Adding the estimated 3,400 new drivers and clean trucks needed to handle port growth increases the need to 6,000 to 7,100 to reach the required 2012 level of 20,200:

- For the higher estimate of TWIC losses, there would be 13,100 remaining IOOs and a need for 7,100 new drivers and clean trucks, an increase of 54.5%.
- For the lower estimate of TWIC losses, there would be 14,300 remaining IOOs, and the need for 6,000 new drivers and clean trucks, an increase of 41.5%.

Increases In Driver Pay. At the current rates of pay among port drayage IOOs, these increases in the number of drivers and vehicles are unlikely. In Section 4, it was shown that they are earning a median from **$11.60** per hour (*CGR*) to **$12.37** per hour (*Dr. Monaco*). The alternative sources of drivers make much higher rates of pay:

- Non-employee drivers in the Inland Empire, the most likely alternative supply of IOOs, are earning a median of $18.09 an hour and likely would want **$20.08** to change to port drayage.
- Those Los Angeles County employee-drivers most likely to shift to port drayage will need $16.45 per hour and a benefit package that would be bring the total to **$21.31** per hour. In the Inland Empire employee-drivers most likely to shift to port drayage will need $17.65 per hour and a benefit package that would be bring the total to **$22.71** per hour.
- Convincing construction workers to change to drayage work would cost roughly $17.33 an hour plus a benefit package that would bring the total to **$21.97** per hour.[94] These workers would likely have to acquire commercial driver's licenses and TWIC cards.

Rates will have to go to roughly **$20 per hour** to lure new drivers and clean trucks into port drayage. By 2012, they will make up a significant share of the industry. As this occurs, the existing IOOs would not work for less than the newer drivers entering the field. The general pay level of all IOOs would thus move up to these higher levels.

LMC Weak Finances & Lack of Pricing Power. The anticipated increase in labor costs, reemphasizes the difficulty faced by the port drayage industry in that most LMCs spend at least 95% of their revenues on operating costs. If their IOO costs nearly double, they must increase their rates or cease to exist. However, the LMCs have shown little ability to raise their prices given the imbalance of market power between themselves and their ocean shipping and national retail customers.

Summary. From these facts, it must be concluded that the port drayage industry is heading for an even more difficult period than described earlier. If the LMCs cannot pay more, they will not be able to go from the 13,100 to 14,300 drivers and trucks left after TWIC to the 20,200 needed to replace those lost to TWIC plus those required to handle port expansion. However, they cannot pay more if they cannot raise their prices, an action that their lack of market power has largely stifled. Here again, the same two general scenarios would appear to apply:

---

[94] See Conclusion of Section 4 on page 39.

- ***Crisis Path.*** Most likely is a slowly building crisis as lack of drivers and trucks means containers are not delivered on time. Beneficial cargo owners (*retailers, wholesalers, manufacturers, exporters and others*) will demand that this occur putting pressure on the ocean lines to pay more to the LMCs to solve the problem. However, since retailers will be unwilling to pay more, the ocean lines will do this very reluctantly allowing the crisis atmosphere to build. Ultimately, the rates paid to LMCs and the IOOs will rise but not without significant ill will and a lot of cargo stacked at the ports. Some shippers will ultimately abandon store-door contracts and switch to using ocean lines for port to port freight movements. They will contract separately with LMC for port truck drayage.
- ***Downfield Vision.*** Less likely is for the ocean shipping lines, national retailers, and ports to recognize early that lack of supply will be forcing IOO pay and LMC rates to increase. If the major players wish this to occur outside of a crisis atmosphere, a meeting of minds might begin to be formulated with these firms plus leaders among the LMCs. This might allow a path to be developed so that as the shortage of drivers becomes evident, the pay scales to the IOOs and rates to the LMCs can begin to rise without the crisis.

As with the TWIC analysis, when the LMCs are able to raise their prices, the amount will have important implications for port drayage. As stated there, LMCs normally see 70% of their revenues passing through to IOOs and spend another 25% on other non-IOO costs, leaving them net pre-tax profits of 5.0%. The analysis differs from TWIC, as the LMCs are likely to see their overhead workloads increase over time as port volume increases, driving up their non-IOO operating costs. From 2006-2012, the port volume handled by high volume trucks is expected to increase 35.7% from 5.2 to 7.0 million containers. If 80% of this work was absorbed by existing LMCs and new ones handled 20%, the expansion in activity to a typical existing LMC would be 28.5%. It is assumed their non-IOO costs increase that much going forward.

Exhibit 23.-Impact of Price Increase Scenarios on LMC Profitability, Per IOO Per Year

	Current Ratios		43.6% Price Increase, Truck Replace & Increase IOO Income to $20/Hour		48.6% Price Increase, Truck Replace, IOO to $20/Hr, Double LMC Earnings	
To IOOs	$75,000	70.0%	$96,000	62.4%	$96,000	60.3%
Non-IOO Costs	$26,800	25.0%	$34,400	22.4%	$34,400	21.6%
Truck Replacement Charge	$0	0.0%	$18,000	11.7%	$18,000	11.3%
Pre Tax Margin	$5,400	5.0%	$5,400	3.5%	$10,700	6.7%
Total	**$107,100**	**100.1%**	**$153,800**	**100.0%**	**$159,200**	**100.0%**

Source: Economics & Politics Inc. & CGR Management Consultants

There is one additional major consideration. Of the 16,800 trucks that the ports anticipate be brought to clean air standards, they estimate that 10,622 will have to be replaced (*63%*).[95] To avoid Transportation Impact Fees, the LMCs will put pressure on their LMCs to replace these trucks as soon as possible. However, it will be difficult if not impossible for many of them to acquire the $28,500 (*20% of truck $100,000 price plus $8,500 in sales taxes*) in financing they will need to do so (*see TIF-IOOs Pay TIF*

[95] Scenario 7, Appendix, San Pedro Bay Ports Clean Air Action Plan Technical Report, p. 27

discussion below). The alternative is for the LMCs to try and raise prices to the ocean shipping fleet and/or the beneficial cargo owners to pay for this part of the program. On average, the increase required would be 63.2% of $28,500 or $18,000. With that background, two scenarios appear likely (*Exhibit 23*):

- If IOO incomes were to reach $20 per hour (*50 hours x 50 weeks*) or $50,000 a year for an equal effort, there would be no increase in their $46,000 operating costs. They thus would need to receive $96,000 from their LMCs. At 70%, this would require LMC annual revenues of $135,800 per truck. With higher LMCs volume, there would be an assumed increase in non-driver costs to $34,400. That would leave pre-tax profit of $5,400 per truck. However, the LMCs would need to raise another $18,000 to help fund their share of replacement trucks. Thus, revenue would have to increase to $153,800 per IOO. **A price increase of 43.6%** would be needed to increase LMC revenues from $107,100 to $158,800 per truck.
- For LMCs to want to stay in port drayage and deal with the extra issues, they might desire to see their thin profit margin double from $5,400 to $10,700 per truck working for them (*5% to* 7%). The funds going to an IOO would remain at $96,000; their non-driver costs would remain at $34,400. The truck replacement supplement would stay at $18,000. For this to happen, their total revenue would have to go from $107,100 to $159,200 per truck, **a price increase of 48.6%**.

Given the weak profit position of the LMCs, the same logic would appear likely to govern their behavior here as with TWIC case. It they are to gain any market power, a scenario like the second one (***price increase of 48.6%***) would appear to be the minimum acceptable to them. But, it would likely be a tough sell to their customers. However, less would be unacceptable to the LMCs, as it would make them simply conduits for channeling money to their IOOs. According to Moffatt & Nichol data, a 48.6% increase would raise port drayage costs from $150 to $223 per container for trips near the ports and $300 to $446 to the Inland Empire. This fee is still minor compared to the $2,575 in costs for other portions of a container's journey. These higher costs would represent just 0.1% to 0.2% of the $70,000 median value of a container's contents.

Transition. Again, assuming optimistically that LMCs could pass 50% a price increase of this magnitude immediately to their customers in higher prices, but the other 50% only agreed to the increase in equal shares over six months (*8.3% per month*), cash flow difficulties in the transition would impact the LMCs. For an average smaller IOOs, they would have a net cash flow loss of $247,025 reducing their average owner's equity from $362,200 to $115,175. Larger IOOs would have average cash flow losses of $896,650, reducing their average owner's equity by 50% from $1.77 million to $888,900 (*See "Transition" page 72 for calculation's details*).

2. **Tracking Devices.** Another aspect of the proposed Clean Truck Program could have the side effect of helping to increase the efficiency of port operations. There will be a requirement that all tractors entering the port gates under the auspices of LMC-concessionaires be equipped with an RFID transponder. These devices will provide the capability to access information on a remote/central server database with a key number. This might include, but not be limited to:

   - The LMC's identification number

- The truck's identification number
- The truck's license plate number
- The driver's license identification number
- The driver's TWIC identification number
- The cargo container's identification number

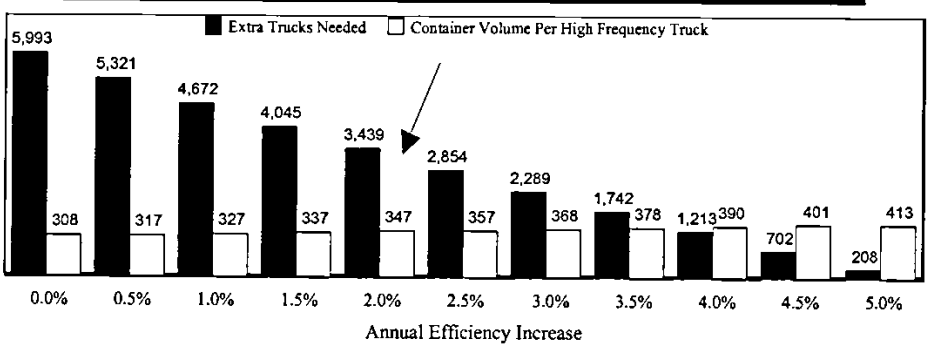
The RFIDs and the corresponding port database related to them will be used to track a wide variety of information such as if a truck is affiliated with an LMC that has paid the fees to be a concessionaire or due to Truck Impact Fee (*TIF*) requirements, and whether the truck itself has passed its regularly required clean air and maintenance evaluations.

Further, the trucks will be required to have an AVL device. This will allow the ports to know where the trucks are located and help the ports to monitor the geographic provisions of the Fleet Modernization Grant Program (*below*).

Economic Implications. While the RFID and AVL devices will be required to assist the port in managing and monitoring vehicles under the Clean Truck Program, these devices could have the side effect of helping increase the efficiency of port operations. This could help reduce the price increase necessary to allow IOOs to earn more and LMCs to be more profitable. It could do this by increasing the number of containers that each IOO can move in a day ("*turns*").

Above, it was shown that in 2006 the ratio of containers handled by high volume trucks (*5,172,758*) to the number of such vehicles (*16,800*) was 308 to one. In estimating the number (*20,200*) needed to handle containers volume in 2012 (*7,017,948*), efficiency was assumed to increase 2% per year to 347 to one (*Exhibit 24*). The cumulative efficiency gain for the period was 12.7%. Put another way, on average, frequent or semi-frequent trucks could handle 12.7% more work in 2012. Given a split of the extra revenue between IOOs and LMCs, each could earn a little more without a price increase.

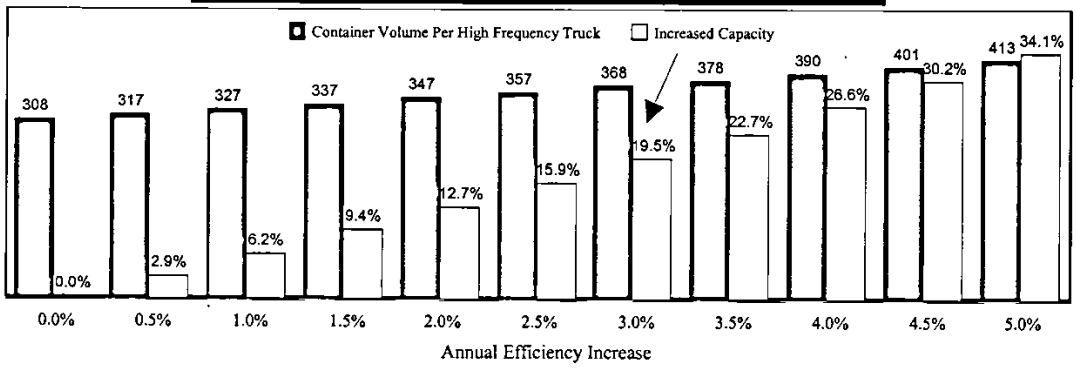
Exhibit 24.-Annual Efficiency & Need Trucks, 2006-2012
Extra High Volume Trucks To Handle 1.8 million Extra Containers



If, however, efficiency were to be increased at 3.0% per year from 2006-2012, the ratio would grow to 368 to one, a cumulative 19.5% increase in the volume of containers each high volume truck could handle would occur in the six year period (*Exhibit 25*).

Are such increases in efficiency possible? Yes. A study of the increases in productivity by sector in the U.S. economy found that from 2000-2004, the distribution sector's productivity increased at 3.1% per year.[96] The possibilities for the ports of Los Angeles and Long Beach are that great given the potential efficiency involved in the use of RFID, AVL devices and other technology that can coordinate the location of containers and the timing of truck arrivals. Dr. Anne Goodchild, Assistant Professor of Transportation at the University of Washington indicates, "port appointment systems can be tied to terminal operating systems and real-time sensors (*RFID or AVL*) to improve terminal operations. For example, during idle periods, RTG crane operators can ready containers to make containers for the next appointments available. Such a system could notify an RTG operator that a truck has arrived at the gate and that he should begin to retrieve the relevant container, reducing truck wait time at the stacks."[97]

Exhibit 25.-Containers Per High Volume Truck, 2006-2012
Extra Efficiency from Assumed Efficiency Levels



Annual efficiency increases in the neighborhood of 3% compounded would likely be sufficient to keep IOO incomes and LMC profits competitive with other trucking sectors, once they have achieved parity with them. However, as discussed, the difficulty remains that the current low incomes of IOOs will require increases in pay approaching 100% to lure drivers from other sectors into port drayage. Given the thin profit margins on which LMCs operate, they will still require sufficient price increases to make that possible.

For the highly competitive port drayage sector, the very aggressive efficiency increases that this technology has created for major package delivery firms, less than a full container load (*LTL*) companies and interstate trucking operations are very unlikely to occur. The problem is the time, training and coordination necessary to create a tightly integrated, relatively error free computer system, given the large number of small LMC/concessionaires, many with limited computer understanding.

---

[96] Modeling Aggregate Productivity at a Disaggregate Level; New results for U.S. sectors and industries, Carol Corrado & Paul Lengermann, Federal Reserve Board; Eric J. Bartelsman, Free University, Amsterdam, J. Joseph Beaulieu, Brevan Howard, Inc. Table 5, July 5, 2006, p. 24.

[97] Estimating the Impact of the Clean Trucks Program on Terminal Operations (*draft*), Anne Goodchild and Karthik Mohan, University of Washington, 2007.

3. **Truck Impact Fees (*TIF*).** Trucks that are not banned from accessing the ports, but do not meet the "clean" trucks standards, will be charged a TIF at the gate for each inbound move or, per the progressive ban, they will be prohibited from entering terminals. The TIF (*including an administrative surcharge*) will be assessed to the LMC with which the truck is affiliated. The current TIF estimate is between $34 and $54 per inbound-gate move. Once the five-year fleet turnover period is completely funded, the ports will stop collecting the TIF. The fees would be one source of funds for the Fleet Modernization Grant Program designed to help fund retrofits or replacement trucks (*see #4*).[98] According to the CAAP announcement statement of the two port board presidents, charges like the TIF were "to be to be imposed on 'shippers' not drivers."[99]

Economic Implications: TIF. In looking at the TIF, it is important to understand that the fees will be substantial. Under the LMC-IOO business model that currently dominates port drayage, TIF fees would be charged to the LMCs while the non-compliant trucks would be owned by IOOs. If such an IOO made 308 trips per year,[100] the annual cost to its LMC would range from $10,500 to $16,600. Assuming the TIF is set at $50 per inbound trip, near the high end of this range, the annual cost would be $15,400.

As indicated earlier, most LMCs have pre-tax profit margins of 5% or less. Thus, it was estimated that with revenue of $107,100 per truck, the firm could pay the median gross income to its IOOs of $75,000, leaving $26,800 for other expenses and 5% for pre-tax profit of $5,400 (*Exhibit 23*). However, if the LMC is charged $15,400 a year for TIF because the truck does not yet meet clean air standards, it would lose $10,000 on every truck of this type, unless the TIF is passed on to its customers (*Exhibit 26*).

Exhibit 26.-Impact of TIF On Pre-Tax LMC Profit

	Revenue & Net Current LMC Pay
Total Revenue	$107,100
Pre-Tax Profit	**$5,400**
TIF @ $50	$15,400
Post-TIF Profit (Loss)	**($10,000)**

Since the financial viability of the LMCs will not allow them to absorb TIF costs of this magnitude, they will be under enormous pressure to only use IOOs whose vehicles meet clean air standards. Alternatively, the LMCs will to seek to have the ocean shipping lines or beneficial cargo owners pay the fees.

IOOs Pay TIF. In the first case, the LMCs would indicate to those IOOs with trucks that have not yet met the clean air standards that the TIF will be deducted from their normal drayage rates. One result would be for the IOOs to quickly try to access the Fleet Modernization Grant Program:

- **Retrofit.** Those IOOs whose trucks qualify for retrofit will want that done as soon as possible under the Fleet Modernization Grant Program. This would

[98] Discussion Draft, Minimum Concession Requirements, San Pedro Bay Ports Clean Air Action Plan, p.1.

[99] San Pedro Bay Ports Clean Air Action Plan Technical Report, Port of Los Angeles, Port of Long Beach, p. 10.

[100] LMC survey found that the average driver handled 308 containers per year. See discussion, p. 24.

require the ports to give them access to it for 100% of the estimated $20,000 cost of such work.[101] Given the anticipated volume of such requests, the question arises as to whether the grant program will be able to fund all such early requests (*see discussion under Fleet Modernization Grant Program section below*).

- **Purchase.** Those IOOs whose trucks need to be replaced will want to quickly do so using the Fleet Modernization Grant Program. Here, the ports must give them access to it for the 80% share of such a purchase or about $80,000. Again, the IOOs ability to acquire these funds will depend on whether the program has sufficient money to handle the volume of such requests. It will also depend upon whether the IOOs can obtain financing for their share of the truck purchase.[102]

  This last issue requires a look at a typical IOO's finances. If one receives an $80,000 grant for a new truck, it would face no tax liability as the full cost is immediately deductible under IRS Section 179.[103] However, the IOO would have to borrow $20,000 for their share of the price plus $8,500 for Los Angeles County sales taxes unless they can access other sources of funds. For loans of this size, lenders typically want FICO credit scores of at least 660, with a desire for over 700. Nationally, 73% of credit applicants exceed 650 and 58% are above 700.[104]. Given the average IOO's modest income, it can be reasonably assumed that most have FICO scores well below these averages. Compounding this difficulty is the likelihood that the ports would place liens against trucks for their 80% stake in them. A lender would thus be in second position for an IOO's 20% share in the event of a repossession. Few would want to do so. Most IOOs would thus not qualify and would likely leave port drayage unless an alternative for funding truck replacement could be found.

  Note: *Discussions with major lenders indicated an interest in pursuing IOO financing via a structure including port guarantees to limit a lender's potential losses. Terms might involve the lender and ports allocating profits and losses from repossessions over the grant program's life. Rates would be about 10%.*

At the moment, it appears unlikely that the Fleet Modernization Grant Program will have early access to the funds necessary to finance the IOO grants needed for the volume of retrofits and truck purchases that will likely occur if the TIF is introduced and this scenario unfolds. In addition, without a guarantee program, there appears to be little chance that lenders will assist those IOOs needing new trucks to purchase them.

Customers Pay TIF. The other option is for the LMCs to raise rates to ocean shipping lines and/or beneficial cargo owners. However, as has been stated, the highly competitive nature of port drayage gives LMCs relatively little bargaining power

[101] Paul Lewis, President, Boerner Truck Center of Huntington Park, a big retrofitter, quoted about $20,000 depending upon which vendor and make and year of tractor. Port of Los Angeles supplied a similar figure, $19,500.

[102] The $100,000 tractor price is the within the range for 2007 Freightliner Columbia tractors found on-line. It is also the figure used by the ports. There would be an 8.5% sales tax for purchases in Los Angeles County, 7.75% in Orange, Riverside and San Bernardino counties.

[103] IRS Code Section 179 allows $112,000 in equipment purchases to be immediately written off.

[104] http://www.myfico.com

compared to their large customers. The one scenario under which LMCs can impose higher rates is when their own profitability or the viability of their IOOs begins to cause one or both to stop handling port drayage. That would set off the "crisis path" in which the ocean lines and/or beneficial cargo owners would face the choice of either paying higher rates or seeing their cargo anchored in San Pedro Bay. Given the known financial condition of LMCs and IOOs, plus the fact that TIF will start at a time certain, it could be that ocean lines and/or national retailers will accept the inevitability of such a crisis and move to avoid it by accepting contracts in which the TIF rates can be passed on. In either case, that option was included in the discussion of the price increases needed by LMCs to ensure sufficient capacity to move containers through the ports (*Exhibit 23, page 48*).

Economic Implications: Dray-Offs. Meanwhile, a second potential impact of the TIF would be to change the way in which LMCs organize their operations. As long as they remain under intense cost and profit pressures, LMCs can be expected to seek ways to keep costs down for themselves and possibly their IOOs. One potential method would be to bifurcate their businesses between drayage involving ports and intermodal rail yards and container movements involving neither. This could lead to "dray-offs" whereby in-bound cargo is moved from the ports by an IOO whose tractor is clean air compliant, while outside the gates it is interchanged to one that is not. For out-bound cargo, containers could be transported to near the gates by an IOO with an unapproved tractor and then interchanged to one with an approved vehicle.

Rules could be promulgated to ban such practices but they face enforcement difficulties. Beyond the problem of uncovering the use of this process, there is the fact that it is already common to transfer long distance loads from IOOs with tractors specializing in port drayage and IOOs that make long distance runs. Also, some LMCs already use one group of drivers to move containers from the ports to their yards. Later, another group of drivers takes them to their final Southern California destinations. Further, it is common place for sea-going forty foot containers to be moved to a cross-dock where goods are transferred to a 53 foot landside container which another tractor hauls from there either to an intermodal yard or cross-country. It will be a challenge to sort out when these are normal practices and when they are used to skirt clear air rules.

4. **Fleet Modernization Grant Program.** As stated, the Ports intend to establish a grant program to fund the retrofit and/or replacement of the drayage fleet using funds allocated through the port CAAP, SCAQMD, $400 million in State Proposition 1B bond funds (*if available*), and the TIF. Below, it is shown that the TIF will likely yield roughly $160 million less than anticipated. Grant funds from the program would only be available to approved concessionaires, and by extension in this section, to the IOOs working under their auspices. Trucks that qualify for retrofit technology will be awarded grants covering up to 100% of the labor and materials for that installation. In general, an older truck must be turned in and scrapped to qualify for a grant for a new replacement truck. In that case, grants would cover up to 80% of the purchase.[105] The implications of this program for IOOs were outlined above (*#3*). To maximize their investment in the grant program, the ports are considering requiring those accessing the program to agree to use their vehicles exclusively for port drayage and to make a minimum number of port trips

[105] Briefing Paper, San Pedro Bay Ports, Clean Trucks Program, ENVIRON International Corp., July 2007, p. 5.

per week. This represents a difficulty as the destinations and frequencies of trips are controlled by the shipping lines and beneficial cargo owners not the IOOs and LMCs.

Economic Implications: Insufficient Funds. For the Fleet Modernization Grant Program, the most important economic consideration is whether it will be funded to the extent necessary to complete its mission in a timely manner. The TIF logic explained above concluded that under the LMC-IOO model, there would be a rapid demand for funds to immediately retrofit or replace IOO trucks. This would be exciting from a clean air perspective since the program would be generating demand for clean vehicles much faster than called for by the truck retrofit and replacement schedules. However, this beneficial result could be frustrated by the insufficiency of funds for this to occur. The odd result would be for the grant program's lack of funds to leave IOOs out of compliance, with TIF costs being imposed that would generate the money to clean-up the trucks, only later. In the meantime, LMCs and IOOs would most likely absorb some portion of the TIF, reducing their incomes.

Here, the difficulty stems from the manner in which the Fleet Modernization Grant Program is to be funded. The $400 million (*22% of budget*) in Proposition 1B funds have not yet been allocated to it. Meanwhile, the phase-in process for the Clean Truck Program was shown earlier (*Exhibit 21 above*). Using it, the grant program assumes that of the trucks that would be subject to the TIF, there are 5,959 that can ultimately be retrofitted. Of those: 564 would be retrofitted in year one; 3,118 in year two; and 2,274 in year three.[106] Until they are retrofitted, the truck owners are assumed to pay the TIF at $50 per in-bound move for an average of 308 trips or $15,400.[107] It is also assumed that these trucks are retrofitted at the end of each year as shown in the grant plan.

Of the $1.2 billion of revenue in the Fleet Modernization Grant Program, $209,779,000 or 17.4% is anticipated to come from the $15,400 per year in TIFs that will be paid by the owners of trucks that can be retrofitted, until the retrofit is completed (*Exhibit 27*). The fees for trucks to be retrofitted by the end of year 1 would pay $15,400; those at the end of year 2 would pay $30,800; and those at the end of year 3 would pay $46,200. This will be done while waiting to receive a grant for a free retrofit.

Exhibit 27.-TIF Revenues From Trucks To Be Retrofitted, $50 Per Trip

Period Retrofitted	Vehicles	Year 1	Year 2	Year 3	TIF Before Retrofit
Year 1	564	$8,685,000	$0	$0	**$8,685,000**
Year 2	3,118	$48,017,000	$48,017,000	$0	**$96,034,000**
Year 3	2,274	$35,020,000	$35,020,000	$35,020,000	**$105,060,000**
Total TIF ($)	**5,959**	**$91,722,000**	**$83,037,000**	**$35,020,000**	**$209,779,000**

Economics of Self Retrofit In Lieu Of TIF

	TIF Paid	Self Retrofit	Net		
Year 1	$15,400	$16,800	**-$1,400**		
Year 2	$30,800	$16,800	**$14,000**		

[106] Technical Appendix to the CAAP, Scenario 7, p 27. The estimates are actually stated for FY 2006/07, 2007/08 and 2008/09. We are treating them as years 1, 2 and 3 of the plan respectively as obviously planned actions will vary from the dates shown in the Appendix.

[107] See footnote 100.

Year 3	$46,200	$16,800	**$29,400**		

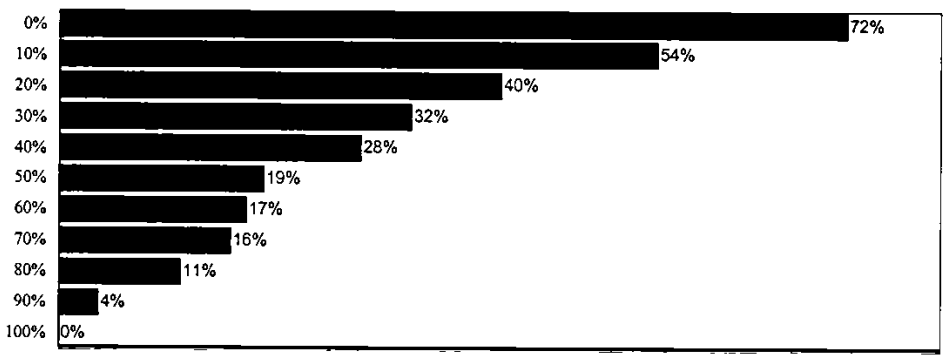
Source: Scenario 7, Technical Appendix to San Pedro Bay Ports Clean Air Action Plan, CGR Management Consultants, LLC

However, since it is estimated that a truck owner can self-retrofit for $16,800 by avoiding the cost of port administrative and incentive fees, this would not make sense.[108]. True, the truck owner that retrofits by the end of year 1 would end up $1,400 better off than paying for a self-retrofit. However, those that would be retrofitted by the end of years 2 and 3 would, respectively, be worse off by $14,000 and $29,400.

The LMCs or IOOs will seek to avoid these costs for two reasons. First, the TIF is not fixed and may be increased to generate sufficient funding for the program. Second, it is more economical for owners to retrofit their vehicles themselves and avoid the TIF entirely. Thus, any owner with a truck planned for retrofit in years 2 or 3 who can borrow $16,800 at any interest rate below 74% will gain economically by retrofitting their trucks in year 1. Assuming that at least 80% of the owners of such trucks do so, the Fleet Modernization Grant Program will be reduced by about $160 million or 8.9% of its estimated budget. Combined with the Proposition 1B funds, this analysis means 31.1% of the program's funding may be in jeopardy.

Economic Implications: Exclusivity. In reviewing the potential economic impact of the exclusivity requirement, it is important to understand the degree to which the LMCs serving the ports are engaged in non-port work. Here, the survey of 136 LMCs conducted for this report is informative. It found that the share of LMCs that had at least some business with non-port related customers was 72%. Importantly, for 19% (*one in five*), non-port business involved 50% or more of their operations (*Exhibit 28*). These figures are not surprising given the need to locally transport goods within Southern California's $945 billion economy. However, for these firms, flexibility in the use of the IOOs with whom they work is vital to the efficiency of their operations and, thus, their profitability.

Exhibit 28.-Share of LMCs With Business Other Than Port Drayage
Ports of Los Angeles & Long Beach, 2007



Source: Telephone Survey of 136 LMCs by CGR Management Consultants, LLC

[108] Cost details shown in the Appendix to the 2006 San Pedro Bay Ports Clean Air Action Plan Technical Report, p. 27.

If accessing the Fleet Modernization Grant Program requires numerous IOOs to work exclusively in port drayage, it will create practical problems for the multifunctional LMCs that use them. For example, an LMC might normally have an IOO dray a port container to a customer, pick up a non-port related load there and move it elsewhere before coming home. If the IOO could not perform the second haul, it would have to return empty (*bobtail*). Meanwhile, a non-port related IOO would have to bobtail out to the customer to move the second load. Situations like this would be inefficient and costly to the LMCs and eventually their customers. They would also increase the volume of truck trips on Southern California's roads and increase emissions. The exclusive use provision could also be a significant factor for smaller LMCs who lose a major port drayage customer. Since it would be presumably known that the LMC has received a grant with an exclusive use restriction, their options for replacing the lost business would be limited and their rate negotiation ability curtailed.

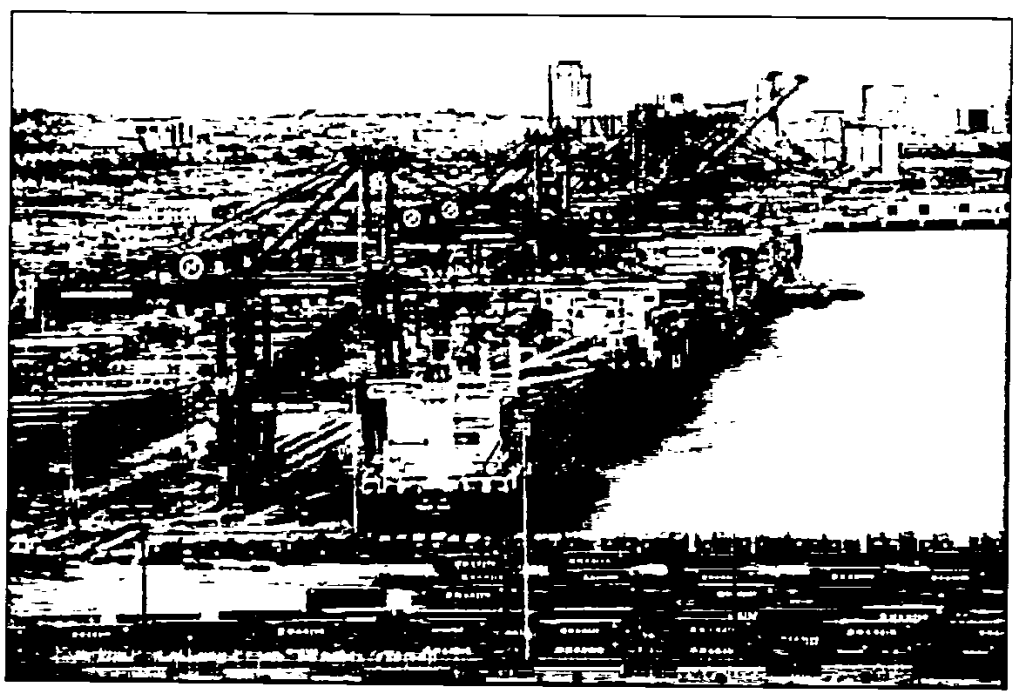
5. **Clear Air Device Maintenance**. Another aspect of the Clean Truck Program would be the requirement that concessionaire/LMCs have a maintenance program for all trucks operating under their auspices whether their own or belonging to IOOs. The program must ensure that there is adherence to manufacturer's recommended maintenance schedules for vehicles and retrofit devices, and that records are maintain providing evidence of compliance. It also bars tampering in anyway with emission control devices. The program further requires that there be a facility specific maintenance plan.

   Economic Implications: Maintenance Oversight. The Clean Truck Program will clearly give the ports a vested interest in ensuring that once vehicles used for port drayage meet clean air standards, they stay that way. The requirement that there be a facility specific maintenance plan seems to imply that they are considering going into the on-site inspection business to ensure that this occurs. This would be a costly undertaking and use funds that might better be applied to other purposes such as helping to clean-up more vehicles. This is particularly true given that the California Highway Patrol is already charged under California law with annually inspecting every terminal in the state in a two-year cycle (*CHP's BIT program*).[109] Those inspections are being undertaken for the sake of truck safety. However, it would appear to be a small step to have the CHP's jurisdiction expanded to include looking at vehicles and inspecting records to ensure that air quality maintenance is also being routinely performed. Here, the difficulty is the fact that the CHP has been underfunded for its BIT responsibilities and is currently only inspecting about one-half of the terminals required. Here, the ports, the CHP and the LMCs might develop a program to ensure that the IOOs working with the port are among those reached each year.

   In addition, since all tractors accessing the ports will have RFID devices, it would seem to be relatively inexpensive for the ports to set up stations inside the terminal gates to which tractors could periodically be diverted for a rapid emission check. The fact that a vehicle is to be out of compliance would be entered on the computer record for the vehicle. The next time a vehicle with that RFID entered the gates, it could be rechecked and barred from future entry until it has been brought into compliance.

[109] See footnote 38, page 21.

At its core, the Clean Truck Program is designed to modernize the fleet of heavy duty vehicles involved in port drayage. Given the high cost of retrofitting or replacing the vehicles plus the relatively weak financial condition of most LMCs and IOOs, the program proposes a phase-in period and Fleet Modernization Grant Program to ease the cash flow burden. Ultimately, it is the expressed desire of the ports that "shippers" not drivers pay for the clean-up program. It is assumed here that this means a combination of the ocean shipping lines and/or the beneficial cargo owners (*mostly national retailers*). The program attempts to bring this about through the marketplace. TIF costs are imposed on LMCs vehicles under whose auspices IOOs are bringing trucks that do not meet clean air standards through the port gates. Since neither the LMCs or the IOOs can afford the TIF costs, the LMCs will logically attempt to raise drayage rates to offset both the higher costs they must pay to attract an expanded labor supply and offset the Clean Truck Program's costs. Given their relative lack of negotiating power vis-à-vis their customers, this will not happen without the threat or actual occurrence of a port drayage crisis. However, given the current economics of the LMCs and IOOs, this would appear to be the path by which the Clean Truck Program will eventually be funded.



6. Clean Truck Program: Truck Ownership/Employee Model

In considering how to carry out the Clean Truck Program, the ports of Los Angeles and Long Beach have proposed major changes in the manner in which Southern California's port drayage industry is organized. Their intent was outlined by the two port commission presidents in their instructions to their staff upon the announcement of the CAAP. They expressed a desire that:

a. "The Ports undertake a 5-year, focused effort to replace or retrofit the entire fleet of over 16,000 trucks that regularly serve our Ports with trucks that at least meet the 2007 control standards and *that are driven by people who at least earn the prevailing wage.*" [*italics added*]

b. "The Ports establish within their respective districts a program that restricts the operation of trucks that do not meet the clean standards established in the Plan. Further, that we impose a system of fees and transportation charges to raise the necessary funds to pay for the cleaner trucks. *These fees would be imposed on "shippers", and not on the drivers."* [*italics added*]

c. "The Ports will invite private enterprise trucking companies to hire the drivers on terms that offer the proper incentives and conditions to achieve the Clean Air Action Plan goals while *resulting in adequately paid drivers.*" [*italics added*]

d. "The Ports begin this program with an infusion of cash to the Gateway Cities Program that would fund a 500-truck program that will demonstrate the applicability of new retrofit technologies. This demonstration program will be activated in the 1st quarter of 2007, and the full 16,800-truck program will be rolled out shortly after." [110]

To carry out these instructions, the ports have proposed to use their tariff authority to require that the LMCs become the concessionaires with the exclusive right to have trucks working under their auspices enter the port terminals. Under the program, LMCs would be required to:

- Obtain port concession licenses, LMCs would pay a one time application fee and annual renewal fees of about $5,000.
- Meet as yet undefined balance sheet levels and insurance requirements to ensure industry stability.
- Acquire ownership of the trucks operating under their auspices according to a strict 5-year time schedule.
- Have their trucks retrofitted or replaced to 2007 clean air standards according to a strict 5-year time schedule.
- Ensure that all requirements created as part of any grant or loan programs to clean the trucks are fulfilled since the Fleet Modernization Grant Program would only grant funds to retrofit or replace trucks owned by concessionaires.
- Pay fees (*TIF*) for trucks entering the port gates under their auspices that are not up to the 2007 clean air standard during the 5-year transition period.
- Ensure that their trucks are maintained in a manner that keeps them clean once they have been replaced or retrofitted.

---

[110] Overview, Presidents Statements, San Pedro Bay Clean Air Action Plan, Final 2006.

- Maintain detailed records on truck maintenance and safety work as required by the CHP's BIT program and DOT, plus records on inspection and maintenance of clean air equipment.
- Have a facility where their trucks are parked when not in use as well as where they can be maintained and inspected.
- Use only employee-drivers to operate their trucks according to a strict 5-year schedule, with preference given to drivers who have a history of involvement in port drayage.
- Maintain employee records, oversee drivers logs and health examination schedules and ensure that drivers have TWIC and other appropriate licensing.
- Require drivers to not park the LMC's trucks on nearby city streets and to only use defined routes in driving through communities in the port area.
- Install RFIDs and AVLs on their trucks.

Below the major elements of the Clean Truck Program are described together with commentary on their economic implications. For brevity, where the results are the same as the analysis of the Clean Truck Program under the LMC:IOO model in Section 5, reference is made to the appropriate material discussed there.

1. **Acquiring Trucking Fleet Ownership & Meeting Clean Air Standards.** As indicated, LMC/concessionaires will be required to own the vehicles accessing the ports under their licenses and bring these vehicles up to clean air standards. Since most do not currently have trucking fleets, that aspect of the requirement will represent a fundamental shift in their business model from being service firms with relatively thin balance sheets to being trucking companies with significant investment in vehicle assets.

   Vehicle Prices. For purposes of this analysis, it is assumed that $11,500 is the average price of pre-1996 tractors and $32,200 is the average for subsequent models. New 2007 tractors are estimated to cost $100,000.[111] In both cases, the LMC would have to pay Los Angeles County's 8.5% sales taxes on their purchases. Given these figures, there are a variety of issues associated with the increased capital needs that would result from the requirement for concessionaires to own their tractors:

   - ***Retrofit.*** For an LMC, the least expensive option would be to acquire post-1995 tractors from their IOOs who would then become employees. The vehicles could then be retrofitted to meet clean air standards using the proposed Fleet Modernization Grant Program. Under the most favorable assumption, that program would be fully funded and able to pay 100% of all retrofits. The funds that LMCs would need for this option in the first year would then be the price of acquiring the tractors, the sales taxes, and the first year's income tax liability on the grant funds.[112]

[111] The existing tractor prices are averages developed from the offering prices of Freightliner tractors listed for sale wwww.commericaltractortrader.com. New truck prices are from several on-line sources and the ports.

[112] Grants to acquire or retrofit trucks would likely be considered taxable income to the recipient and subject to state and federal income taxes. Depending on the recipient's taxable status, this would create a need for cash to pay the income taxes in the year when the grant is received. The amount of tax paid will potentially be offset in future years by the depreciation deductions and the eventual recovery of the asset's salvage value. The critical issue is grant

It is assumed that the LMCs will follow this strategy for 50% of their fleets. In fact, only 34% of the port drayage fleet is post-1995 vehicles.[113] Given the lower cost of retrofitting versus buying trucks, 50% is used in the belief that the LMCs will argue strenuously to be allowed to buy other post-1995 tractors in SCAQMD's air basin.

The 50% factor is used to determine the fleet purchases required by LMCs in various size groups. Among small and mid-sized LMCs, these ranged from six trucks for firms in the 1-10 range, to 47 for those in the 26-75 range. Given that LMCs of 76-250 trucks only devote 40.6% of their operations to port drayage, their average fleet size of 137 was reduced to a port fleet requirement of 56 trucks. For LMCs with 251 or trucks, port drayage was 25.2% of their activity. Their average fleet of 517 was reduced to a need for port operations of 130 trucks.

Note: This approach means that the larger LMCs will likely find it in their interest to bifurcate their operations, reserving part of their fleets exclusively for the port drayage work. The balance of their operations could continue using IOOs with their existing trucks, possibly subject to CARB's proposed rules.[114]

In each LMC size category, it is assumed that the firms will fill 50% of their truck needs by buying and retrofitting post-1995. The number will range from 3 for firms with 1-10 trucks, to 65 for the largest firms (*Exhibit 29*).

Exhibit 29.-Average Trucks To Be Acquired By LMC Size Range

Size Range	Average Trucks	Purchase & Retrofit
1-10	6	3
11-25	18	9
26-75	47	24
76-250	56	28
251 & Up	130	65

Source: Exhibit 14 as adjusted

- To acquire a used tractor that can be retrofitted, an LMC must pay $32,200 or $34,937 with sales tax. The $20,000 to retrofit the vehicle would be paid by the port grant program. However, an income tax liability would be created. This would be the $20,000 grant less the first of five years of depreciation at 20%. It would be taken against 80% of the purchase price to allow for salvage value. The tax would thus be 32% of $14,410 or $4,611. The total cost in year one would be **$39,548** (*Exhibit 30*).
- For LMCs in the 1-10 range, the average expenditure (*rounded*) to buy and retrofit trucks would be $119,000. It would be $356,000 for firms of 11-25 trucks and $949,000 for those with 26-75 trucks. Among larger LMCs, those with 76-

recipient's ability to meet the cash flow requirements. Another potential factor is the applicability of IRS code Section 179 that would allow "small businesses" to write off the entire grant under certain circumstances. When applicable it would completely eliminate the federal income tax consequences of the proposed grants.

[113] See Exhibit 21, page 45.

[114] Proposed CARB regulations may restrict the use of the existing IOO fleet but would not impact the independent contractor status of IOOs.

250 trucks would need to spend $1,107,000 for trucks they would use exclusively in port drayage. It would be $2,571,000 for those with 251 or more.

Exhibit 30.-Cash Flow, LMC Fleet Acquisition & Retrofit		
Cost of Acquiring a Used Tractor		$32,200
Sales Taxes in Los Angeles County @ 8.5%		$2,737
Purchase Cost		**$34,937**
Retrofit Cost		$20,000
Fleet Modernization Grant	$20,000	($20,000)
Value of depreciation deduction @ 20% of .80 of price	($5,590)	
Taxable Income	$14,410	
Income tax @ 32% [115]	$4,611	$4,611
Total Cash Required in Acquisition Year		**$39,548**
Total Fleet Size	**Avg. Trucks**	**Cash Required**
1-10	3	$118,645
11-25	9	$355,934
26-75	24	$949,157
76-250	28	$1,107,350
251 & Up	65	$2,570,635

- ***New Trucks.*** For LMCs, the more expensive option would be to acquire pre-1996 trucks from their IOOs who would become employees. These vehicles could then be turned in for scrapping in exchange for grants to help buy new trucks under the proposed Fleet Modernization Grant Program. Under the most favorable assumption, that program would be fully funded and able to pay 80% of the purchase price. The cost of this option to the LMCs would be the prices of the old tractors, sales taxes on the $100,000 for new trucks plus a $20,000 investment in them, and any income tax liability on the grant funds.[116] It is assumed that LMCs will fill their truck needs by using this strategy for 50% of their vehicle needs.
  - To acquire a used tractor to be turned in for scrapping, the price would be $11,500. The new truck would cost $100,000 with $20,000 paid by the LMC plus $8,500 paid in sales tax. The $80,000 grant program would create an income tax liability. This would be the grant value less $17,700 for the first of five years of depreciation at 20%[117]. It would be calculated against 80% of the $108,500 purchase price to allow for salvage value. The tax would thus be 32% of $51,140 or $16,365. The total cash required in year one would be **$56,256** (*Exhibit 31*).

[115] Assumes the LMC exceeds the limits of the Section 179 deduction as do all of the following examples.

[116] Again the tax liability is incurred in the year in which the grant is received and may be offset by other factors, such as operating losses, normal depreciation or Section 179 depreciation. In the subsequent four years, the LMC would have depreciation deductions and no grant income and, hence, lower taxable income.

[117] For tax purposes, trucks are depreciated over five years. The depreciable amount is the total purchase price, $108,500 less an estimated salvage value of $20,000 or $17,700 per year. In addition there would be a first year deduction for the cost of acquiring the old truck to be scrapped.

- For LMCs in the 1-10 range, the average expenditures (*rounded*) to buy new trucks would be $168,000. It would be $506,000 for firms of 11-25 trucks and $1,294,000 for those with 26-75 trucks. Among larger LMCs, those with 76-250 trucks would need to spend $1,575,000 for trucks they would use in port drayage. It would be $3,656,000 for those with 251 or more.

Exhibit 31.-Cash Flow, LMC Fleet Purchase Of New Trucks		
Cost of Acquiring a Used Tractor to Scrap		$11,500
Cost of New Tractor		$20,000
Sales Taxes @ 8.5%		$8,500
Purchase Cost		**$40,000**
Fleet Modernization Grant	$80,000	
Value of depreciation deduction @ 20%	($17,700)	
Scrap Value of Used Tractor	($11,500)	
Net Taxable Income	$50,800	
Income tax at @ 32%	$16,256	16,256
Total Cost		**$56,256**
Total Fleet Size	**Avg. Trucks**	**Cash Required**
1-10	3	$168,768
11-25	9	$506,304
26-75	23	$1,293,888
76-250	28	$1,575,168
251 & Up	65	$3,656,640

- ***Total Cost of Fleet Creation.*** If the LMCs in the various size ranges are to continue operating at their current capacities, assuming they can fund 50% of a fleet under the retrofit provisions of the Fleet Modernization Grant Program and 50% under its salvage and replacement scenarios, the amount of average capital that must be raised by LMCs would vary by size (*rounded*): $288,000 for LMCs in the 1-10 range, $863,000 for firms averaging 11-25 trucks, and $2,243,000 for those with 26-75 trucks. Among larger LMCs, those with 76-250 trucks would need to spend an average of $2,683,000 for trucks they would use in port drayage. It would be $6,227,000 for those with 251 or more (*Exhibit 32*). In each case, the cost per truck would be the average of $39,548 (*retrofit*) and $56,256 (*new*) or **$47,902**.

Exhibit 32.-Average Cash Flow for LMC Fleet Creation		
Total Fleet Size	**Avg. Trucks**	**Cash Required**
1-10	6	$287,413
11-25	18	$862,238
26-75	47	$2,243,045
76-250	56	$2,682,518
251 & Up	130	$6,227,275

Financing. It will likely be difficult for LMCs to finance these fleet purchases. It was shown earlier that the financial strength of mid-sized port drayage LMCs with average revenues of $3 million to $5 million was reflected in data published on Form M balance

sheets for U.S. trucking firms.[118] Given the estimated $107,100 in LMC revenue per IOO,[119] these ranges are reflective of firms with 28-50 trucks. LMCs of this size and smaller operate an estimated 71.5% of the capacity of the port drayage industry.[120]

Form M showed that on average U.S. trucking firms with $3 to $5 million in revenue had owner's equity of $362,200. That means that few if any of the mid-sized or smaller LMCs that dominate the San Pedro Bay's port drayage sector have the internal financing to undertake the required truck purchases and retrofits described above. In addition, their low levels of equity plus low returns on equity (*5.29%*) and capital (*2.19%*) represent significant hurtles to borrowing or attracting new capital.

For many LMCs, personal owner guarantees would thus be required for any significant new debts or leases. The interest rates would likely be high, given the risk of lending to firms with low capitalization and profitability. For the owners of the weakest LMCs, low FICO credit scores may be an issue in obtaining credit.

Compounding this difficulty would be the fact that the LMCs would have to borrow $56,256 to finance each new $100,000 truck, or fund that amount from other sources. However, their equity in the vehicle would only be $20,000 in the first year. The port grant program would be the primary lien holder on the vehicle to ensure that title did not transfer without their approval. A lender would thus have a secondary position on just $20,000 of a truck's value for a loan of $56,256 and be in second position for the balance if there was a default.

Based on these factors and discussions with several large financial organizations, it appears that the most expeditious financing structure would be to have a portion of the ports contribution to the Clean Truck Program be used as a guarantee in a structured financing arrangement that could cover all LMCs in the program. Terms might involve the lender and ports allocating profits and losses from repossessions over the grant program's life with lending rates of about 10%. Lacking such an overall financing framework, it should be expected that *many LMCs will have difficulties arranging financing on a timely basis, a problem that would impede their ability to comply with the Clean Truck Program.* In that case, they would have to attempt to pass the extra cost on to the ocean shipping lines and/or beneficial cargo owners via higher rates.

Risk, Fixed Costs and Peaking. For LMCs, the acquisition of tractors will immediately increase their fixed cost of operations due to licensing fees, insurance and capital carrying costs. The firms would face these costs whether or not the vehicles were in revenue service. This problem will be compounded by the difficulty and cost of trying to balance their employment levels with fluctuations in their volumes (*see #3 Employees Replace IOOs*). The risk of this situation will likely cause LMCs to try to get by with fewer vehicles and drivers and aim for more consistent business levels. This will particularly be an issue for mid-sized and smaller LMCs where idle trucks and employees can quickly cut into profits. As indicated, such firms represent over 70% of port drayage capacity. A

[118] See discussion on pages 23-24 and balance sheet data in Exhibit 15.

[119] See Exhibit 20, page 41.

[120] See discussion on page 20 and data in Exhibit 14.

side effect of the higher fixed costs of truck ownership and having employee drivers would thus be to reduced flexibility of LMCs to deal with peak container volumes.

Full Service Leasing. Another possible route to finance LMC trucking fleets could be through a comprehensive port leasing program. One leasing firm indicated that their mass truck purchases would allow them to lease a $104,139 Freightliner tractor to LMCs for $1,680 per month (*$14,000 a year*) plus $350 a month (*$4,200 per year*) for maintenance, a total cost of $2,030 per month (*$24,360 a year*). This would require the ports to invest $655 million to buy down the cost of the trucks and cover a loss pool. That would be instead of needing the ports to invest an estimated $1.8 billion for the Fleet Modernization Grant Program. If the ports were to spend $823 million further buying down the program's capital cost, while allowing for the loss pool, trucks could be leased to LMCs for $1,151 per month plus $350 for maintenance, a total of $1,501 or $18,012 per year.

A lease program approach would have the advantage of causing the scarce funds available for the Fleet Modernization Grant Program to go further. It would also provide new vehicles and consistent maintenance. It would also offer a way around the difficulties that LMCs appear to face in being able to finance the acquisition of their fleets. And, it would alleviate LMCs from having to create maintenance organizations.

However, in the long run, a leasing program like this would be more expensive to the LMCs. They would be spending $14,000 to $20,000 a year for five years for the trucks or $69,000 to $101,000 in five years. That is much more than the one time cost of $39,548 for acquiring a retrofitted truck or $56,256 for a new one. It is also far more than IOOs are currently spending for the trucks being used on behalf of the LMCs today.[121] In addition, the LMCs might be able to maintain their vehicles for under the $4,200 per year. The greatest difficulty with the leasing approach is that it would be in perpetuity, where the Fleet Modernization Grant Program is designed to end in five years.

An important consideration may be the fact that a comprehensive leasing program run through the ports would create cost elements known to the entire harbor community. To the extent that these costs are above those historically faced by the LMCs, this might make it easier for them to verify at least a part of the basis upon which they are demanding higher prices from ocean carriers or beneficial cargo owners.

Transition. The logical conclusion of this analysis is that cash flows in the years when LMCs acquire trucks will be under serious strain. For many, survival will depend on how fast they can improve their cash flows by charging higher rates to the ocean shipping lines or beneficial cargo owners. Three other considerations will impact the speed at which they will need to have this occur. First, from 2008-2012, the Clean Truck Plan sets deadlines by which trucks of varying vintages must be replaced or retrofitted to clean air standards if they are to access the ports.[122] Despite this phase-in process, LMCs will be under great pressure to make the transition almost immediately due to the requirement that they pay a TIF penalty each time an unclean truck under their auspices accesses the

[121] The February 2007 CGR survey of IOOs found that 20% had truck payments averaging $879 a month or $10,548 per year (*maintenance not included*). The other 80% reported owning their tractors outright.

[122] See Exhibit 21 p. 45.

harbors. Second, the cash flow pressures on LMCs will be amplified by the requirement that they increase their share of employee-drivers to specified thresholds over a 5-year period. Third, there will be the requirement that LMC/concessionaires maintain truck yard facilities where vehicles can be parked, repaired and inspected. After these issues have been discussed, the economic implications of the speed at which LMCs might be able to raise shipping rates will be discussed.

2. **Truck Impact Fees.** Section 5 included a detailed discussion of the fact that during the 5-year transition period, the LMCs will be assessed a TIF estimated at $34 to $54 each time a truck under their auspices that has not yet met clean air standards enters a port. Using a $50 TIF level, the estimated cost was $15,400 per truck (*assuming 308 trips per year*). It was shown that such a fee would cause an LMCs to annually lose $10,000 using such a truck as, at 5%, their net pre-tax profit averaged only $5,400 per truck. Even if they were able to raise prices to double their profit to $10,800, the loss would still be $4,700 on each truck. Their financial viability will not allow them to absorb these TIF costs for very long. They will be under great strain to acquire and clean up trucks as fast as possible. The TIF will thus mean that the cash flow pressures discussed above would likely hit most LMCs early in the Clean Truck Program. Similarly, the Fleet Modernization Grant Program would need to be funded much earlier than proposed.

3. **Employees Replace IOOs.** According to the proposed Clean Truck Program, LMC-concessionaires will be required to use progressively larger shares of employee-drivers on a trip weighted basis (*Exhibit 33*). In hiring drivers, they will be required to give preference to people with a past history of providing port drayage services.[123]

Exhibit 33.-Required Share of Employee Drivers

Date	Share of Employee Drivers Required
June 30, 2008	20%
June 30, 2009	40%
June 30, 2010	60%
June 30, 2011	80%
June 30, 2012	100%

Employee Payroll Cost. As LMC employees, workers would need to make a basic wage rate that is the same as that needed to attract workers to the industry due to TWIC and the expansion of port operations. That was estimated at $20 per hour.[124] It is assumed this is paid for:

- 1,800 hours a year (*40 hours a week, 45 weeks*)
- 80 hours per year of vacation pay (*40 hours, 2 weeks*)
- 80 hours per year for holidays (*10 federal holidays, 8 hours a day*)
- 40 hours per year personal time like sick leave (*40 hours, 1 week*)
- 2,000 hours x $20.00 = **$40,000**

[123] Discussion Draft, Minimum Concession Requirements, San Pedro Bay Ports Clean Air Action Plan, June 2007

[124] See discussions, page 39 and page 47.

The other 80 hours of a normal 52 week a year schedule, the driver is assumed to be idle (*2 weeks, 40 hours*) due to fluctuations in business conditions. In addition, during the 45 weeks when the employee is working, an average of 1.0 hours of overtime or 225 hours is assumed at the California 150% rate for time over eight hours per day:

- $20.00 x 1.5 = $30.00 per hour x 225 hours = **$6,750**.
- Total wage compensation would be $40,000 + $6,750 = **$46,750**.

Employee Benefit Cost. In addition, the LMC must pay a variety of benefits for employees.[125] California requires state disability insurance at 0.6%:

- $46,750 x 0.6% = **$1,683**

The state also requires unemployment insurance and a contribution to the workforce investment board. The combined rate is 3.6% on a maximum of $7,000 of payroll:

- $7,000 x 3.6% = **$252**

In addition, there is California's workers compensation insurance requirement. The 2007 rate assumed here is $8.63 per $100 of payroll. That is a modest rate for truckers (*job code 7219*) quoted by Hartford Insurance Co. of the Midwest and picked from a wide array of rates identified by the California Department of Insurance.[126]

- $46,750/100 = 467.50 x $8.63 = **$4,035**

Also, drivers are likely to receive some medical insurance. According to the 2007 Health Benefits Survey by Kaiser Family Foundation, 64% of companies with three to 199 employees that provide health insurance do so through Preferred Provider Organization coverage (*PPO*).[127] In addition, 75% use plans that require an employee to make a contribution.[128] To cover a single person, the 2007 PPO rate had an average cost of $4,505 per year with the employees typically paying $491 (*10.7%*). The employer cost:

- $4,595 per year - $491 by employee = **$4,014**

Under federal law, the employer must also pay a 50% portion of the social security taxes on an employee. The employer's share is 7.65% of the payroll:

- $46,750 x 7.65% = **$3,576**

Employee Wage & Benefit Cost. Given the financial pressures operating on LMCs, it is assumed that they do not pay either the family rate for medical insurance nor do they make contributions to an employee retirement plan when they first move into hiring employees instead of using IOOs. Total cost for a typical future LMC employee would be:

- Combined benefit package: **$13,560**

---

[125] The non-payroll cost factors were discussed thoroughly in Section 4 (*TWIC*) of this report. See page 35.

[126] California Workers' Compensation Rate Comparison, California Department of Insurance, 2007.

[127] Among Firms Offering Health Benefits, Percentage of Covered Workers in Firms Offering the Following Plan Types, by Firm Size, 2006, Health Benefits Survey, Kaiser Family Foundation, Exhibit 4-4, p. 53.

[128] Average Annual Premiums for Covered Workers for Single Coverage, by Plan Type and Firm Size, 2006, Health Benefits Survey, Kaiser Family Foundation, Exhibit 6-4, p. 63.

- Total wage compensation: **$46,750**
- Total employee cost: **$60,310** for 2,225 hours (*$27.11/hour*)
- Current median IOO net earnings are $29,000 for 2,426 hours (*$11.95/hour*)[129]
- LMC employee would costs $65,914 to draw sufficient drivers to offset TWIC and port expansion, **2.08 times** IOO current net earnings (*$29,000*).[130]

Time Available. Workforce rules and work practices vary between employees and IOOs. Employees are paid for time spent on tasks that IOOs do as part of their businesses. During an average day, IOOs were found to work an average of 10 hours or 600 minutes. Employee-drivers are assumed to work eight straight time hours and one hour overtime, a total of nine hours or 540 minutes. However, they actually only have 430 of those minutes available since several functions absorb 110 minutes of their time:

- 20 minutes required for work breaks under California law[131]
- 30 minutes, pre-trip preparation, inspection, fueling
- 30 minutes, for average wait time during the year for minor maintenance
- 30 minutes, post-trip clean-up and log book

The 430 minutes available to employee-drivers would be **28.3%** less than the 600 minutes available to IOOs. Thus, future employee-drivers would cost an LMC some 2.08 times higher than today's IOOs during the time they are working but actually have 28.3% less of that time available. Allowing for that fact, the hourly cost of a future employee-driver is thus **2.67 times higher** than today's IOO driver.

Non-Driver Operating Costs, Slip-Seating, Technology. The LMCs must incur the cost of operating trucks under the employee model. Those costs include:

- Fuel and fuel taxes estimated at 40,000 miles per year, $3.00 per gallon with tractors averaging 5 miles per gallon: **$24,000**.[132]
- Average interest payments on loan payments for truck giving equal weight to retrofit and purchase scenarios: **$2,511**[133]
- Tire costs were estimated at $0.04 per mile for 40,000 miles or **$5,600**.[134]
- Maintenance was estimated at $0.10 per mile for 40,000 miles or **$4,000**.[134]
- Licenses, taxes and permits (*not port concessionaire*) estimated at **$1,000**

---

[129] A Survey Of Drayage Drivers Serving The San Pedro Bay Ports, CGR Management Consultants, p.9.

[130] LMC hourly rate (*$23.60*) to assure labor force would be 2.48 times IOO current average hourly rate (*$11.95*).

[131] 45.3 Rest Periods. Enforcement Policies And Interpretations Manual, Division of Labor Standards Enforcement. Section 12 of each of the Orders) provides: (A) Every employer shall authorize and permit all employees to take rest periods … at the rate of 10 minutes net rest time per 4 hours or major fraction thereof.

[132] Annual Miles from A Survey Of Drayage Drivers Serving The San Pedro Bay Ports, CGR Management Consultants, p. 13; California cost of diesel per gallon from Energy Information Agency; miles per gallon from CGR.

[133] See Cost of LMC Fleet Purchase of New Trucks, Exhibit 30, page 62.

[134] Estimated cost per mile by TCI Truck Leasing.

- Liability, accident, physical damage, cargo insurance estimated at **$9,000**[135]
- For each truck, the LMC is spending **$42,111**

Under the IOO system, the drivers pay these types of costs out of the $75,000 in gross income payments made to them by LMCs. These costs will be higher under the LMC employee model due to higher insurance coverage, paid maintenance work and larger loans. In addition, most of today's LMCs would incur the extra cost of the staff to handle the management of organizations that own trucks and employ drivers. This would include people: carrying out driver recruitment, background checks and supervision; payroll and benefits compliance; driver safety, TWIC, health, log book and licensing oversight; port security and clean air compliance; office and truck software and hardware functions; yard security and clean-up.

However, these higher costs will be partially or completely offset by two changes in port drayage operating procedures. The first is the fact that slip-seating (*more than one driver per truck*) will be possible for some of the trucks operated by the LMCs. This would most likely apply to the 50% of drayage trips that are within 25 miles of the ports.[136] It would be less likely to apply to the 50% of trips that go farther away. Where slip-seating is a factor, the fixed costs of the vehicle (*insurance [*$9,000*], interest payments [*$2,511*], fees & permits [*$1,000*]*) are spread across more than one driver, effectively lowering the impact of the LMCs cost differential in operating a truck fleet.

Also, with the Clean Truck Program, there will be the potential of greatly increasing the average number of container "turns" per truck per day for drivers, particularly those with shorter runs, due to the universal adoption of technologies like RFIDs and AVLs. This creates the potential for the real time integration of port terminals, LMC headquarters, warehouses, cross-docks and intermodal facilities, together with on-board truck computers and locator devices. During this project's interview process, this potential was brought up separately by some of the larger LMCs, the ILWU, engineering analyst Anne Goodchild, the Teamsters, terminal operators and major national firms.[137]

Given that the truck operations and non-driver employee costs, on the one hand, and the capabilities of added efficiency via slip-seating and technology, on the other, move in opposite directions, the assumption is made that they will roughly balance. Neither is therefore quantified. In particular, this assumption is made due to the time, training and coordination necessary to create a tightly integrated, relatively error free computer system, given the large number of small LMC/concessionaires, many with limited computer understanding.

---

[135] Overdrive Partners in Business Manual, co-written by American Truck Business Services, for a program sponsored by Freightliner Trucks and Castrol, 2006 edition. $1 million primary liability insurance (*$5,000*); $1 million in non-trucking-use liability insurance (*$450*); physical damage insurance (*$2,400*); cargo insurance (*$1,000*).

[136] See discussion of median trip distances on page 19.

[137] Over 50 local LMCs were interviewed one-on-one; ILWU interviewed August 24, 2007; for Dr. Goodchild, see footnote 91, page 46; Teamsters interviewed August 8, 2007; discussions held with Yellow-Roadway on August 28, 2007; UPS part of a group of interviews on July 25, 2007, Schneider National in mid-July 2007.

Total Labor Cost Increase By LMC Size. For the five LMC size categories used in this analysis, it is next necessary to use the wage and benefit information above to identify the change in costs that will take place in moving from using IOOs to hiring employee-drivers (*Exhibit 34*). To summarize, the future average employee-driver will earn $46,750 per year working 2,000 hours of straight time and 225 hours of overtime. The basic hourly rate of $20 will be necessary to draw drivers to port drayage. Voluntary and legally mandated benefits will have estimated annual costs of $13,560 per employee. Total annual cost will thus be $60,310. To absorb their work load, the average employee-driver will have 28.3% less time than the average IOO. This will create a need for more employee-drivers. Meanwhile, $29,000 is the net median earnings of today's IOOs. Finally, the extra non-labor costs facing LMCs, and the change in productivity from activities like slip seating and adopting technology are treated as offsetting one another.

Exhibit 34.-Labor Cost, Employee-Drivers, By LMC Size Group

	Cost per Job:	$46,750	$13,560	$60,310	28.3%	$60,310	$84,590	$29,000	
Category	Average Size	Annual Wages	Annual Benefits	Annual Labor Cost	Availability Factor	Extra Workers	Total Labor Cost	IOO Model	Increased Labor Cost
0-10	6	$280,500	$81,359	$361,859	$102,527	2	$464,386	$174,000	$290,386
11-25	18	$841,500	$244,078	$1,085,578	$307,580	5	$1,393,159	$522,000	$871,159
26-75	47	$2,197,250	$637,315	$2,834,565	$803,127	13	$3,637,692	$1,363,000	$2,274,692
76-250	56	$2,618,000	$759,354	$3,377,354	$956,917	16	$4,334,271	$1,624,000	$2,710,271
251 & Up	130	$6,077,500	$1,762,787	$7,840,287	$2,221,415	37	$10,061,702	$3,770,000	$6,291,702

Sources: Annual wage factor discussion, p.65- 66; annual benefits discussion, p. 66, availability factor discussion, p. 77.

In each case, it will cost LMCs 2.08 times more in wages and benefits for their employee-drivers, but the amount of time available for their workforces will be 28.3% less. Thus, for example, companies in the 26-75 truck range would have an average total wage and benefit bill of $2.83 million for 47 trucks with one driver each. However, they will need 28.3% more workers to get the work done. That adds $803,000 in cost or the equivalent of 13 drivers. The total cost to operate the 47 trucks would thus be $3.64 million. That contrasts with $1.36 million using IOOs, a $2.27 million difference. The cost of future employees will be thus be 167% higher than costs of using today's IOOs.

4. **Truck Yard Facilities.** Under the Clean Truck Program, LMC/concessionaires "must agree to provide off-street parking for port drayage trucks when not in service," and they must "prepare a facility *specific maintenance* plan for all trucks under their concession agreement." [138] [*italics added*] To identify the potential cost of buying and building yards, data was acquired on the cost per truck of facilities recently built by Penske Truck Leasing in Sacramento California, Lakeland Florida and Springfield Missouri. The facilities included parking, offices and truck repair bays. Two facts are evident. First, California property is much more expensive than property in other states (*Exhibit 35*). Second, less space per truck is used in California, probably for that reason. The key findings from these data are that in Sacramento, there was 581 square feet of space used per truck and the cost per truck was $15,496.

[138] Minimum Concession Requirements, Discussion Draft, San Pedro Bay Clean Air Action Plan, June 2007

Exhibit 35.-Cost Of Truck Yard Space, 2007, Various Markets			
	Sacramento, CA	Lakeland, FL	Springfield Mo.
Acres	10	8	7
Square Feet per Acre	43,560	43,560	43,560
Square Feet Per Site	435,600	348,480	304,920
Trucks	750	550	400
Square Feet per Truck	581	634	762
Cost	$9,000,000	$6,000,000	$5,000,000
Cost Per Truck	**$15,496**	**$9,470**	**$6,559**

Source: Penske Truck Leasing

Given those facts, data was used from Grubb & Ellis to determine the relative cost of industrial space per square foot a month between Sacramento and three Southern California locations. This was used as an index of the relative cost that would exist per truck to create such space. It was determined that if cost in Sacramento (*McClellan, I-80*) was $15,496 per truck, in South Bay near the ports it would be 70.3% higher or $26,385. The cost in either the Mid-City area north of the ports or in the San Gabriel Valley would be 54.1% more or $23,872. Inland Empire space in Fontana would cost 11.9% more or $17,346 (*Exhibit 36*).

Exhibit 36.-Cost Of Truck Yard Space, 2007, California Markets				
County or Area	Site	Cost per Truck	Industrial Space per Square Foot/Mo.	Cost Differences
Sacramento	McClellalan/I80	$15,496	$0.37	0.0%
Los Angeles	South Bay	$26,385	$0.63	70.3%
Los Angeles	MidCity/San Gabriel	$23,872	$0.57	54.1%
Inland Empire	Fontana	$17,346	$0.41	11.9%

Source: Industrial space from Grubb & Ellis, calculations Economics & Politics, Inc.

Depending upon where an LMC decided to locate its facilities, this leads to a wide range of potential truck yard costs to them. For instance, for LMCs of 26-75 trucks, the average number of trucks is 47 vehicles. The costs would be $817,243 in Fontana, $1.12 million in Mid-Cities/San Gabriel Valley, $1.24 million in the South Bay area and $1.06 million if they spread 50% inland and 25% in the two Los Angles County areas (*Exhibit 37*). In fact, many LMCs will find it difficult to locate ample land except in the Inland Empire because industrial space in Los Angeles County is already heavily used. That is reflected in its 1.8% industrial space vacancy rate, the tightest in the U.S. It is thus assumed that 50% of the space is located in the Inland Empire and 25% each in the two Los Angeles County markets. The weighted average cost would thus be **$21,237 per truck**.

Exhibit 37.-Yard Costs By LMC Size, So. California Areas, 2007					
	Per Truck	$17,346	$23,872	$26,385	$21,237
LMC Size Category	Avg. Trucks	Fontana	Mid-Cites/S. Gabriel	South Bay	Weighed Avg.
0-10	6	$104,074	$143,232	$158,309	**$127,422**
11-25	18	$312,221	$429,696	$474,927	**$382,266**
26-75	47	$815,243	$1,121,985	$1,240,088	**$1,059,105**

76-250	56	$971,354	$1,336,833	$1,477,552	**$1,261,913**
251 & Up	130	$2,254,928	$3,103,362	$3,430,031	**$2,760,812**

5. **Economic Implications of LMCs Owning Trucks, Hiring Workers, Buying Yards.** If future LMCs become concessionaires and must fulfill the requirements of the Clean Truck Program outlined in this section, the pressure on their cash flows will rise substantially over the current situation. Specifically, they will be required to buy and retrofit or replace trucks, pay a TIF each time an unclean trucks under their auspices enters the ports during the 5-year transition period, find and hire more expensive workers, and obtain yards to park and maintain their vehicles.

   The combination of the cash flow needed to pay for these requirements (*rounded*) would average $879,000 for LMCs of 1-10 trucks, $2.64 million for those with 11-25 trucks and $6.89 million if they have 26-75 trucks. Among the largest firms, the costs would average $8.21 million for firms with 76-250 trucks and $19.05 million for those with over 250 trucks (*Exhibit 38*). Importantly, these increases assume that the LMCs have access to a fully funded Fleet Modernization Grant Program to purchase and retrofit or replace all of their vehicles. (*Note: Labor cost factor includes pay, benefits and extra workers*)

Exhibit 38.-Extra Cost of Clean Truck Program to LMCs, By Size

	Truck Clean-Up	Labor Cost	Yard	Total Cost	IOO Model	Difference
Per Truck	**$47,902**	**$77,398**	**$21,237**	**$146,537**	**$75,000**	**$71,537**
0-10	$287,413	$464,386	$127,422	$879,221	$450,000	$429,221
11-25	$862,238	$1,393,159	$382,266	$2,637,663	$1,350,000	$1,287,663
26-75	$2,251,399	$3,637,692	$998,140	$6,887,231	$3,525,000	$3,362,231
76-250	$2,682,518	$4,334,271	$1,189,273	$8,206,063	$4,200,000	$4,006,063
251 & Up	$6,227,275	$10,061,702	$2,760,812	$19,049,789	$9,750,000	$9,299,789

Sources: Exhibit 31 (*buy & retrofit or replace trucks*), Exhibit 33 (*wage, benefits, time*), Exhibit 36 (*yards*)

Using today's IOOs, the firms in these categories are currently paying an average of $75,000 for each IOO they are using. Deducting that amount from the costs for the average future LMC in each of the five size categories, shows that for firms in the 0-10 category, the average increased cash outflow (*rounded*) would be $429,000. It would be $1.29 million for those with 11-25 trucks and $3.36 million for those with 26-75 trucks. Among larger firms, the average increased cash outflow would be $4.01 million for LMCs with 76-250 trucks and $9.30 million for those with 251 or more.

Again, today's IOOs are paid a gross income of $75,000 to handle the equivalent of the labor and truck ownership for LMCs. This requires total LMC revenue per IOO of $107,100 (*Exhibit 20, page 41 & column 1, Exhibit 39*). To allow the average IOO's net income to reach the estimated $20 per hour needed to attract more drivers due to TWIC and expanded port volumes, it was also shown that IOO gross incomes must reach $96,000 (*Exhibit 23, page 48*). That and other changes meant that their annual revenue per truck would have to rise to $159,200 from today's $107,100, requiring a price increase of 48.6% (*column 2, Exhibit 39*).

To replace what is now supplied by IOOs, most future LMCs would have to buy and retrofit or replace trucks using their share of costs from the Fleet Modernization Grant Program (*average: $47,902 per truck*). As they would have trouble financing this cost, it

would need to become part of their rate calculation. They would have to hire workers and pay wages and benefits in a tighter labor market plus use more workers for the same volume (*$77,398 per truck*), and open a facility to park and maintain trucks (*$21,237 per truck*). The combined cost of these functions (*rounded*) would be $146,500. If LMC profits stayed the same as the case in which they had doubled to $10,700, and other costs remained at $34,400 (*non-operating staffing increases are assumed to be offset by efficiency gains*), then revenue per truck would have to rise to $191,700, a level substantially above average for the trucking industry including long haul trucking.

That would require prices to the ocean shipping lines or beneficial cargo owners **to increase 80.0%** compared to today's use of IOOs. It would be 20.4% higher than the price required under the IOO model, to raise IOO net income to $20 per hour, pay for truck replacement costs not covered by the grant program, and increase the LMCs profit from $5,400 to $10,700 per truck (*5% to 6%*). According to Moffatt & Nichol data, an 80% increase would raise port drayage costs from $150 to $270 per container for trips near the ports and $300 to $540 to the Inland Empire. These fees are still minor compared to the $2,575 in costs for other portions of a container's journey. These higher costs would represent just 0.17% to 0.34% of the $70,000 median value of a container's contents.

Exhibit 39.-Operating Cash Flow Comparisons Per Truck Per Year

	Using Current IOOs		48.6% Price Increase, Truck Replace, IOO to $20/Hr, Double LMC Earnings		80.0% Price Increase, Truck Replace, Pay Employees & LMC Earnings	
Labor, Truck, Facility	$75,000	70.0%	**$96,000**	**60.3%**	**$146,500**	**76.4%**
Other Costs	$26,800	25.0%	$34,400	21.6%	$34,400	17.9%
Truck Replacement Charge	$0	0.0%	$18,000	11.3%	$0	0.0%
Pre Tax Margin	$5,400	5.0%	$10,700	6.7%	$10,700	5.6%
Total Annual Revenue	$107,100	100.0%	**$159,200**	**100.0%**	**$191,700**	**99.9%**
Price Increase			**48.6%**		**80.0%**	

Source: Exhibit 23 (*Current IOO & I00 with 100% Pay Gain*), medium sized factors from Exhibit 36

Impact of TIF. As discussed, each time a truck not up to clean air standards enters a port gate, it will cost its LMC a TIF. Assuming a fee of $50 and a median of 308 trips a year, the annual cost would be $15,400 per truck. It was shown earlier, that LMC's average pre-tax profit margin is 5% or $5,400. If they must pay $15,400 a year in TIF because a truck is not yet up to clean air standards, their annual loss on the vehicle would be $10,000. Even with the 53.2% price increase postulated to help the LMC greatly increase the pay of their drivers, help finance replacement trucks and double their own profits to $10,800, the $15,400 TIF would leave them with an annual loss of $4,600. The typical LMC will realize that it cannot survive if it is paying the TIF and will seek to acquire and retrofit or replace trucks as fast as possible. Here, the difficulties with the Fleet Modernization Grant Program will come into play in that 31% of its funding is questionable given attempts to avoid the TIF and whether Proposition 1B funds will be forthcoming.

Transition. Given this analysis, there appears to be two paths along which the Clean Truck Program might take the port drayage industry. The key in both cases is the fact that there is not enough money in the combination of the LMCs and IOOs to fund the clean-up effort as well as the labor supply changes implied by TWIC, port growth and the associated change to employee-

drivers. The Fleet Modernization Grant Program and the truck and employee phase-in processes will help, but the mathematics of the TIF and the resources available to the grant program will likely mean that LMCs will be forced to try and clean up their vehicles and thus move to an employee model faster than funds will be available to lower their costs of doing so.

At its core, this means that a full scale Clean Truck Program will depend upon the speed with which the LMCs can alleviate their cash flow problems by increasing prices to the ocean shipping lines and/or the beneficial cargo carriers. As indicated, the increase must be on the order of the 80% discussed above. Here, they will meet stiff resistance. Again, the two potential paths cited earlier come into play:

- ***Crisis Path.*** Ocean shipping lines will have difficulty finding LMCs to move their cargo and delivery deadlines will rapidly slip. Beneficial cargo owners will demand on-time delivery putting pressure on the shipping lines to pay more to the LMCs to solve the problem. However, since retailers will be unwilling to pay more, the shipping lines will do so very reluctantly allowing the crisis to build. Ultimately, the rates paid to LMCs and the IOOs will rise under the employee/truck ownership model but not before there has been serious disruption in the supply chain and the potential reallocation of trucks and drivers to non-port business. Some beneficial cargo owners will abandon store-door contracts and switch to only using ocean lines to transport cargo to the ports. They will have to contract separately with the LMCs to move their containers to their facilities.
- ***Downfield Vision.*** Less likely is for the ocean shipping lines, terminal operators, beneficial cargo owners and ports to recognize early that the pending driver shortage and the Clean Truck Program are about to put the LMCs under severe cash flow pressures. If the major players wish this to forestall a crisis, a meeting of minds might be formulated whereby increases in rates are negotiated between the players and leaders among the LMCs. This might allow the financial crunch to be solved without the crisis.

However, even under favorable circumstances, it is likely that the transition period will be one in which a good deal of the capacity of the port drayage industry will be financially unable to continue operating. An example using relatively optimistic assumptions shows the reason for this:

> At the moment when LMCs feel they must raise prices because of the pending increases in pressure on their cash flows, it is assumed that ocean shipping lines and beneficial cargo owners representing 50% of their revenues agree to the new rates in advance. In those cases, the LMCs can raise their new prices to reflect the increases in their cash needs as soon as the costs are incurred.
>
> Assume that the remaining 50% of LMC customers only agree to the new rates in equal proportions over the ensuing six months. At the end of that period, the LMCs current prices and revenues will represent full recovery of all of their new costs, and their profits will be back to their pre-transition level. By that time, however, the LMCs will have accumulated substantial losses during the "catch up" period. Customers following this path will likely be those that have contractual rate agreements that allow them to resist price increases based on those contracts terms. Most, but not all, store-door contracts reference the ocean carrier's tariffs including the local drayage cost with the tariffs generally changeable on 30 days notice.

In particular, shippers will resist the LMC price increases due to their size (*80%*) and the fact that LMCs will be asking for them based on projected, not historical costs, and that a calculation of this nature is often subject to error. For a shipper of 200 containers a week (*10,400 a year*), an 80% cost increase would raise the cost of an average dray of $300 per container to $540. Their total cost would go from $3.1 million to $5.6 million a year, up $2.5 million. Any corporation would delay such an increase as long as possible and explore other options, even if the resulting increase in the cost for a single item at the retail level would be insignificant. The LMC's price increase would only be acceptable to such an organization if no clear, lower cost alternative is available. Corporations will take time to satisfy themselves that this is the case.

For purposes of the analysis, seasonality is ignored and it is assumed that LMCs will earn their revenues evenly over the six month period in which the second half of its customers are gradually agreeing to price increases. The resulting impact of delays varies according to the size of the LMCs. Two are considered. One has Form M[139] revenue of $3 to $5 million a year (*average of $4.1 million*). The other has Form M revenue of $14.6 million a year. These are larger firms that include container hauling as one of their three primary lines of business.

Exhibit 40.-Impact Of Delays In Price Increases

Metric	Firm Revenue Base $3 mi to $5 million	Firm Revenue Base $14 million
Owner's equity pre-transition	$362,200	$1,768,600
Accumulated loss at breakeven	($410,000)	($1,460,000)
Owner's equity at the end of the transition loss period	**($47,800)**	**$308,600**

Despite the fact that 50% of an LMC's clients (*ocean shipping lines, beneficial cargo owners*) are assumed to be willing to immediately accept a substantial price increase, and the balance agree to do so equally over a six month period, the analysis shows both the smaller and the larger LMCs ending the transition period in serious financial difficulty:

- The smaller firm had owner's equity before the transition period of $362,200. During the transition, the firm has cumulative loses of $410,000. The owner's equity is wiped out, falling to a *negative* $47,800. The firm is bankrupt.
- The larger firm had owner's equity before the transition period of $1,768,600. During the transition, the firm has cumulative loses of $1,460,000. Here, the owner's equity has fallen by 82.6% to $308,600.

In effect, even under relatively optimistic assumptions about the ability of an LMC to raise prices, the transition period will pose very significant financial risk. To the average LMC considering making what amounts to a transition from its current role as a service firm arranging container deliveries, to a new role as an asset-based trucking operation, this analysis has real world implications. It indicates that for both small and large LMCs, there is the risk of the destruction of their firms and possibly bankruptcy. For those that survive, the question arises as to how they would recoup the accumulated loss created during the transition period.

[139] U.S. Department of Transportation requires trucking firms with annual revenues over $3 million to file a Form M comprehensive annual financial report. See page 23.

Economic Implications of the Transition Period. The pressures on the cash flows of the LMCs, and the impact of not having the ability to instantaneously gain acceptance of price increases to deal with them, leads to several conclusions:

- The Clean Truck Plan strategy appears to be relying upon pressure on the cash flows of LMCs to ultimately force the ocean shipping lines and beneficial cargo carriers to participate in helping to reduce emissions at the ports by paying higher prices that would be used to clean up the trucking fleet. However, the data strongly suggest that the weak financial strength of the LMCs will not allow most of them to survive the transition period to higher prices, even under relatively favorable conditions.

- The existence of this financial risk, or even the perception of it, will undoubtedly cause some LMCs to shift from port drayage to other trucking or logistics activities. Some may elect to withdraw from port drayage or even trucking. Already, among the over 50 LMCs that participated in one-one-one and group interviews, several indicated that they are currently planning or are in the process of re-directing their businesses to non-port drayage activities. Some indicated that they would dispose of their businesses, rather than risk transition to an employee-based concessionaire model.

- Recognizing their lack of financial staying power, and given their historic inability to quickly adjust their prices, LMCs will logically attempt to minimize the higher costs from the concessionaire's employee requirements. One identified strategy would be to split their companies into two entities. One would become the concessionaire and essentially act as a container shuttle service with a yard as close to the ports as possible. The second would be responsible for moving containers from there to their final destinations using IOOs with their existing tractors. This strategy would most likely be followed by larger LMCs with significant non-port business. The survey of 136 LMCs revealed that 26% had less than 60% of their business concentrated in drayage.

  This strategy would effectively reduce the number of tractors involved in drayage by concentrating "pure" drayage operations into a smaller number of tractors and employee-drivers. It would reduce the number of IOOs who would have to become employees and keep a number of tractors in service that are now anticipated to be replaced or retrofitted. Those tractors, however, could be expected to spend less time close to the ports and more time hauling containers to final customer destinations.

- A result of the truck retrofitting and replacement program, as well as the employee-driver mandate, IOOs would be divided into two categories. Those with tractors that can be retrofitted would be favored as employees since the only cost of doing so would be the purchase price since the grant program would retrofit them.[140]. Those IOOs with tractors that must be replaced would likely be avoided as employees since the concessionaire would have to buy their tractor, pay another $20,000 for a replacement tractor and likely incur an income tax liability on the replacement grant.[141] Some of these workers will have to leave the port drayage sector.

---

[140] In addition, there may be income tax liability on the Ports' contribution for the retrofit device.

[141] This continues to assume new tractors with 2007 engines cost $100,000 and the Clean Truck Program pays for 80%.

Dilemma. At the end of each chain of logic in this report, there has been the same dilemma. Regardless of the challenges (*TWIC, port growth, looming driver shortages, cleaner trucks*) or the strategies for addressing them (*higher pay, LMC:IOO, employee drivers, LMC truck ownership*), neither the LMCs nor the IOOs ultimately have the internal financial strength to solve the riddles facing the port drayage sector. Simultaneously, they lack the ability to raise their prices to force their customers to do so. 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 equity partners or loans, without **some form of port sponsored guarantees**. While the Clean Truck Program's phase-in period and the Fleet Modernization Grant Program could provide some relief, neither appears sufficient to overcome the fundamental lack of financial power in the port drayage sector. It appears that the Fleet **Modernization Grant Program's funding will need to be front loaded** due to the TIF pressures for IOOs or LMCs to quickly retrofit or purchase replacement trucks.

It is this financial weakness and the desire for survival that stands at the root of the way that the LMCs can be expected to react to the Clean Truck Program's various features. As each aspect of the program threatens to add to their cash flow pressures, it brings an immediate attempt to seek ways to minimize it. Hence, reactions occur such as pursuing non-port lines of business, dividing fleets, finding ways to continue relying on IOOs, or favoring drivers with newer vehicles.

At its core, the problem for the port drayage industry is one of negotiating power. The LMCs cannot raise their prices in a timely fashion because they do not have the power to do so. Any strategy that needs them to be able to do so will fail. The contrast between the LMCs and their customers is stark. The LMCs are very small highly entrepreneurial firms with little financial power, who daily face survival under a system of brutal competition in a highly disorganized sector. They face shipping lines and beneficial cargo owners that are large corporations with strong financial statements, who face limited numbers of competitors and operate within well organized industries. This difficulty even extends to the technology that could be a route to greater success for the port drayage firms. Thus, the information systems that have allowed major trucking operations like UPS to become highly efficient and cost effective rely upon the universal adoption and installation of compatible hardware and software systems operated by people trained in the use of common protocols.


MAERSK

7. Changes In Market Structure

Together, TWIC, the imminent growth of the ports, the need to reduce port related emissions, and the Clean Truck Program appear very likely to cause the port drayage industry to undergo two important changes. The first is the increase in pay per hour that will be required to lure drivers from other trucking sectors into port drayage. This change will be market driven and stem from the need to both fill the driver positions lost due to enhanced port security as well as those gained because of port growth. This adjustment will arrive at a time when the aging of the trucking industry's labor force and the rates of driver turnover are already putting upward pressures on driver incomes nationally.

A second change will be the increase in fixed costs, operating costs and cash flows that LMCs will face as they become concessionaires and respond to the Clean Truck Program. Together, these adjustments will make it difficult for new, poorly financed LMCs to be formed. They will also probably cause a share of the existing port drayage LMCs to be unable to continue in the business.

As firms react to these changes in the cost of running their operations, the result will likely be reduced competition within the port drayage sector. The result will be an increase in the price negotiating power of the LMCs that remain. Also, these changes should increase the interest that national trucking firms are already showing in entering the business.

Pay Scales. It has been estimated that LMCs will have to pay **$46,750** in annual driver income (*IOOs or employees*) if they are to lure new people into Southern California's port drayage sector. As indicated, this higher rate will be necessary due to TWIC and port volume. One impact will be to narrow the gap between the pay of port drayage drivers and those drivers working for national trucking companies, whether they are unionized and not. To cite five examples:

- Schneider National indicates that its drivers now earn a median of **$54,500** based upon those with three or more years of experience earning $40,000 to $60,000, plus the firm's decision to boost pay another $4,500 due to the driver shortage [142]
- Yellow Transportation pays its drivers $22.21 per hour. Straight time, that represents $46,200 per year.[143] With an average of one hour a day of overtime, the rate would be **$54,526**.
- UPS pays its drivers $27.34 per hour.[144] Straight time, that represents **$56,900** per year. With an average of one hour a day of overtime, the rate would be **$67,100**.
- JB Hunt pays an average of **$50,000**.
- FedEx Ground pays $40,000 to $70,000, with most drivers earning **$50,000-$55,000**.[145]

---

[142] Schneider National boosts driver pay, The Business Journal of Milwaukee, August 13, 2007

[143] My Yellow.com, Drivers Wanted, http://www.myyellow.com/

[144] Fact Sheet, Driving Success: Why the UPS Model For Managing 103,500 Drivers Is A Competitive Advantage, UPS http://pressroom.ups.com/mediakits/factsheet/

[145] Data from the websites for these firms.

The narrowing of the pay gap between major trucking firms and those that are working in port drayage will increase the probability that national firms will choose to compete in the sector since their higher pay scales have been a main reason why they are not currently doing so.

Barriers To Entry & Competitiveness. Many of the LMCs interviewed in the process of this study indicated that the lack of minimum financial or regulatory barriers to starting an LMC has led to intense competition that has left them with little or no ability to exert control over their prices. The result has financially weakened nearly every firm in the business. Simultaneously, the ferocious competition and lack of pricing power that have characterized port drayage is cited by major trucking companies as another reason they are not currently in the market. In such an atmosphere, they cannot make money.

Though the fundamental intent of the Clean Truck Program is to reduce air emissions at the San Pedro Bay ports, one of its unintended effects may be to significantly reduce competition in the port drayage sector. This is the case as the program directly and indirectly creates financial thresholds over which firms must climb to enter or stay in the business. These may come in several forms depending upon final decisions about the structure of the program:

- ***Annual Concession fee.*** It was shown above that the average LMC is making $5,400 in pre-tax profit per truck. One suggestion has been a flat fee of $5,000 per LMC. For a 10 truck firm, that would amount to $500 per truck or 9.3% of pre-tax profit.[146] It would be 4.6% of pre-tax profit. Another is for an annual fee of $150 per truck. For all firms that would amount to 2.8% of pre-tax profit.

- ***Transportation Impact Fees***. The level of TIFs could represent a significant barrier to the continued operation of smaller LMCs that cannot immediately bring tractors under their auspices up to clean truck standards. Calculations at a $50 TIF showed it would annually cost a firm an average of $15,400 for each truck that has not been retrofitted or replaced. That would be sufficient to wipe out the equivalent of three times the firm's pre-tax profit for any affected vehicle.[147]

- ***TWIC.*** The need for LMCs to pay higher incomes to lure truckers into becoming IOOs in the port drayage industry due to the losses because of TWIC will put significant cash flow pressures on the existing smaller LMCs. The firms will need a 24.6% increase in prices to handle increasing the pay of IOOs to $20 per hour. If they cannot raise their prices in a timely manner to pay the extra amounts, the financial difficulties imposed by the transition process will come into play.[148]

- ***TWIC and Port Expansion & IOO Help on Clean Truck Financing.*** The need for LMCs to pay higher incomes to lure truckers into becoming IOOs in the port drayage industry will put significant cash flow pressures on the existing smaller LMCs. The firms will need a 48.6% increase in prices to handle increasing the pay of IOOs to $20 per hour plus assist them to raise funds to retrofit their trucks. Again, if they cannot raise their

---

[146] See LMC requirements page 59 and Briefing Paper, San Pedro Bay Clean Truck Program, ENVIRON International Corp., p. 6.

[147] See Exhibit 26, page 52.

[148] See Exhibit 20, page 41.

prices in a timely manner to pay the extra amounts, the difficulties imposed by the transition process will come into play or more so.[149]

- ***TWIC, Port Expansion, Employee Requirement & Clean Truck Financing.*** The possibility that LMCs will be required to both pay higher incomes to lure truckers into the port drayage industry plus pay benefits and buy and retrofit or replace trucks on top of that would put even greater strain on them. The firms will need an 80% increase in prices to handle this combination of increases in their costs.[150] If they cannot raise their prices in a timely manner to pay the extra amounts, the extreme difficulties imposed by the transition process will come into play.[151]

These various scenarios would have three impacts that would benefit the long term competitiveness of the stronger LMCs as well as the willingness of large national firms to enter Southern California's port drayage business:

- The concessionaire fee, and in particular the TIF level, would tend to make it difficult for smaller LMCs to enter the market and would likely cause some to have to leave it.

- The increased pay scales needed to lure drivers into becoming either IOOs or employees would increase the cost of conducting business as an LMC. If the firms cannot rapidly pass these extra costs on to their customers via higher prices, many will be forced to leave the sector. Simultaneously, as shown, these pay increases would eliminate part or all of the labor cost disadvantage that national companies would be under in entering the sector. It would be partial if the LMC:IOO structure is retained, as benefits would not be part of the package. It would be total under the LMC:employee-driver structure with benefits included.

- The need to raise prices to assist IOOs in buying new trucks or to help LMCs in buying and retrofitting or replacing trucks would put pressure on the cash flows of the LMCs. If they cannot rapidly raise prices to generate this cash, many will be forced to leave the sector with the smaller firms being the most vulnerable. Also, to the extent that price increases do occur, the result would be to further eliminate the competitive disadvantages that national firms would face in entering port drayage.

In creating the rules under which the Clean Truck Program will be implemented, the ports must 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. The result will thus be to reduce the competition faced by those LMCs that survive the transition. That, in turn, will increase their bargaining power vis-à-vis the ocean shipping lines and beneficial cargo owners. At the same time, since the cost of cleaning-up the trucking fleet will increase the prices paid for drayage, the Clean Truck Program will probably encourage national trucking firms to enter the market.

---

[149] See Exhibit 23, page 48.

[150] See Exhibit 39, page 73

[151] See Exhibit 40, page 75

Powerful Market. The difficulties facing the port drayage sector raise the question as to why either the stronger LMCs or national trucking corporations would want to remain in it. The reason begins with a single fact. The increase in the volume of trade moving through the ports of Los Angeles and Long Beach, and, for that matter, through most other major American ports, is a direct reflection of the increasing competitiveness and growth of the world economy. As such, involvement in the port drayage business represents a tie into one of the most aggressively growing segments of the U.S. economy in both the long and short terms. This is particularly true with regards to Asia where trade increased 16-fold from 1990-2005 and 2.5 times from 2000-2005 (*Exhibit 41*). The compound growth of two-way Asian trade from 2000-2005 was 6.29%, despite the national recession in 2001.

Exhibit 41.-U.S.-Asian Trade, Price Adjusted, 1990-2005

	1990	2000	2005	Multiple: 1990- 2005	Multiple 2000-2005
China	$15,237	$100,018	$245,462	16.1	2.5
Japan	$89,684	$146,479	$138,091	1.5	0.9
Korea	$18,485	$40,308	$43,780	2.4	1.1
Taiwan	$22,666	$40,503	$34,838	1.5	0.9
Malaysia	$5,272	$25,568	$33,703	6.4	1.3
Thailand	$5,289	$16,385	$19,892	3.8	1.2
India	$3,197	$10,687	$18,808	5.9	1.8
Singapore	$9,801	$19,178	$15,118	1.5	0.8
Indonesia	$3,341	$10,367	$12,017	3.6	1.2
Philippines	$3,884	$13,935	$9,248	2.4	0.7
Other	$7,477	$17,846	$27,600	3.7	1.5
Asia	**$184,332**	**$441,274**	**$598,557**	**16.1**	**2.5**
2000-2005			**6.29%**		
1990-2005			**8.17%**		

Source: U.S. Census Bureau, U.S. Trade in Goods, Imports & Exports

Involvement at the ports of Los Angeles and Long Beach is particularly enticing since it is the complex most directly tied to Asian trade, and because they are, by far, the largest such complex in the U.S. In 2006, they handled 37.8% of U.S.'s two way trade, nearly triple the volume of New York and well above the combined share of the 114 other ports starting with Oakland, the seventh largest (*Exhibit 42*).

Exhibit 42.-Two Way Container Volume, By Port, 2006 (*TEUs*)

Port	TEUs	Share of U.S.
Los Angeles, CA	**5,633,666**	**20.5%**
Long Beach, CA	**4,756,609**	**17.3%**
New York, NY	3,628,747	13.2%
Savannah, GA	1,580,925	5.8%
Charleston, SC	1,493,285	5.4%
Norfolk, VA	1,409,733	5.1%
Other 114 U.S. Ports	8,970,461	32.7%
Total	**27,473,426**	**100.0%**

Source: Port Import Export Reporting Service (PIERS), collected from Vessel

For the LMCs that are able to stay in the business, and any national firms that choose to join them, the fact remains that they will be operating in conjunction with the key facilities in one of America's strongest sector.

National Firms. As they are potentially key players in Southern California's port drayage sector, it is necessary to understand the point of view of national trucking firms. During the interview process, direct contact was made with YRC Logistics (*Yellow Worldwide affiliate*), Schneider National and UPS. There was also an indirect contact from BNSF Logistics, the railroad company's trucking arm. In each case, the firms indicated an interest in doing business at the ports of Los Angeles and Long Beach. However, each also expressed reservations due to the impossibility of succeeding in the market as long as the lack of barriers to entry means that no drayage firm will have the market power to negotiate favorable prices with the ocean shipping lines and beneficial cargo owners.

Financial Strength. A look at financial information on three national trucking firms that were interviewed shows that they have substantial economic strength (*Exhibit 43*):

- Yellow Worldwide is a trucking corporation that had $9.9 billion in revenue in 2006. The full company has a total of 60,000 employees. Historically, the company has been known as an LTL carrier. In Southern California, its two major cross-docks are in the Inland Empire. YRC Transportation President Michael Smid has clearly indicated his firm's interest in becoming involved in port drayage in Southern California to supplement their international supply chain operations. In 2006, Yellow Worldwide's return on equity was 12% that year and it has a market capitalization of $1.7 billion.
- Schneider National had 2006 revenue of $3.5 billion and a total of 22,300 employees. Since it is the country's largest privately held trucking firm, its return on equity is unknown. The firm recently acquired cross-dock and deconsolidation center operator American Port Services in 2005 in order to "enhance door-to-door import service." American Port Services had a leased facility nine miles from the ports of Los Angeles and Long Beach to deal with Asian imported trade.[152]

Exhibit 43.-Financial Condition, Some Major National Trucking Firms, 2006

Company	2006 Revenue (000)	Drivers	After Tax Net Margin (5 yr Avg.)	ROE 5 yr Avg.	Market ($billion) Capitalization
Schneider National	$3,500,000	22,300	NA	NA	NA
UPS	$47,547,000	87,033	9.22%	24.1%	$52.5
JB Hunt	$3,328,000	17,150	4.94%	19.2%	$4.1
Yellow Transportation	$9,919,000	9,809	2.21%	12.0%	$1.7

(1) 2003 Form M figure adjusted by CPI to 2007

Sources: Standard & Poor's Reports, Company Annual Reports, Forbes Top 1,000 Privately Held Firms, DOT Form M

- UPS is primarily in the package delivery business. However, they now also have an arm specializing in logistics. In Southern California, that portion of the business is centered next to their Western Regional Headquarters in Ontario. The firm clearly is making a commitment to being involved in port activities given their claim that "UPS Supply Chain Solutions offers a full array of global ocean freight and transportation services. We can handle almost any size shipment, from less-than-container loads to full containers,

[152] Schneider Logistics to Acquire American Port Services, Logistics Today, June 27, 2005

special equipment, and oversized cargo."[153] The parent company had 2006 revenue of $47.5 billion and employs 428,000 people. Its return on equity was 20.4% in 2004 and its market capitalization is $52.5 billion.

Should such firms decide to become players in the port drayage industry, they certainly have the financial power to invest in and maintain the types of trucks required by the Clean Truck Program. However, to date, the lack of pricing power in the port drayage sector has kept them out of the sector. However, if that changes, they will likely become competitors in it.

Technology. As has been discussed, one of the difficulties faced by today's highly competitive but unorganized port drayage sector is its inability to gain the efficiency and cost benefits of the information systems that have been developed for the trucking industry. This is the case due to the inability of the weaker LMCs to install the necessary hardware and software systems on the trucks working with them, and most importantly, to have their staffs trained to consistently and accurately use them. This technology is being adopted by large national trucking firms and is significantly increasing the efficiency of their supply chains and lowering the cost of their operations. The technology comes in five forms:[154]

- ***Gateway Facilitation***. This is the technology most frequency discussed at the ports. Devices such as RFIDs allow driver identification and verification, non-intrusive inspections, compliance facilitation, weigh-in-motion, and electronic toll payments.
- ***Intelligent Freight Technologies Asset Tracking.*** This technology allows a trucking company to track tractors, trucks, chassis, trailers, containers and shipments/cargo as well as to monitor driver adherence to routes.
- ***On-Board Status Monitoring.*** This technology allows drivers to monitor vehicle operating parameters, cargo and freight condition, as well as detect intrusion or tampering, plus it permits remote locking and unlocking, automated hazmat placarding, and provides driver emergency call buttons.
- ***Network Status Information***. This technology allows for congestion alerts and avoidance, carrier scheduling and support and first responder to support in cases of safety, homeland security, and traditional law enforcement incidents.
- ***Freight Status Information***. These systems include web-based freight portals for intermodal data exchange, establishing data standards, hosting web based services, and the standardized transfer of electronic freight information.

Some of this technology is inexpensive but requires training and standardized uses of it to be effective. Other systems are more expensive and can only be afforded by companies able to make a serious commitment to them. Meanwhile, the more comprehensive and interrelated the uses of these systems, the greater companies will benefit from the efficiency and cost reductions they can supply. Today, the ferocity of competition and unorganized condition of the port drayage industry reduces the ability of the most advanced systems to be used. For that reason, if

---

[153]Keep Your Business Sailing Worldwide,UPS Supply Chain Solutions, http://www.ups-scs.com/transportation/ocean_freight.html

[154] The Reach of Intelligent Freight Technologies, Freight Management & Operations, Federal Highway Administration, http://ops.fhwa.dot.gov/freight/intermodal/freight_tech_story/

the level of competition in the port drayage industry is moderated, it is probable that the remaining LMCs and any national firms in the market can be organized to use these technologies more intensively.

Economic Implication of The Increased Use of Technology. There will be several side effects if it becomes common place for port drayage firms to have systems of the kind described:

- It will allow the significant gains in the efficiency of cargo throughput that have been so intensely desired by the myriad of companies dependent upon the ports.
- Greater numbers of "turns" would increase the profits of the remaining LMCs.
- Since large trucking firms are generally already adept at using these systems, their knowledge and experience would represent a competitive advantage. It would also increase the likelihood of their entering the port drayage sector.
- It will provide the technological framework to assist with the enhancing of port security for the cargo and the people accessing them.

Transition. As has been discussed, it appears that the LMCs will soon face a variety of cost increases, some driven by the marketplace with others dependent upon the form that the Clean Truck Program eventually takes. These will include:

- Fees for concession applications and renewals as well as for TIFs under the Clean Truck Program.
- Wage increases due to the need to lure drivers into port drayage because of TWIC and port growth. There may also be the need to add workers due to the reduced time available to each driver in the event of an employee-driver mandate.
- If employee-drivers are required, labor costs would rise due to the need to pay employee benefit costs.
- Costs that will be incurred to retrofit or replace trucks. These will be higher or lower depending on whether or not the Fleet Modernization Grant Program is fully funded. They will also vary depending upon whether LMC owned trucks are mandated.

Combined, these factors will make it very difficult for new, marginally financed LMCs to be formed. Also, some of the weaker LMCs currently in the port drayage market will probably not be able to continue in the business. This will expand the negotiating power of those LMCs that are left when they approach their customers with adjustments in their rates.

Simultaneously, it is likely that the national trucking companies will begin to make a serious effort to penetrate the San Pedro Bay port drayage sector. This is particularly true, given the need and desire by the trucking industry to increase their footprint within international supply chain management. Southern California's port drayage activities are of particular importance to them due to huge size and rapid growth of the ports of Los Angeles and Long Beach, the role that they play with regards to Asia trade, and the experience that firms will gain as they work to expand their port drayage activities nationally.

A national viewpoint is necessary to understand how this penetration would probably unfold. Of late, Wall Street investment firms have become very aggressive in seeking situations where mergers and acquisitions can allow corporate value to be created in a sector. This occurs as the breadth of control by firms with strong management teams expands, operations reach the critical

mass required for technologies that raise efficiency and lower costs, and increased market share provides firms with greater negotiating power over prices.

Generally, the strategy that equity firms have followed is to partner with an established corporation that is noted for its strong management. The financial players will fund the mergers or acquisitions within a targeted sector in return for just over or under 50% of the deal. Their funds will be used to acquire targeted firms and the corporation will manage the larger venture that results. Over four or five years, if the process is successful, the stronger resulting operation will create greater value and be reflected in higher stock prices. At that point, the equity partners will cash out and move on to other situations.

There are, of course, variations on this theme. A corporation with strong net worth or borrowing power may undertake this process on its own. Or, an equity firm may attempt to form new corporate entities by creating management teams from scratch. However, the essential results for a targeted sector will be the same. There will be larger entities, more power in the hands of the selected management teams, a greater use of information and other technologies, fewer competitors, greater negotiating power for the remaining firms and fewer workers, and a narrower market for the sector's suppliers and service providers.

In the case of Southern California's port drayage industry, this process will be somewhat different than the norm. First, it will be regarded in financial circles as the test case for undertaking this process nationally. This is the case since the very rapid increase in volumes at the ports of Los Angeles and Long Beach are the precursor to what will eventually occur throughout the country. Second, the firms to be acquired or combined are much smaller than is typical of mergers and acquisition deals. This is the true, because until now, large corporations have generally not been involved in port drayage.

Since national players are not known entities in Southern California's port drayage business, any firms attempting to enter the industry will start by seeking to acquire a few local LMCs. This will give them access to knowledgeable staffs with institutional understanding about the operation of the sector. It will also give them access to the contractual arrangements these LMCs have with ocean shipping lines and/or beneficial cargo owners. Gradually, those firms (*and their IOOs*) who qualify and choose to make the transition will be integrated into the operations of the parent company.

Such a process will not start until the point at which national trucking firms have a degree of confidence that changes in the marketplace are making it impossible for new small competitors to get started by using their willingness to undercut prices. It may also depend upon the extent to which increases in costs, for the reasons cited earlier, cause some of the existing LMCs to exit the market. In both cases, the key for the entry of national firms will be changes in the port drayage business that will allow the remaining competitors to begin to exert some control over their prices in negotiation with ocean shipping lines and beneficial cargo owners.

Economic Implications. There will be both positive and negative implications of the anticipated changes in the structure of Southern California's port drayage sector:

- **Pricing.** As the transition occurs, the firms remaining in the market, both local and national, will have greater negotiating power. This will give them a stronger ability to have their prices more quickly reflect their costs and desired profit levels. From the standpoint of the ports, the prices paid by ocean shipping lines and beneficial cargo owners will more completely reflect the cost of dealing with externalities, such as

increased congestion and emissions, that have resulted from the rise of international supply chain management. The port communities will benefit as these changes will eventually mean that the trucking fleet will be brought up to clean air standards.

However, some of the customers of the port drayage industry will see the increased cost of port drayage in Southern California as detrimental to their operations. The ports of Los Angeles and Long Beach will thus experience cargo diversion as the elasticity of cargo pricing causes shipping lines and beneficial cargo owners to transfer their shipments to other facilities. That will remain an issue until the conditions that have first appeared in Southern California spread to other ports across the nation.

- **Consolidation.** Ultimately, the marketplace, possibly abetted by the Clean Truck Program, will make it difficult for new small LMCs to enter the port drayage sector and encourage some LMCs to leave. Those local LMCs and national corporations that remain will likely have the strongest balance sheets and better management. Both will gain from having greater control over the market conditions impacting businesses. The ports will benefit as they will be working with an industry that is better organized, has greater financial flexibility and is more able to implement technological systems that will allow for greater port throughput. The remaining firms will also have the financial wherewithal to upgrade their trucks on a regular basis and assist in security oversight of freight and people accessing the harbors. Their larger size will mean that programs such as the CHP's BIT program will be more likely to provide safety record audits, driver records review, maintenance checks and, possibly, adherence to clean air standards.

  For four groups, however, there will be downsides to this process:

  - Consolidation will mean that some of the LMCs will either be forced out of port drayage or out of business altogether. Some of the owners of these firms will end up working in management for the remaining drayage firms. Some will work as LMCs outside of port drayage. Others will need alternative jobs or ventures. This last situation will primarily apply to those who own the smaller LMCs.
  - Among IOOs, those that are able to bring their trucks up to clean air standards will maintain their relationships with their existing LMCs, or if those fail, they will end with the surviving companies. In the short term, they will remain entrepreneurs. Depending upon the form that the Clean Truck Program takes, over time, some will become employee-drivers, some may be able to remain IOOs in port drayage, and others will be forced to work as IOOs outside of port drayage.

    Those IOOs that cannot clean-up their trucks will either be forced to become employee-drivers or to work as IOOs outside of the sector. Whether they can become port drayage employee-drivers will depend upon their ability to qualify under TWIC and meet the hiring standards of the remaining firms. Given the shortage of trucks drivers, it is doubtful that they will end up unemployed.
  - Among the non-driving staffs of the LMCs, those working for firms that survive the port drayage consolidation will maintain their current positions and likely will be joined by others as the LMC expands. Those that work for firms that leave port drayage but continue acting as LMCs should also retain their jobs. The difficulty will be those who work for firms that go out of business. These will

primarily be the smallest LMCs. Some will find work with national firms entering the sector. Others will need alternative employment.

- Today's port drayage industry is serviced by a host of small firms that provide supplies, maintenance service and office functions. They include vendors such as fuel stations, tire shops, truck parts suppliers and used truck sales. Small shops provide safety checks, engine and transmission repair, brakes alignment and replacement, tire repair, reconditioning of pneumatic air systems, welding and electrical work. Service firms often act as outside accountants, bookkeepers, insurance representatives or lawyers.

  As the port drayage industry consolidates, many of the functions performed by these small businesses will be performed in-house by the remaining LMCs and national trucking firms. Some of the owners of these firms will be able to continue in their existing roles. Others will be hired on to the staffs of the expanded firms remaining in the industry. However, some will be forced to look for other work.[155]

The magnitude of the loss of work by LMC owners forced out of business, the back office personnel who lose jobs, and entrepreneurs who lose businesses, at best, can be *very roughly* quantified. This is done under a worst case scenario:

- Based upon the LMC survey, the number in each size range was estimated (*1*).
- The share of LMCs that would end up with the owner ultimately needing alternative work was very roughly estimated with the share varying by size (*2*). The resulting number was estimated at 376 (*3*).
- The LMC survey allowed an estimate of the average number of back office staff working within LMCs in each size range (*4*).
- That permitted an estimate of the total number of back office staff at 4,273 (*5*).
- The shares of back office workers who might lose their jobs and <u>not</u> find alternative work in the growing portions of the port drayage sector were roughly estimated at 50% of those in LMCs that end-up with difficulties (*6*). This yielded a back office staff loss of 751 jobs (*7*).

Exhibit 44.-Estimated Lost Jobs or Ownership With Consolidation

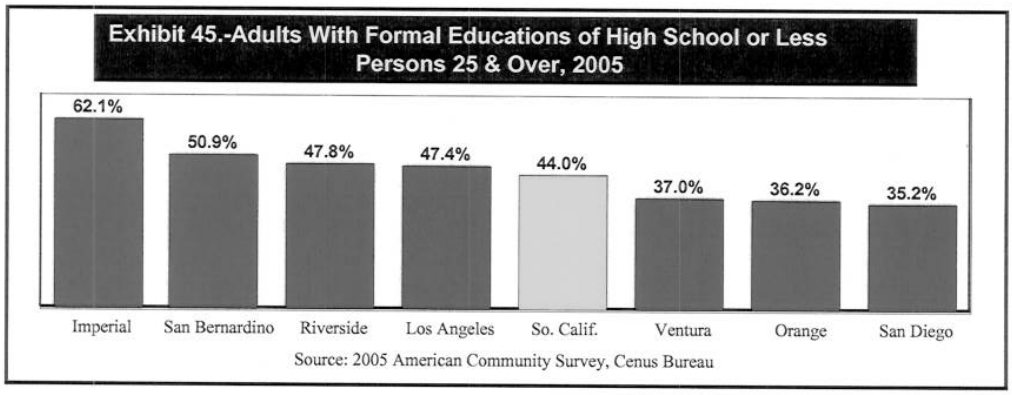
	1	2	3	4	5	6	7	8	9
	LMCs	Owners Lost		Back Office per Firm		Back Office Loss		Other Loss	Total
0-10	246	50.0%	123	3.5	861	25.0%	215	123	461
11-25	403	45.0%	181	4.0	1,612	22.5%	363	181	725
26-75	258	25.0%	64	4.6	1,184	12.5%	148	64	277
76-250	77	10.0%	8	6.6	510	5.0%	26	8	41
251 & Up	16	0.0%	0	6.6	105	0.0%	0	0	0
Total	**1,000**		**376**		**4,273**		**751**	**376**	**1,504**

[155] <u>Discussion Draft, Minimum Concession Requirements</u>, San Pedro Bay Clean Air Action Plan, p. 2.

- It was very roughly estimated that for every LMC to go out of business, one other small firm in the community would as well, with the owner needing alternative employment, yielding 376 (*8*).
- The total job loss due to consolidation was thus very roughly estimated at 1,504 (*9*). This estimate is, of course, dependent upon the three rough factors used in the calculation. However, it probably gives a reasonable *order of magnitude* as to the job losses that the community will feel due to consolidation.

Note: The LMC owners who go out of the business and the back office personnel who lose jobs are the reason that one component of the Clean Truck Program requires concessionaires to participate in a referral program for filling employee vacancies via a workforce development program consistent with existing city efforts. Currently, this program has not been conceived as providing an outlet for small business owners impacted by any consolidation process.

Beyond numbers, the consolidation process will have one other ramification. Today, Southern California faces a very difficult issue in that 44.0% of its adult population has not had a single class beyond high school (*Exhibit 45*). The share is 47.8% in Los Angeles County.



These data strongly imply that the region's economy has a need for jobs that provide upward economic mobility for a significant share of the region's workforce. The port drayage sector has been one industry in which a large number of people in this category have found work, be it as IOOs, owners of LMCs, back office personnel or owners of small businesses supporting the industry. Here, consolidation will have two impacts. First, it will close off the ability of small entrepreneurs to enter this field and reduce the number already in it. Second, it will eliminate some of the jobs currently in the sector.

Summary

At its core, the Clean Truck Program is design to reduce air emission 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 with reduced health risk to the community. 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 and global trade capacity 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."

Appendix A

Driver Survey Methodology and Results

As part of this analysis, 409 port drayage truck drivers were surveyed. The survey was conduced inside both Ports while drivers were waiting outside terminal gates or were at lunch trucks parked outside the terminal gates. The survey locations, days of the week and general times of day are shown below.

Location – Port and Terminal	Day of the Week	Time of Day – (N)oon or Beginning of (E)vening shift	Number of completed surveys	%
Port of Los Angeles				
Evergreen Terminal	Thursday	N	46	11.2
Evergreen Terminal	Thursday	E	36	8.8
Evergreen Terminal	Tuesday	N	19	4.6
Evergreen Terminal	Tuesday	E	57	13.9
Evergreen Terminal			**158**	**38.6%**
China Shipping Terminal	Tuesday	N	39	9.5
China Shipping Terminal	Tuesday	E	24	5.9
China Shipping Terminal			**63**	**15.4%**
Total Port of Los Angeles			**221**	**54.0%**
Port of Long Beach				
California United Terminals	Thursday	N	55	13.4
California United Terminals	Thursday	E	40	9.8
California United Terminals	Wednesday	N	29	7.1
California United Terminals			**124**	**30.3%**
Long Beach Container Terminal	Tuesday	E	44	10.8
Long Beach Container Terminal	Wednesday	N	17	4.2
Long Beach Container Terminal	Friday	N	3	.7
Long Beach Container Terminal			64	15.6%
Total Port of Long Beach			**188**	**46.0%**

The survey was conducted by on-site by bi-lingual interviewers as drivers became available in their trucks or at the lunch wagon. We attempted to interview drivers based on their sequence of arrival at the terminal waiting line. This was not practical, however, for those drivers interviewed at the lunch wagon. Approximately 20% of the surveys were conduced at the lunch wagon. A $10 participation incentive was paid for all drivers who participated. A copy of the survey questionnaire used by the interviewers is reproduced at the end of this Appendix.

The frequency at which individual drivers arrive at the terminals is a function of the nature of their hauls. As an example, drivers who are involved in hauling containers from the Ports to the Intermodal rail yards, a distance of some 6 miles have much shorter driving times as compared to drivers delivering containers to Riverside County. These drivers can be expected to be in the line to enter a terminal more frequently compared to the "longer" haul drivers.

As a result, the drivers available to participate in the survey were reflective of the frequency of which they visit the Ports and the results are proportionate to the calling frequency of the drivers. However, the survey was not a true random survey, as it can be assumed that not all drayage

drivers were working at the terminals where the survey was conduced and hence there was not an equal probability of all drivers being selected. Also we did not conduct surveys at all Port terminals. We do not, however, consider these practical limitation to be material.

The key results of the survey are shown below along with the number of respondents to the various questions in parenthesis.

Driver Demographics

Statistic	Average	Median
Driver Age (409)	41	42
Years of Experience (409)	8.6	7

Survey Responses

	Number	Percent of Responses
Employment Status (409)		
IOOs	349	85.3%
Employee	60	14.7%
TWIC Application – IOOs Respondents only (349)		
Will Apply	201	57.6%
Will Not Apply	76	21.8%
May/May Not Apply	72	20.6%
TWIC Application – Respondents Currently Employed (60)		
Will Apply	33	55.0%
Will Not Apply	14	23.3%
May/May Not Apply	13	21.7%
IOOs Respondents Willing To Become An Employee (349)		
Yes	68	19.5%
No	110	31.5%
May/May Not	169	48.4%
Other Responses	2	0.6%
IOO Respondents Willing to Sell Tractor if Employed (334)		
Yes	205	61.4%
No	129	38.6%
Expected Hourly Compensation of IOO Respondents to Become Employees (345)		
$15 to $20	48	13.9%
$21 to $25	68	19.7%
$26 to $35	119	34.5%
$36 to $50	98	28.4%
Over $50	12	3.5%
Average IOO Salary Expectation (345)	$33	NA
Median IOO Salary Expectation (345)	NA	$30

Notes 1. Percentage may not add to 100.0% due to rounding.

2. In cases where respondents answered in annual compensation expectations, we converted the expected annual compensation to an hourly rate by dividing by 2,080. Otherwise hourly responses were used.

To allow for uncertainty in driver responses, Yes, No and Maybe answers were permitted for the questions about applying for the TWIC credential *(referred to as a card for survey purposes – see the interviewer questionnaire at the end of this appendix*) and their willingness to become an employee. To estimate the number who can likely be expected to either apply or not apply for TWIC and become or not become employees, the ratio of yes and no answers can be used to allocate the "maybe" answers. For IOOs there were 201 Yes responses (*72.6%*) to the intent to apply for TWIC and 76 No's (*21.8%*). Allocating the 72 "maybe" responses on those percentages results in total estimated Yes response of 253 or 72.5% and 96 No's or 27.5%. It is interesting to note that the percentage of drivers who indicated they would not apply for TWIC is slightly higher for employees (*23.3%*) than it is for IOOs (*21.8%*).

Based on 16,800 frequent and semi-frequent port drayage drivers, the survey data equates to an estimated loss of 27.9% or 4,687 drivers when the requirement to have a TWIC credential to enter the Ports without an escort becomes effective.

To further estimate the impact of TWIC in conjunction with the potential requirement to have the IOOs become employees, we analyzed the combined response of the IOOs who responded that they would definitely apply for TWIC and would definitely be willing to become employees, i.e. they answered Yes to applying for TWIC and Yes to becoming an employee. 53 of 349 IOOs, or 15.2%, answered yes to those two questions.

Driver Survey

An Oral Survey. This survey is anonymous. Do not record any personal information.
How old are you? ____ Years. How many years have you been hauling port containers? ____ Years

1. Are you an independent owner operator who owns your own tractor? ____ OR are you an employee of trucking company (licensed motor carrier) and drive a company tractor ____ (Please indicate by checking one).

2. If you own your own tractor, what year is it? _____(enter the model **YEAR** of the tractor)

3. What is the zip code (or city) where you normally park your truck at night or when it is no being used? _____ What is the zip code (or city) where you live? _____

4. The federal government department of Homeland Security will soon require a Transportation Worker Identification Certificate "TWIC" Card for everyone who enters a port. This card will be required to enter a port and pick up or drop off a container. To receive a TWIC card, you must be either a US citizen, or have a green card, or a legal work permit, and pass a security test **AND** you must not have any felony (serious crime) convictions within 7 years or prison time within 5 years. Given these conditions to obtain the TWIC card, how likely are you to apply for one? (Mark with an **X** what is the driver's answer)

_____YES, I will definitely apply_____ MAYBE I will apply_____ NO, I definitely will not apply

5. There is a proposal to have all owner operators who serve the Ports become employees of Port licensed trucking concessions. As an employee, in addition to your pay, you would receive fringe benefits such as overtime, health insurance, paid vacations, paid holidays, and paid sick time, pension retirement, etc. Also as an employee the company would provide a company tractor and would not need to own or supply a tractor.

    a. Are you willing to become an employee of a trucking company? (Mark with an x what you prefer about the possibility of becoming an employee.)

_____YES _____ MAYBE Depends on what I could earn ___ Definitely NO _____Other response:

_____

    b. Would you be willing to sell your tractor after you became an employee? _____YES ____NO

6. For me to become an employee, I would expect to be paid a base wage of $_____ per hour (fill inthe hourly wage rate you expect), and/or annual wages of $_____per year

Appendix B

Licensed Motor Carrier (LMC) Survey

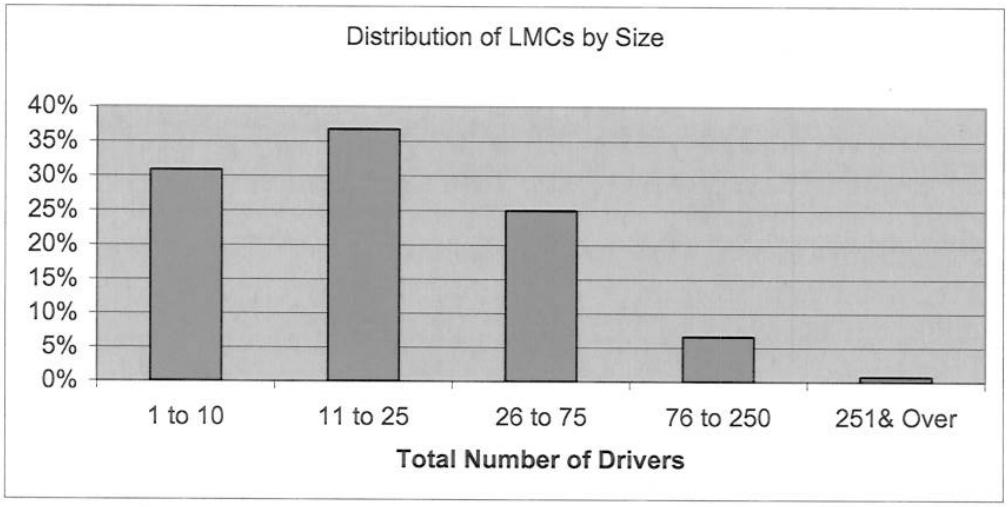
As part of this analysis, a survey of 136 port drayage LMCs was conducted. Based on an estimated population of 1,000 LMCs, this represents a 13.6% sample. Companies were selected from those in the eModal database.[156] Companies were selected as potential survey respondents using a systematic random selection method. eModal is an open system that allows anyone to register. It is also designed to support operations at various ports. As a result, it includes numerous entries from entities outside the Southern California area and can include multiple entries for the same LMC.

Based on a random start, every tenth name entry on the eModal list of 4,000 companies was selected. If the listing was based out of state another candidate was selected and called, using a specific "next company" methodology. If company indicated it did not provide port container drayage services it was excluded from the survey and the method described above was used to select a replacement. Respondents at the individual LMCs were limited to owners, executives and dispatchers. A copy of the survey instrument is provided at the end of this appendix.

Survey Results

LMC Size

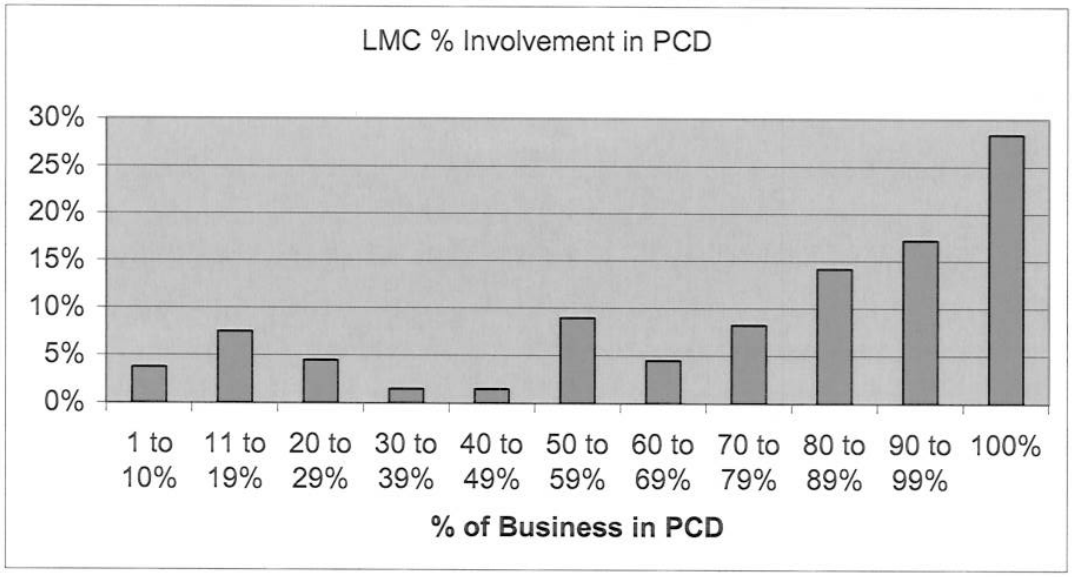
LMC was measured by the total number of drivers used. As defined total drivers includes any combination of IOOs and employee drivers. The average number of total drivers in the sample was 30.2 with a median of 15. The size distribution is shown below:



[156] eModal, is an information link for a "Port Community System," www.emodal.com.

Involvement in Port Container Drayage

The survey ask respondents to estimate the percentage of work or business that is port container drayage. Other questions ask the percentage of work or business from other activities to assure that the total estimated percentage of the various lines of business totaled to 100%. The distribution of the estimated percentage of business from port container drayage (PCD) is shown below.



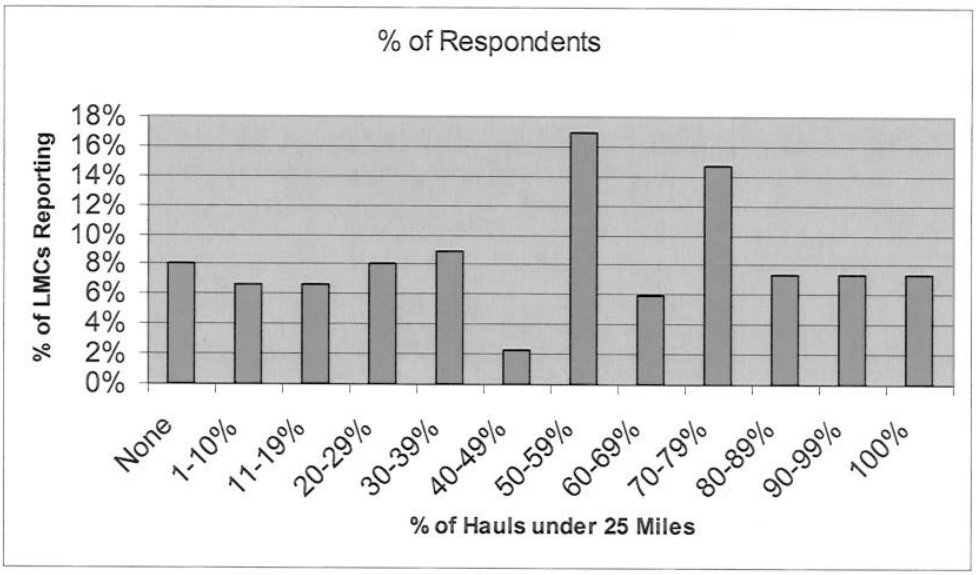
The average LMC surveyed reported 72% of the their business was port container drayage related. The median percentage reported was 80%.

As you can see by the chart, there is a significant number of LMC serving the ports that derive the majority of their business from non-port sources. Only 49% of the respondents indicated they conducted 80% or more of their business in port drayage activities. Pure (100%) port drayage companies constitute only 28% of the respondents.

Haul Distance

The extent to which LMCs conduct their operations in close proximity to the port is an important consideration. To explore this parameter of LMC operations, respondents were ask to estimate the percentage of container hauls that were to destinations within 25 miles of the ports.

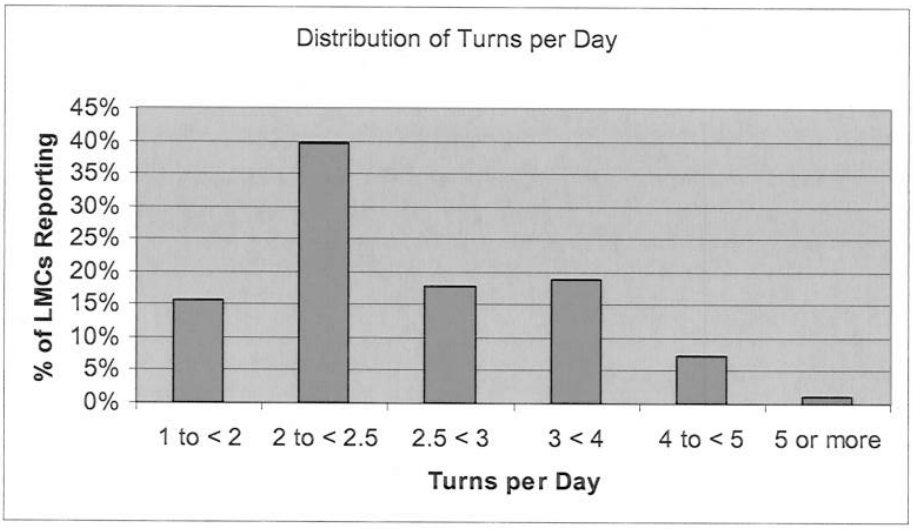
The responds indicate that an average of 49% of the port containers are delivered to destinations that are with in a 25 mille radius of the Ports. The distribution of the percentages reported is show below.



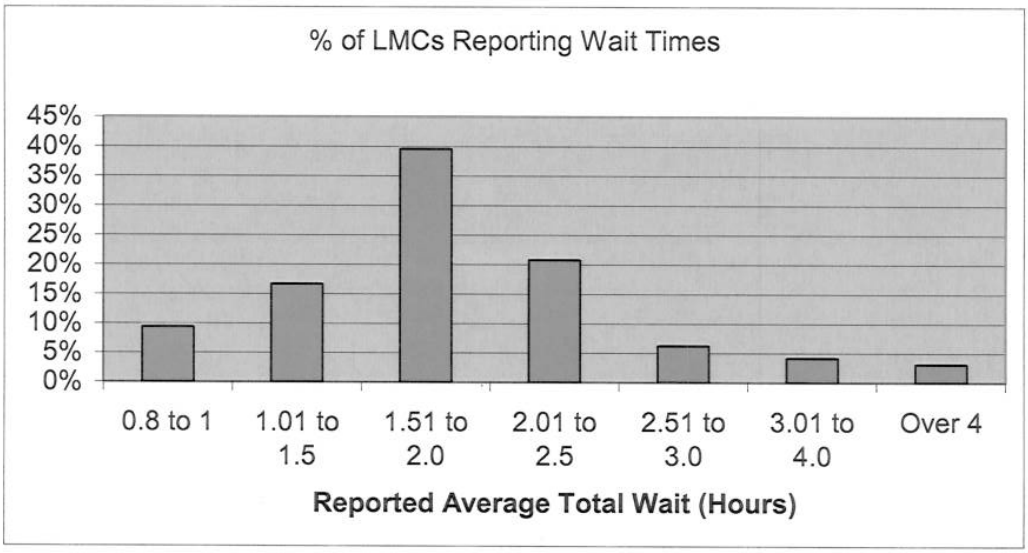
As shown only some 21% of LMCs operate 80% or more of their business within 25 miles of the ports. For 22% of the LMCs, having a haul less than 25 miles is a reasonably rare event occurring on 19% of the time or less.

Round Trips Per Day

The number of round trips per day, or "turns" a driver can make affects his productivity, which in the case of an IOO directly effects his compensation. In the case of an employee driver, it affects the LMC's labor costs. LMC respondents were asked to estimate the number of turns per day their port container drivers average. The average number of turns reported was 2.6 with a median of 2.0. The lower median value is congruent with the fact that many of the smaller LMCs are known to dominate the very short haul segment of the drayage business (port to rail yards, etc.) and the distribution of LMCs by size. The distribution of responses is shown below:



LMC were ask to estimate the total average waiting time experienced by their drivers. There were 96 responses that averaged 2.2 hours and had a median of 2.0 hours. The distribution of reported total waiting time is shown below.



LMC Telephone Survey

1. Date:_____ Interviewer initials:_____ eModal list sequence number _____
2. Does your company provide port container hauling services? (circle one): **YES NO**

If the answer to question 2 is NO, thank the person and select the next carrier in accordance with the instructions provided. This does not count as a completed survey.

If answer to question 2 is YES, continue with survey.

3. What % of your company's work or business is port container drayage? _____%
4. What % of your company's business is other transportation work that is not port container drayage _____%
5. What % of your company's business is other work besides transportation? _____%

   (for example: Warehousing)

   (Note to interviewer: The answers to Questions 3, 4, and 5 should total to 100%)

6. What % of your container hauls are less than 25 miles one way, gate to destination? _____ %
7. What is the range of the # of port drayage Independent Owner Operators you use? _____

   (low-high)

What is the # of employee drivers you have? _____

Total range # of port drivers? _____

8. How many "turns" or round trips does each of your port drayage container drivers average per day? _____
9. What average total waiting time in line and inside the gate per container pickup and/or delivery do your port container drivers experience? _____
10. How many tractors does your company own? _____tractors
11. Are there other companies in your ownership "family" **YES NO**

    If yes, how many? _____
    How many total port drayage drivers does your entire company family use? _____

    Names of companies in "family" of companies:

a._____ d._____

b._____ e._____

c._____ f._____