

San Pedro Bay Ports Clean Air Action Plan Proposed Clean Truck Program

ECONOMIC ANALYSIS

Executive Summary

In essence, the Clean Truck Program is designed to reduce emissions from the heavy duty trucks involved in port drayage to improve the health of people living in the communities surrounding the ports of Los Angeles and Long Beach. It does this by requiring the Licensed Motor Carriers (*LMC*) that arrange for the movement of containers to and from the ports to become licensed concessionaires, and from 2008-2012, gradually bring the trucks under their auspices up to 2007 emission standards. During this period, this research found that for a variety of reasons, the port truck driver pay will likely rise from its current median of \$12 an hour to roughly \$20 an hour.

Clean Environment, Strong Economy. If the Clean Truck Program is successful, the Southern California Air Quality Management District estimated that from 2008-2025, it will yield a cumulative economic benefit of \$4.7 to \$5.9 billion due to reductions in premature deaths, lost work time and medical problems. Of this community benefit, 95% would come from 230-1,450 fewer deaths. With the program in place, the ports should be able to move forward with their infrastructure plans. Eventually, this will allow them expand to a capacity of 42.5 million TEUs. By roughly 2025, that will result in the ability of the ports to support 300,000 to 600,000 new jobs that would be lost if that infrastructure cannot be built.

Challenges & Strategies. In the coming years, this analysis found that the port drayage sector will face significant challenges that will put great pressure on port drayage firms. These include the cost of retrofitting or replacing trucks; the Transportation Workers Identification Credential (*TWIC*) process that will reduce the number of drivers able to enter the port gates; the need for more drivers to handle port growth; and a looming shortage of drivers both locally and nationally. To meet these challenges, several strategies were reviewed. These included the need by *LMCs* to offer higher pay to lure drivers regardless of whether they work as independent owner operators (*IOO*) or employees. The use of the existing combination of *LMCs* and *IOOs* to meet the challenge of cleaning up the trucking fleet. And, addressing the truck clean-up process by having the *LMCs* own and clean-up the vehicles and use employee-drivers.

The Dilemma. Regardless of the challenges or the strategies for addressing them, one essential dilemma continually arose in this analysis. As the port drayage sector is currently organized, neither the *LMCs* nor their *IOOs* have the financial strength to solve the new challenges facing them. The lack of barriers to entry into the sector has led to ferocious price competition and left them with little bargaining power vis-à-vis the shipping lines and beneficial cargo owners for whom they work. This has left the firms in the sector with low net incomes and little net worth. Thus, the *LMCs* do not have the internal ability to pay more to *IOOs* to lure them into the field. Neither do the *LMCs* or the *IOOs* have the ability to self-fund the clean-up of the trucking fleet.

In effect, this means that the Clean Truck Program is forced to pressure the weakest links in the supply chain to rapidly clean-up the heavy duty trucks. Ideally, the extra costs imposed on the *LMCs* and/or *IOOs* to do so would be passed along to their customers in higher prices. That would mean that the externalities like diesel emissions and poor public health, caused by the acceleration in the use of the international supply chain, would be rapidly paid by the people receiving the goods. Eventually, that will occur. However, because of the weak negotiating power of the port drayage sector, prices will only likely go up when a crisis occurs due to the inability of the *LMCs* to afford moving the freight. This analysis shows that by the time the transition in prices is over, many of the *LMCs* will no longer exist.

Where financial institutions have a role to play, such as assisting in fleet investments, most IOOs and LMCs do not have the balance sheets or return on investment or sales to make them candidates for obtaining loans or equity partners. Here, one change that might help the program would be some form of port sponsored loan guarantees. Meanwhile, the Clean Truck Program's phase-in period, as well as the Fleet Modernization Grant Program, do provide some relief. However, neither is sufficient to overcome the fundamental lack of financial power in the current port drayage sector. In the case of the Fleet Modernization Grant Program, the analysis shows that funding will need to be front loaded due to the Transportation Impact Fees (*TIF*) imposed on the LMCs or IOOs. In year one of the 5-year phase-in process, the reduction on profits due to the TIFs on dirty trucks entering the ports would force the LMCs or IOOs to try to retrofit or replace their trucks immediately. All of the grant funds would thus be sought in that first year.

Changing Market Conditions. At its core, the crucial issue facing the port drayage industry is the fact that there are no regulatory or financial barriers to new firms entering the business. That is the reason for the intense competition and the lack of negotiating power that LMCs face in trying to impact the prices paid to them by the economically powerful ocean shipping lines and beneficial cargo owners. This situation appears to be changing because a variety of higher costs from both the marketplace (*e.g., higher wages*) and the Clean Truck Program will likely make it impossible for poorly financed new LMCs to be started. For the same reasons, some of the weaker existing LMCs will also likely leave the business. The LMCs that survive the process will thus be in a stronger bargaining position with their customers. Since the low labor costs and lack of pricing power have been the reasons why national trucking firms have not been involved in the port drayage sector, the changes occurring in the sector will probably encourage national trucking firms to consider being competitors in it.

In creating the rules under which the Clean Truck Program will be implemented, the ports must thus seek to ensure that the program does not so devastate the LMCs that significant shares of port drayage capacity are lost. However, given the weakened state of the sector, it seems almost impossible for the rules to be set in way that none of the players will be hurt.

Research Effort. These conclusions were reached through the following research effort. Step one in the analysis was a survey of 403 truckers at two terminal gates at each of the two ports. In addition, over 50 LMCs were interviewed, mostly one-on-one, and 136 LMCs were surveyed by telephone. A few national trucking firms were interviewed, some that use IOOs and some with employees. In addition, interviews were held with beneficial cargo owners, Teamsters Union officials, ILWU officials, a terminal operator, freight forwarders and LMCs not involved in moving port cargo. Research was reviewed on a wide variety of topics including port security issues, IRS tax codes industry financials, trucking regulations and economic reports. Statistics were compiled on truck driver pay and benefits, truck prices, industrial land costs and multi-modal transportation costs. With this background, five topics were analyzed to understand the impact of market forces, security regulations and the Clean Truck Program.

Structure of Current Industry. First, was the structure of the current industry. It found the LMCs are actually not trucking companies but rather brokers that arrange for the movement of cargo. As such, they do not have a deep base of assets. As indicated above, the intense competition among LMCs has left them with very little pricing power. This has resulted in average returns on their revenues of just 5%. The bulk of their cost is the 70% of revenue they pay, on average, to their IOOs to actually move cargo. The IOOs receive a median gross income of \$75,000, pay \$46,000 in costs and earn a median net income of \$29,000. On an hourly basis,

they average about \$12.00. IOOs are required to have their trucks inspected for safety and maintenance every 90 days with the records maintained by themselves and often their LMCs. The California Highway Patrol is mandated to review these records every two years but only has the budget to reach about half the IOOs and trucking fleets.

Impact of TWIC. A review of the security measures expected from the Department of Homeland Security indicates that drivers with issues of legal work status or those convicted of a long list of crimes will be barred from port entry. Based upon the survey of drivers (22%: *definitely not apply for TWIC*), LMC interviews (*median of 15% of drivers will not qualify*), Homeland Security New York estimate (*50% would be disqualified*) and U.S. Department of Transportation HAZMAT rules (*20% will not qualify*), it was estimated that 15% to 22% of the current port drivers would be barred by the TWIC rules. They will have to be replaced from drivers not currently in the port drayage sector. A look at what is being paid to IOOs in the Inland Empire, and employee drivers and construction workers in Los Angeles County and elsewhere, found that it would take about \$20 an hour to lure new drivers to port drayage. That is a significant increase over the current \$12 an hour. The mathematics found that replacing the 2,500 to 3,700 IOOs with the 16,800 trucks frequently accessing the ports would require a price increase of **24.3%**. This also assumes the LMCs used the lack of capacity to raise their returns from 5% to 8%.

For most container movements, the trucking costs are quite small and this increase would take them from \$150 to \$187 on a move near the ports and \$300 to \$373 on a move to the Inland Empire. That is a fraction of the \$2,575 cost of the other modes of transportation involved in a containers journey. On the median \$70,000 value of the goods in a container, the new prices would represent only 0.05% and 0.1% of that value. Meanwhile, given the lack of negotiating power for LMCs, the price will only move up over time. If 50% of customers agreed to an immediate increase and the others agreed in equal shares over six months, LMCs would still be hurt badly. An average smaller LMC's net cash flow loss would be \$126,100, reducing the average owner's equity by 35% from \$362,200 to \$236,100. Larger LMCs would have an average cash flow loss of \$449,000, reducing the average owner's equity by 25% from \$1.77 million to \$1.32 million.

Impact of Clean Truck Program Using LMC:IOO Model. With the ports continuing to grow, by 2012 there will be a need for 3,400 more drivers than today. Combined with the loss due to TWIC, the total need would be 5,900 to 7,100. By 2012, from 42% to 55% of IOOs would be new to port drayage, assuming no retirements or turnover of current drivers. This underscores the need for the \$20 rate to lure new ones. Beyond that extra cost, the LMCs face a TIF for each time an IOO drove a truck not up to 2007 emission standards into the port. If the TIF was \$50, the median annual cost to the LMCs would be \$15,400 (*median 308 trips*). Since LMCs have a median pre-tax profit for each truck under their auspices of \$5,400, they would lose \$10,000 a year on the truck until the IOO retrofitted or replaced it. This would put intensive pressure on the IOO to do so or be forced out of the business.

If the IOO replaces it, a \$20,000 grant from the Fleet Modernization Grant Program would pay for it with no tax consequence to the IOO because the full amount could be written off immediately under IRS Section 179. However with every IOO trying to do this, the grant program would immediately need \$212 million for the 37% of the fleet that can be retrofitted. For new trucks, there are two issues. Each IOO would ask for a grant of \$80,000 from the grant program. That would represent an immediate need of \$850 million in grant funds for the 63% of

the fleet that cannot be retrofitted. Altogether, the first year grant fund need would be \$1.1 billion. Hence the need for it to be frontloaded.

Meanwhile, an IOO would need to borrow \$28,500 to pay the balance due on a \$100,000 tractor plus 8.5% in sales taxes. However, our research suggests that most IOOs are not in a position to have strong credit ratings. In addition, the only collateral they would be able to offer is their \$20,000 interest in the truck. Also, the ports would lien the vehicle for their \$80,000 interest meaning the lender would be in second lien position. Without a port sponsored loan guarantee program, few if any IOOs would be able to get such loans. One alternative would be to have the LMCs increase prices to their customers enough to generate the monies needed to pool funds and assist the LMCs with their \$28,500 financial gap. They would need to increase their prices \$18,000 to cover the 63% share of IOO's needing help. The price increase to cover those funds plus other costs to the LMC and raising their profit margin from 5% to 7% would be **48.6%**.

As indicated earlier, trucking costs are quite small and this increase would take them from \$150 to \$223 on a move near the ports and \$300 to \$446 on a move to the Inland Empire. That is a fraction of the \$2,575 cost of the other modes of transportation involved. On the median \$70,000 value of the goods in a container, the new prices would represent only 0.1% and 0.2% of that value. Again, given the lack of negotiating power for LMCs, the price will only adjust upwards over time. If 50% of customers agreed to an immediate increase and the others agreed in equal shares over six months, an average smaller LMC's net cash flow loss would be \$247,000, reducing average owner's equity by 68% from \$362,200 to \$115,200. Larger LMCs would have an average cash flow loss of \$879,600, reducing the average owner's equity by 50% from \$1.77 million to \$888,900.

Impact of Clean Truck Program Using Employee-Drivers & Owned Trucks. The full Clean Truck Program proposal is for the LMCs to acquire trucks from the IOOs and have them retrofitted or replaced. They would be driven by employee-drivers and parked in a truck yard. Each of these three costs affects the price increase they will need.

- While the retrofitting or replacement of trucks was proposed over a five year period, the mathematics of the TIF fees would put the LMCs under pressure to buy and clean-up a fleet immediately. Assuming the Fleet Modernization Grant Program was frontloaded, the cost of the clean-up effort would still be more expensive than for IOOs. First the LMCs would have to acquire trucks to be retrofitted or replaced. Second, they would face tax consequences from the grants since they would be receiving \$20,000 or \$80,000 on several trucks, putting them well over the Section 179 threshold of \$112,000.

For the LMCs, the immediate average cash flow outlay of buying a truck and paying taxes on the \$20,000 grant to retrofit it would be \$39,500. The immediate average cash flow of buying a old truck to salvage, paying \$20,000 for their share of a \$100,000 new vehicle plus \$8,500 in sales taxes, and also paying for the tax consequences of the \$80,000 grant would be \$56,200. If half the fleet involved was retrofitted and half was replaced, the average cost would be **\$47,900**. As with IOOs, the LMCs lack the financial power to obtain these funds without a port sponsored guarantee program.

- If an LMC is to hire drivers at \$20 per hour for 45 hours a week (*overtime: 1 hour a day*), 50 weeks a year, the cost would be \$46,700. On each driver, the LMC it is assumed to pay \$13,600 in benefits. All of these costs are state mandated except for 90% of the premiums on a medical insurance policy for the driver only. The cost would total

\$60,300. Also, the employee driver has 110 fewer minutes a day of work due to mandated breaks, morning preparation and evening clean-up and time waiting for repairs. Further, they work 60 minutes less a day than IOOs. The time they have available is thus 28% less than the IOOs and there would be a need for extra drivers to make up for the time lost compared to the IOOs. The total cost is thus **\$77,400** to replace the IOOs. Increase in staff overhead due to owning trucks and employing drivers is assumed to be offset by slip-seating and the expanded use of technology such as Radio Frequency Identification and Automatic Vehicle Locators.

- Based upon the cost per truck of acquiring facilities found in markets across the country including Sacramento, it was possible to estimate those costs for Fontana (50%), the Mid-Cities San Gabriel Valley areas (25%) and South Bay (25%). Based upon the assumption that firms would locate in these three areas by the percentages shown, it was determined the cash flow outlay to acquire a facility would be **\$21,300**.

Combined, the employee/truck ownership/yard approach would cost the LMC **\$146,500** per truck. Compared to the costs today, the firm would require a price increase of **80%** to keep itself in the same position, except for an increase from 5% to 6% in its return on sales for taking on these extra burdens.

Even with an 80% increase, trucking costs remain relatively insignificant. This increase would take them from \$150 to \$270 on a move near the ports and \$300 to \$540 on a move to the Inland Empire. That remains a fraction of the \$2,575 cost of the other modes of transportation involved. On the median \$70,000 value of the goods in a container, the new prices would represent only 0.17% and 0.34% of that value. Again, given the lack of negotiating power for LMCs, the price will only adjust upwards over time. If 50% of customers agreed to an immediate increase and the others agreed in equal shares over six months, an average smaller LMC's net cash flow loss would be \$410,000, wiping out the average owner's equity of \$362,200 and leaving the company's equity at -\$47,800 (*bankrupt*). A larger LMC would have an average cash flow loss of \$1.46 million, reducing the average owner's equity by 83% from \$1.77 million to \$308,600.

Changing Conditions. As was discussed earlier, at its core, the crucial issue facing the port drayage industry is the lack of regulatory or financial barriers to new firms entering the business. The result has been intense competition and the lack of LMC negotiating power over the prices paid to them by their far more powerful customers. The higher costs from both the marketplace (*e.g., higher wages*) and the Clean Truck Program will likely make it impossible for poorly financed new LMCs to start and cause weaker LMCs to leave the business. The surviving LMCs will thus be in a stronger bargaining position. Since the low labor costs and lack of pricing power have been the reasons national trucking firms have not been involved in the port drayage, the changes occurring in the sector will encourage them to enter it. Ultimately, the industry will likely be made up of stronger local LMCs and those national firms that enter the market. Together, they should be able to work with ports to use the technologies now available to lower costs and increase productivity in terms of "turn" times and throughput.

Again, the challenge for the Clean Truck Program rules is to create rules that ensure that the program does not so devastate the LMCs to the point that a significant share of port drayage capacity is lost. However, given the sector's weakened state, there are firms and people who will

inevitably be hurt. A very rough estimate puts the losses at 376 mostly smaller LMCs and 1,500 back office workers and 376 owners of small businesses that locally serve the industry.

Summary. At its core, the Clean Truck Program is design to reduce air emissions in a timely fashion yielding an economic benefit to the community of \$4.7 to \$5.9 billion due to a reduction in premature deaths, loss of work and fewer medical problems. Some 95% of this benefit will come from 230-1,450 people not dying. With the program in place, the ports will be in a position to get their infrastructure plans approved. This will allow them to expand to their 42.5 million TEU capacity by the period 2020-2030. The result will be the ability of the ports to support 300,000 to 600,000 new jobs that would be lost if that infrastructure cannot be built.

Unfortunately, there is a cost of attaining these goals. That will be the closure of some LMCs and the loss of some of the non-driving jobs and small businesses involved with them, as well as the closing off of port drayage as a route to upward mobility for some workers. It is the type of choice that has led to the expression, “there is no such thing as a free lunch.” It is the reason that economics is often referred to as “the dismal science.”