through extended gate hours and peak hour shipping charges. Initial responses have been greater than expected, with nearly 30% of containers now shipped at night, an increase from 10% prior to the start of OffPeak. During the program's first four weeks 188,000 truck trips were diverted from peak-hour traffic.

Next steps

Terminal operators and Port Authorities should consider the implementation of gate efficiency measures to reduce congestion in and around port facilities. Consultation with stakeholders, including port management, terminal and warehouse operators, shippers, freight carriers, labor representatives and surrounding communities is a key step to undertake early in the planning process in order to garner full support for the changes.