

September 18, 2007

## Demographic Overview of Truck Drivers at the Ports of Los Angeles and Long Beach

To: Interested Parties

From: Greenberg Quinlan Rosner Research

A recent survey conducted by Greenberg Quinlan Rosner Research reveals that the typical truck driver working at the Ports of Los Angeles and Long Beach is a Spanish-speaking Latino man in his early 40's. Married, with children at home, he is likely to have worked at the ports for more than five years, owns his own truck and works for only one trucking company.

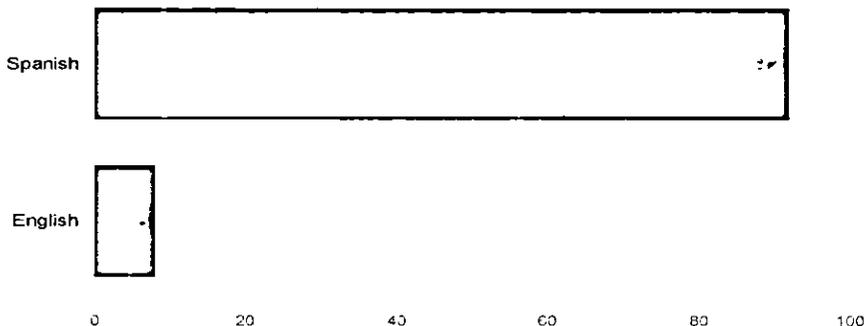
Greenberg Quinlan Rosner Research interviewed 396 drivers at the ports from August 15 to August 26, 2007. The drivers were contacted by phone from a list of nearly 5,000 port drivers provided by the client for this project, Change to Win. Drivers had the option of being interviewed in either English or Spanish. Because the drivers were contacted from this list, instead of having been randomly selected, we cannot designate a margin of error based on the sample.

### Who Are the Truck Drivers at the Ports? A Demographic Overview

The truck drivers working at the Ports of Long Beach and Los Angeles are almost exclusively male (96 percent) and Latino (96 percent). More than nine out of 10 chose to be interviewed in Spanish (92 percent).

**Graph 1: Language Preference**

*Would you be more comfortable conducting this interview in English or Spanish?*



Of the 382 drivers who identified themselves as Latino, more than two out of five claimed Mexico (42 percent) as their country of origin. Nearly one third are El Salvadoran (32 percent), one eighth are Guatemalan (12 percent) and slightly more than one in 20 is Nicaraguan (6 percent). One out of every 25 drivers who self identified as Latino said the United States (4 percent) is his country of origin.

- Mostly immigrants (1st generation)  
30-50

There is a wide range in the age of truck drivers at the ports. Ten percent are between the ages of 18 and 29 years old, 31 percent are between 30 and 39 years old, 35 percent are between 40 and 49 years old, 16 percent are between 50 and 64 years old, and two percent are 65 or older. Seven percent of the drivers refused to give their ages.

married

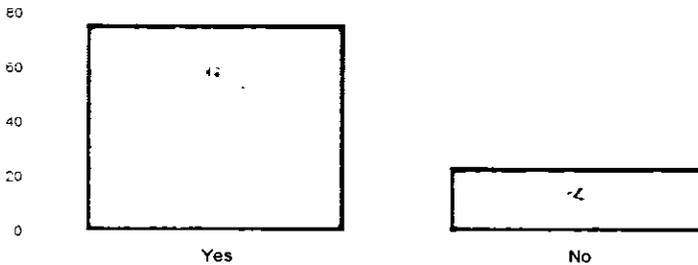
More than three quarters of the drivers are married (76 percent), one in eight is single (12 percent), nearly one in 10 is separated or divorced (9 percent) and one percent is widowed. Three percent refused to reveal their marital status.

w/ families

More than three quarters of the truck drivers at the Ports of Los Angeles and Long Beach have children (76 percent).

Graph 2: Children

Do you have any children 18 years of age or younger?



## For Whom Do the Port Drivers Work?

For the most of these truck drivers, hauling goods from the Ports of Los Angeles and Long Beach has become their long-term career. The majority of drivers have been working at the Ports for more than five years (55 percent), with some working there for more than 20 years (6 percent).

One fifth of the drivers have been port drivers for two years or less (21 percent), while one quarter have been driving there for three to five years (24 percent), three out of ten have been driving at the port between six and 10 years (29 percent), and one fifth have been port drivers for between 11 and 20 years (20 percent).

Despite their longevity at the ports, fewer than one out of 10 drivers is an employee of a trucking company (9 percent). Yet port truck drivers by and large operate as if they were employees of trucking companies—albeit without the benefits associated with that status. Nearly nine in ten own their own trucks (88 percent) and only own one truck (92 percent). Truly independent contractors might be expected to have multiple clients. However, five out of six drivers only work for one trucking company at a time (84 percent).

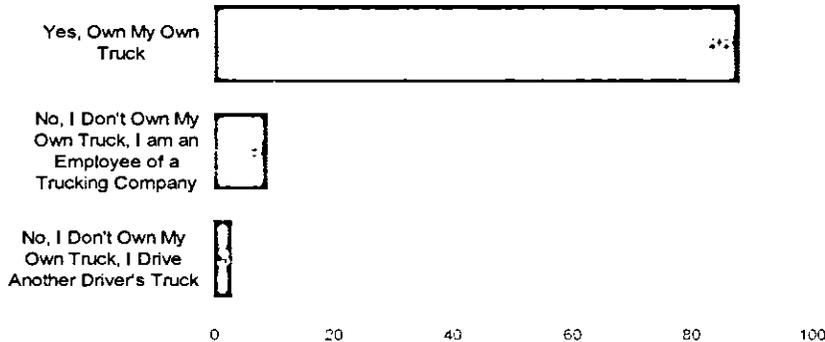
*more than 5 years*

*one LMC at a time*

### Graph 3: Truck Ownership

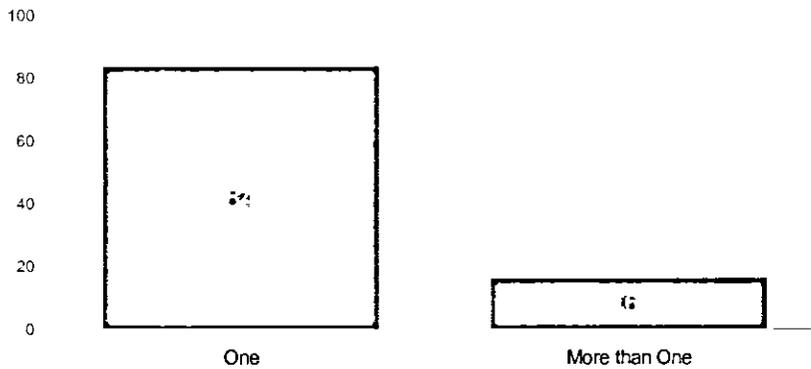
Do you own your own truck?

(IF NO): Are you an employee of a trucking company or do you drive another driver's truck?



□ **Graph 4: Number of Companies**

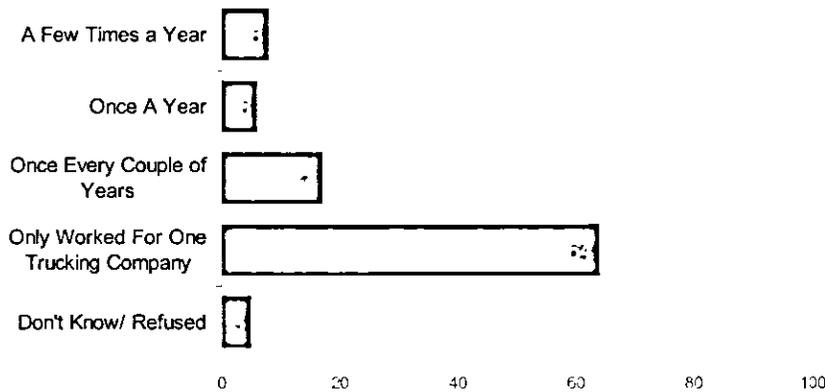
*How many trucking companies do you work for at the ports?*



In addition, most drivers do not switch from company to company, as truly independent contractors would. Nearly two-thirds have worked for only one company (64 percent), including a majority of those who have been driving for more than 10 years (52 percent).

□ **Graph 5: Frequency of Switching Companies**

*How often do you switch the trucking companies that you work for? A few times a year, about once a year, once every couple of years, or have you only worked for one trucking company?*



Less than half of those who do change companies, switch once a year or more (14 percent of all port truck drivers). Of the one third who said they had switched companies (31 percent), seven out of 10 have worked for three or fewer trucking companies in the past five years (70 percent). Only one out of 10 of drivers said they have worked for six companies or more companies in that time (9 percent).

**Container Diversion and  
Economic Impact Study**

**Effects of Higher Drayage Costs at San Pedro Bay Ports**

**September 20<sup>th</sup>, 2007**

**Presented by:**

**AND**



**BST Associates**  
Market Research & Strategic Planning

## Project Overview

- ◆ Clean truck program initiatives are estimated to raise drayage costs
  - + TWIC (Security considerations) & ongoing growth 28%
  - + Current mixture of IOO's and LMC's with clean trucks 16% more
  - + All port trucks and drivers to be part of LMC's 20% more (40% vs. TWIC-base)
- ◆ What is impact?
  - Container diversion (M&N) is based on demand shifts due to higher costs
  - Economic impacts (BST) based on reduced container moves via SPB

### Based upon J. Husing's Presentation on September 5th, 2007

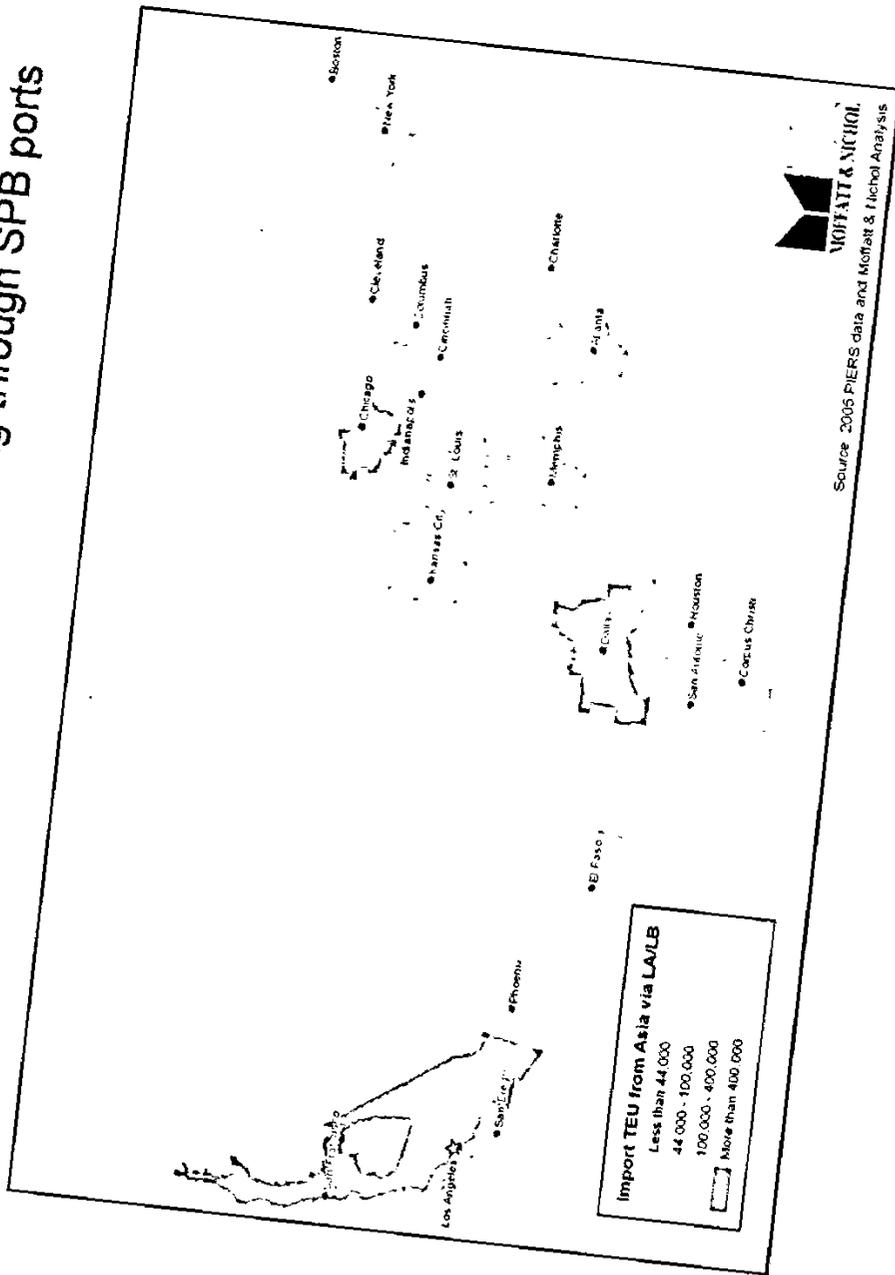
Scenario	Revenue per truck/driver	% Increase	% Increase from post-TWIC base
Current	\$ 107,100		
After TWIC	\$ 137,100	28%	(TWIC affects all ports)
TWIC + Clean Trucks	\$ 159,200	49%	<b>16%</b>
TWIC + Clean Trucks + EMP	\$ 191,700	79%	<b>40%</b>



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# Hinterland Market Areas

◆ Major destinations of container imports moving through SPB ports



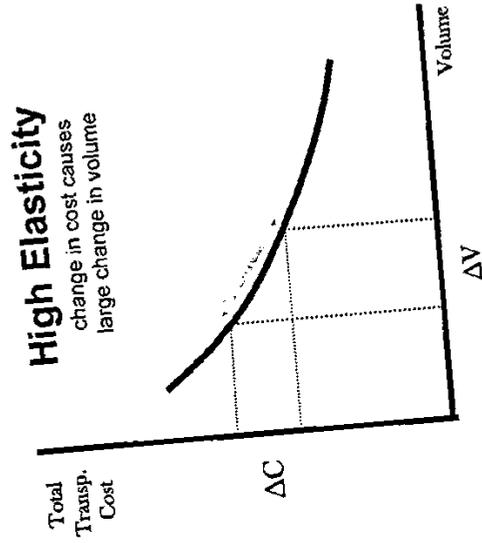
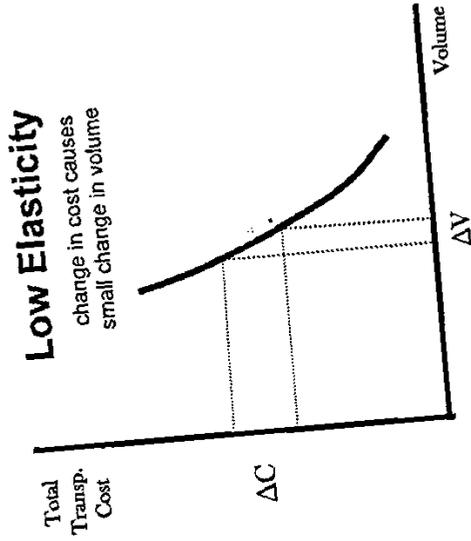
**Import TEU from Asia via LA/LB**  
 Less than 44,000  
 44,000 - 100,000  
 100,000 - 400,000  
 More than 400,000



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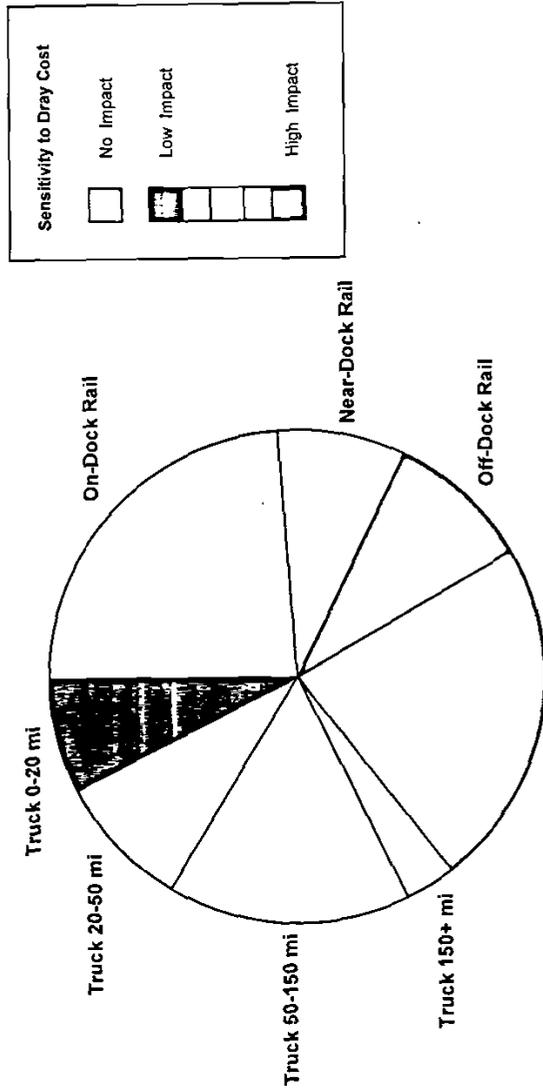
# Background to "elasticity," or demand = f(price)

- ◆ Classify movements at port by mode and distance
- ◆ Estimate elasticities for each kind of movement



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# Movements at San Pedro Bay Ports (2006)



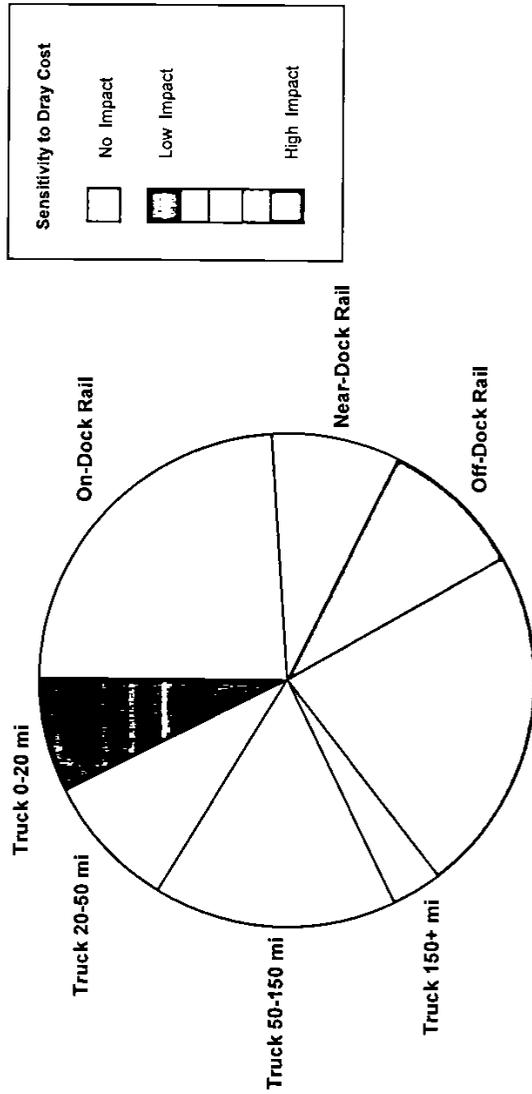
Source: M&N analysis of data from ACTA, August, 2007 and Meyer Mohaddes Associates, April 2004

- ◆ On-dock and near-dock rail largely unaffected by clean truck policies; while off-dock rail will be affected by Clean Truck requirements
- ◆ Local moves and transloads via near dock (<50 mile) warehouses are less sensitive to changes in trucking costs as these loads have a current reason to stay in SoCal
- ◆ Long-haul truck moves and transloads via distant warehouses are most susceptible to diversion to other ports



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## Movements at San Pedro Bay Ports (2006)



Source: M&N analysis of data from ACTA, August, 2007 and Meyer Mohaddes Associates, April 2004

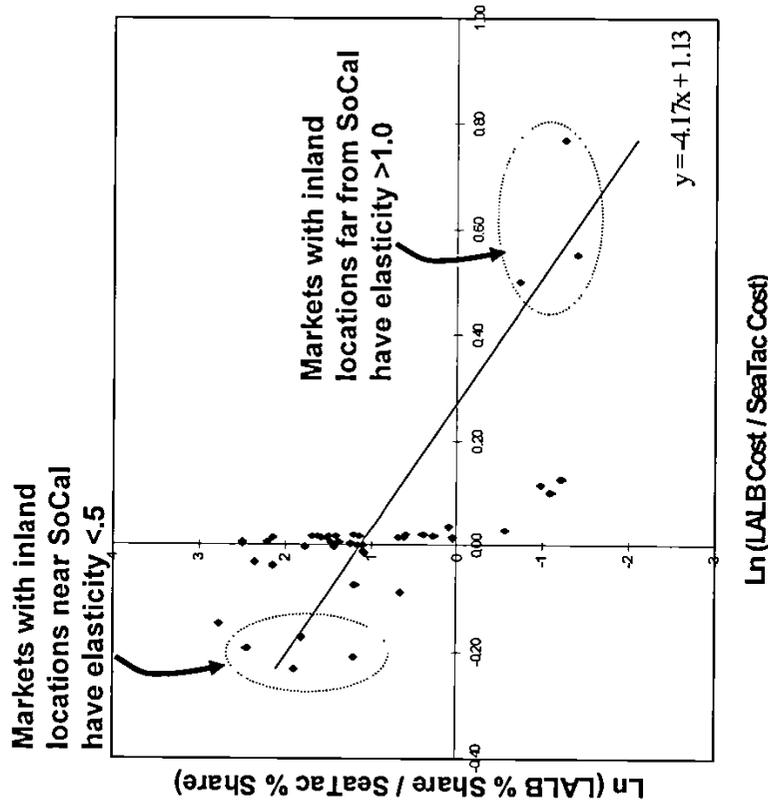
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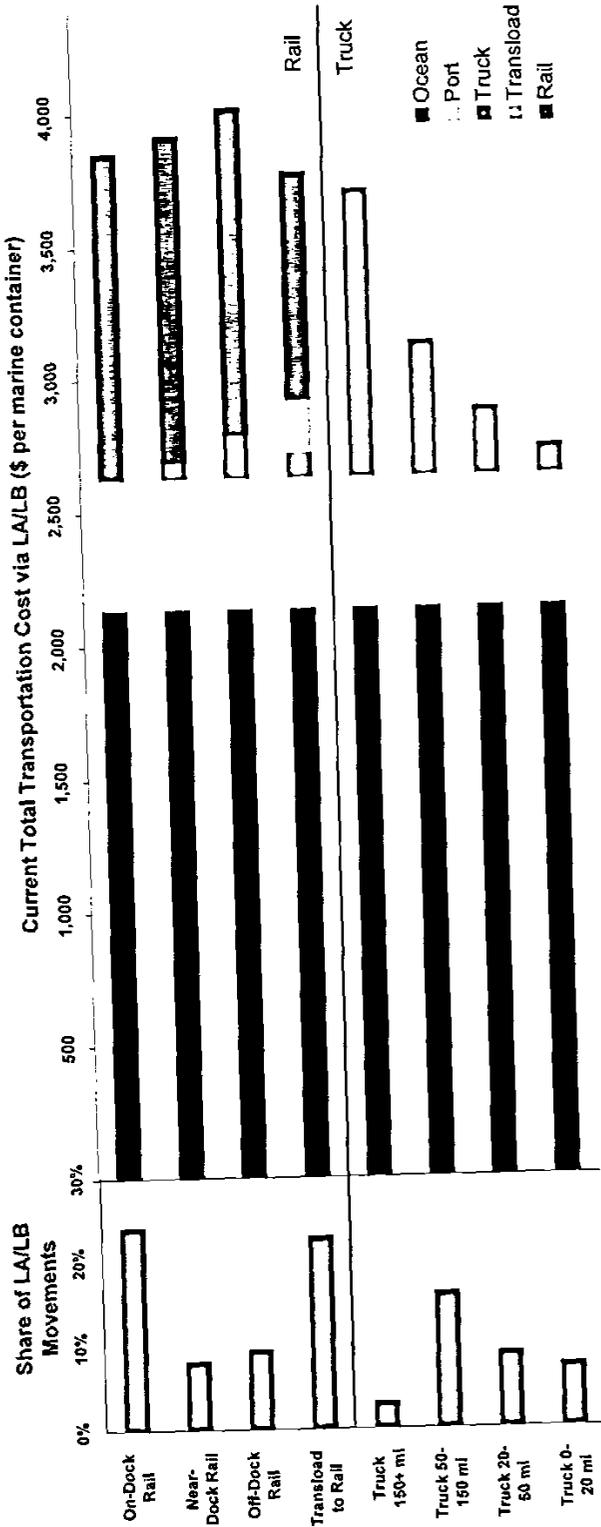
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## Observed relationship between cost ratio and market share

- ◆ LALB compared with
  - Seattle/Tacoma
  - Oakland
  - NY/NJ and
  - Savannah
- ◆ Each point is a market
  - Asian Trade Region – Inland BEA
  - Ratio of transportation costs vs. Ratio of market shares
- ◆ Cost is a major factor
  - Accounts for 46% of the decision



# Import Transportation Cost (to shippers & cargo owners)



◆ For most moves, trucking cost is a small % of overall transportation costs

- Relative to total transportation cost
- Relative to avg. value of cargo, \$70,000 per container<sup>1</sup>

◆ Imports bear cost of returning container to Asia

1. US customs declared value

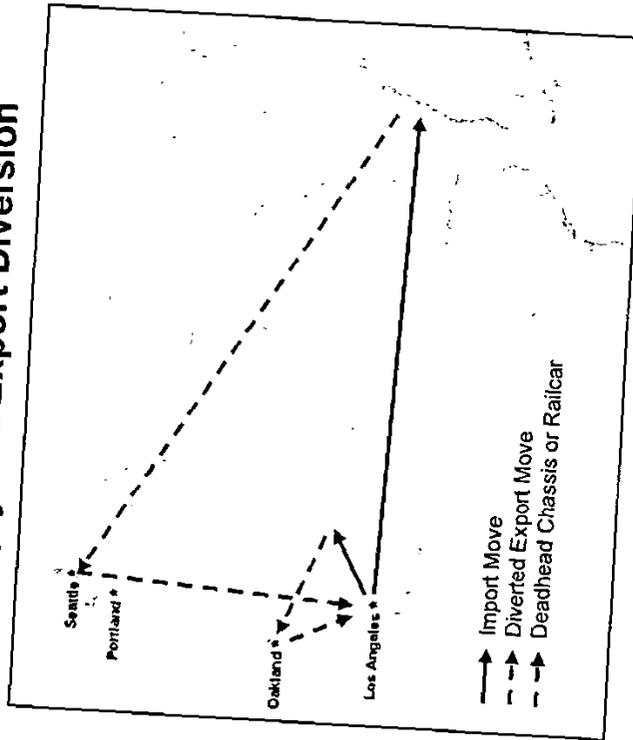


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## Export / Empty Diversion

- ◆ Exports bear incremental cost vs. empty return
  - Lower avg. value per TEU
- ◆ Some export/empty diversion from San Pedro Bay occurred in 2006
  - $3 \text{ Import} = 1 \text{ Export} + 1.8 \text{ Empty} + 0.2 \text{ Diverted}$
- ◆ Diversion of exports/empties will be tied to imports
  - Chassis under the program will be returned with clean trucks
  - Railroads discourage non-revenue intermodal railcar moves

### Empty and Export Diversion



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# Southern California Exports – qualitative assessment



- ◆ Waste paper & plastic
- ◆ Cotton
- ◆ Animal feed



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# Estimated diversion from SPB ports – Case #1

- ◆ Existing model with Clean Trucks
  - Relative to TWIC/Security, 16% increase in truck-driver costs & rates
  - 75,000, or 0.5% of SPB port's total, TEU diverted to alternate port gateways

	SPB Throughput in TEU	Trucking Cost (\$ per box)	Transportation Cost (\$ per box)	Change in Transportation Cost (\$ per box)	Elasticity	Change in Market Share (%)	Change in SPB Throughput (TEU)
On-Dock Rail	3,800,000	\$0	\$3,860	\$0	1.0	0.0%	0
Near-Dock Rail	1,300,000	\$60	\$3,920	\$10	1.0	-0.3%	-3,000
Off-Dock Rail	1,500,000	\$160	\$4,020	\$30	1.0	-0.7%	-11,000
Transload to Rail	3,600,000	\$90	\$3,780	\$10	1.0	-0.3%	-10,000
Truck 150+ miles	500,000	\$1,080	\$3,710	\$170	0.3	-0.8%	-19,000
Truck 50-150 miles	2,500,000	\$500	\$3,130	\$80	0.3	-0.4%	-6,000
Truck 20-50 miles	1,400,000	\$250	\$2,880	\$40	0.3	-0.2%	-3,000
Truck 0-20 miles	1,200,000	\$110	\$2,740	\$20	0.3	-0.5%	-75,000
Total / Average	15,800,000	\$184	\$3,570	\$29			



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## Estimated diversion from SPB ports – Case #2

### Proposed Concession with employees & Clean Trucks

- Relative to TWIC/Security, 40% increase in truck-driver costs & rates
- 193,000, or 1.2% of SPB port's total, TEU diverted to alternate port gateways

	SPB Throughput in TEU	Trucking Cost (\$ per box)	Transportation Cost (\$ per box)	Change in Transportation Cost (\$ per box)	Elasticity	Change in Market Share (%)	Change in SPB Throughput (TEU)
On-Dock Rail	3,800,000	\$0	\$3,860	\$0	1.0	0.0%	0
Near-Dock Rail	1,300,000	\$60	\$3,920	\$20	1.0	-0.5%	-7,000
Off-Dock Rail	1,500,000	\$160	\$4,020	\$60	1.0	-1.5%	-22,000
Transload to Rail	3,600,000	\$90	\$3,780	\$40	1.0	-1.1%	-38,000
Truck 150+ miles	500,000	\$1,080	\$3,710	\$430	0.3	-1.9%	-48,000
Truck 50-150 miles	2,500,000	\$500	\$3,130	\$200	0.3	-1.0%	-15,000
Truck 20-50 miles	1,400,000	\$250	\$2,880	\$100	0.3	-0.4%	-5,000
Truck 0-20 miles	1,200,000	\$110	\$2,740	\$40	0.3	-1.2%	-193,000
<b>Total / Average</b>	<b>15,800,000</b>	<b>\$184</b>	<b>\$3,570</b>	<b>\$74</b>			



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## Economic Impacts

### Focus on transportation industry impacts

- ◆ Focus on transportation industry impacts
  - Port industry
  - Port Users
- ◆ Diversion estimates from M&N
- ◆ Direct impacts
  - Jobs
  - Income
- ◆ Total economic impacts
  - IMPLAN Model
  - 5 county region
  - State of California



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## Summary of Impacts - Employment

- ◆ Case 1 (Existing model w/Clean Trucks)
  - Divert 75,000 TEUs
  - Region loses 1,580 jobs
  - State loses 1,960 jobs
- ◆ Case 2 (Concession with Employees & Clean Trucks)
  - Divert 193,000 TEUs
  - Region loses 4,450 jobs
  - State loses 5,440 jobs
- ◆ Important caveat
  - Economic impact studies measure a snap shot in time
  - Annual growth will absorb these losses

Impacts include direct, indirect and induced effects



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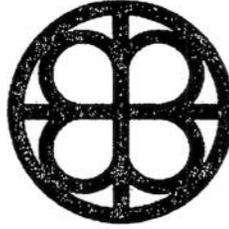
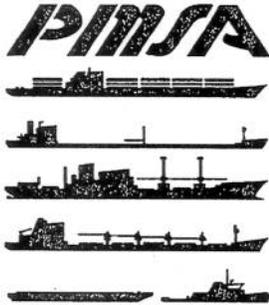
Summary of Impacts – Income (\$Millions)

Summary of Impacts – Income (\$Millions)

- ◆ Case 1 (Existing model w/Clean Trucks)
  - Divert 75,000 TEUs
  - Region loses \$112 million
  - State loses \$131 million
- ◆ Case 2 (Concession with Employees & Clean Trucks)
  - Divert 193,000 TEUs
  - Region gains \$260 million
  - State gains \$213 million
- ◆ Important note
  - Increased wages for truckers offset the loss of income from cargo diversions

Impacts include direct, indirect and induced effects





THE  
NATIONAL  
INDUSTRIAL  
TRANSPORTATION  
LEAGUE

RECEIVED

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OFFICE OF THE SECRETARY  
FEDERAL MARITIME COMM

September 26, 2007

VIA MESSENGER

Mr. Bryant L. VanBrakle  
Secretary  
Federal Maritime Commission  
800 North Capitol Street, N.W.  
Room 1046  
Washington, D.C. 20036

Re: Port of Long Beach/Port of Los Angeles Clean Truck Program

Dear Mr. VanBrakle:

The undersigned organizations, on behalf of their members, which include ocean carriers, maritime terminal operators, and shippers, write to express our serious concerns about the "Clean Truck Program" that the ports of Los Angeles and Long Beach have jointly proposed to implement. We strongly support the goal of reducing truck air emissions; however, the proposed program will not only fail to meet that goal, but will likely cause major disruptions in cargo flows through the ports of Los Angeles and Long Beach. This is a serious matter that requires the prompt attention of the Commission in order to preserve the efficient flow of U.S. foreign trade through these ports.

## I. Introduction and Description of the Proposed Clean Truck Program

The basic elements of the proposed program are:<sup>1</sup>

- Licensed motor carriers (LMCs) wishing to provide port drayage services must enter into “concession agreements” with the ports; that is, the ports will decide who can and cannot be in business.
- Independent owner-operators of drayage trucks would be prohibited from entering the ports, because concessionaires would be required to provide services using only trucks owned by the concessionaire and driven by employees of the concessionaire.
- Concessionaires would be required to meet an accelerated schedule for implementing federal and state truck air emission standards.
- During a phase-in period, drayage operators would pay a fee of approximately \$50 per trip for any truck not compliant with the air emission standards.

The ports have just released an economic study that they commissioned to evaluate the likely impacts of their plan.<sup>2</sup> Among the conclusions of the economic experts hired by the ports are the following:

- Implementation of the program will likely “significantly reduce competition in the port drayage sector.” (Husing Report at 79.)
- The most likely result of implementation of the program is “a slowly building crisis as lack of drivers and trucks means containers are not delivered on time.” In the end, the experts predict, “rates paid to LMCs and the IOOs will rise but not without significant ill will and a lot of cargo stacked at the ports.” (Husing Report at 47 (emphasis in original).)
- Over 30% of licensed motor carriers serving the port will be put out of business. (Husing Report at 87.)
- “The [drayage] firms will need an 80% increase in prices to handle this combination of increases in their costs. If they cannot raise their prices in a

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<sup>1</sup> See *Proposed Clean Trucks Program Fact Sheet*, attached as Exhibit 1 (description of the program elements).

<sup>2</sup> *Economic Analysis, Proposed Clean Truck Program* (September 7, 2007), by John E. Husing, Ph.D., Peter A. Crosby, and Thomas E. Brightbill (hereinafter “Husing Report”). A copy of the report is attached as Exhibit 2.

timely manner to pay the extra amounts, the extreme difficulties imposed by the transition process will come into play.” (Husing Report at 80.)

- If trucking companies do not raise their rates by 80%, the proposed program will fail: “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 do so will fail.” (Husing Report at 77.)

In short, under the economic analysis provided by the ports’ own economic experts, the proposed program will result in one of two scenarios. Either (1) there will be substantial near and mid-term disruptions in drayage capacity followed by capacity stabilizing at rates that are 80% higher than they are today, or (2) the rate increases will not occur, and there will be a structural (i.e., permanent) shortage of drayage capacity at America’s largest ocean port complex. Under either scenario it appears that there would be paralyzing congestion that can only exacerbate, not improve, air quality, thus defeating the rationale for the entire program.

For the reasons noted by the ports’ economic expert, the program is almost certain to fail in its worthy environmental goals. Fortunately, from an environmental perspective, the failure of the ports’ truck program will not mean that the air will not be cleaned up. The California Air Resources Board (CARB), the California agency actually responsible for clean air, is in the final stages of drafting a regulation that will reduce drayage truck emissions statewide, without the anti-competitive and disruptive effects associated with the ports’ plan.<sup>3</sup> The fact that the air quality objectives of the ports’ Clean Truck Program will be met by the separate and more comprehensive CARB program, however, will do nothing to ameliorate the damage that will be done to the nation’s ocean transportation system if the ports’ program is implemented as planned. Finally, and of most direct and immediate concern for the Commission, the fact that the environmental objectives of the ports’ Clean Truck Program will be met by the state agency with proper authority to regulate trucks does nothing to change the fact that the redundant ports-sponsored program is facially in violation of the Shipping Act of 1984.

The Clean Truck Program is a set of restrictive operating rules jointly adopted by two marine terminal operators (the Port of Los Angeles and the Port of Long Beach). It violates the Shipping Act in three respects. Although the ports have an agreement on file with the Commission that mentions “engine replacement” and “emissions standards,” those phrases nowhere even hint at the requirements at issue: that drayage providers become licensed “concessionaires,” own their trucks, and operate those trucks using only employee drivers—i.e., the ban on thousands of independent owner-operators. As such, the program and the ports’ actions in adopting it violate sections 5(a) and 10(a)(2) of the Shipping Act, now codified at 46 U.S.C. §§ 40302 and 41102(b), with respect to the ban on owner-operators. In addition, because the program would ban a class of service providers (independent owner-operators) from providing drayage services to ocean carriers and shippers with respect to their ocean-borne cargoes, it constitutes an anti-

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<sup>3</sup> See draft proposed rule, dated July 6, 2007, attached as Exhibit 3.

competitive and discriminatory practice that is not justified by a compelling transportation justification. As such, the program also violates section 10(d)(1) of the Act, codified at 46 U.S.C. § 41102(c).

Finally, although the choice of remedy for any past or ongoing violations lies in the Commission's discretion, we note that the program is in the teeth of the section 6(g) "general standard" against which all agreements must be measured. *See* 46 U.S.C. § 41307(b). That is so because the ports' agreement, according to its own experts' study, "is likely, by a reduction in competition, to produce an unreasonable reduction in transportation service or an unreasonable increase in transportation cost. . . ." *Id.* Specifically, the ports' own economists have said that the program will "significantly reduce competition in the port drayage sector," with the result that there will be "extreme difficulties" including "a lot of cargo stacked at the ports" and a rate increase of 80%. In other words, implementation of the Clean Truck Program will, by the ports' own calculation, cause a significant reduction in competition that will cause higher prices and reduced services at the ports of Los Angeles and Long Beach – together the single most important ocean gateway for U.S. foreign trade. The worst of those effects will be caused by a provision—the owner-operator ban—that contributes nothing to cleaning up the air.

(1) For all of these reasons, we urge the Federal Maritime Commission to employ its powers of persuasion and, if necessary, its powers of enforcement, to prevent the implementation of this ill-advised and unlawful proposal that threatens a major disruption of cargo at the nation's largest port complex. (2)

## II. The Clean Truck Program Violates the Shipping Act.

- a. The Clean Truck Program Provision that Prohibits Independent Owner-Operators is Not Described in the Ports' Agreement on File with the Commission. It is therefore Unlawful under Sections 5 and 10 of the Shipping Act.

Federal Maritime Commission Agreement No. 201170, "The Los Angeles and Long Beach Infrastructure and Environmental Programs Cooperative Working Agreement," became effective on August 10, 2006. The authority under that agreement is described in relevant part in Article V.A:

### ARTICLE V- OVERVIEW OF AGREEMENT AUTHORITY

A. The Parties may from time to time meet to confer, discuss, exchange information and agree on a voluntary basis with respect to rates, charges, operating costs, practices, legislation, regulations, and terminal operations, including trucking, rail and vessel operations, regarding matters for the funding, establishment and construction of port-related transportation infrastructure projects and environmental programs. Transportation infrastructure projects may include, but are not limited to, truck and engine replacement programs, engine and equipment fuel use and emissions standards, bridge, rail and roadway improvements. The

parties are also authorized to discuss potential impacts resulting from policies adopted under the Clean Air Action Plan that may apply to truck and rail sectors outside of the port properties.

Assuming for present purposes that the agreement authority is adequate to authorize joint decisions regarding truck emission standards and the adoption of a grant program to purchase newer trucks and finance installation of pollution-reduction devices on existing engines, the ports' agreement language is entirely silent on one of the most intrusive and anti-competitive portions of the Clean Truck Program—the prohibition on independent owner-operators. The proposal as reflected in the documents released to date makes clear that, after a transition period, no owner-operators would be allowed to participate in the drayage market, even if their trucks produced no air emissions.<sup>4</sup> As such, an entire class of service providers, indeed the dominant class of service providers handling the ports' containerized cargos today, will be shut out of the drayage market by the proposed program. The ports admit that thousands of owner-operators will have to either leave the drayage business or sell their trucks and become employees rather than entrepreneurs. Despite that far-reaching and draconian result, there is not a single word in the ports' agreement on file with the Commission that even hints that such a prohibition might be imposed. That omission is a plain violation of the agreement filing requirements of the Shipping Act. To allow the ports to move forward without addressing that violation would be to render those requirements—and the entire regulatory regime that is built around them—a nullity.

Section 40302 of Title 46 of the United States Code provides in relevant part that:

(a) **In general.** A true copy of every agreement referred to in section 40301(a) or (b)<sup>5</sup> of this title shall be filed with the Federal Maritime Commission. If the agreement is oral, a complete memorandum specifying in detail the substance of the agreement shall be filed. (footnote added)

Section 41102(b) of Title 46, in turn, provides that:

**Operating contrary to agreement.** A person may not operate under an agreement required to be filed under section 40302 or 40305 of this title if –

- (1) the agreement has not become effective under section 40304 of this title or has been rejected, disapproved, or canceled; or
- (2) the operation is not in accordance with the terms of the agreement or any modifications to the agreement made by the Federal Maritime Commission.

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<sup>4</sup> See Exhibit 1.

<sup>5</sup> Section 40301(b) makes marine terminal operator agreements subject to the filing requirements of the Act.

The Commission's regulations provide that:

**Complete and definite agreements.** An agreement filed under the Act must be clear and definite in its terms, must embody the complete, present understanding of the parties, and must set forth the specific authorities and conditions under which the parties to the agreement will conduct their operations and regulate the relationships among the agreement members, unless those details are matters specifically enumerated as exempt from the filing requirements of this part.

46 C.F.R. § 535.402.

The Commission has on many occasions explained the detail that is required in filed agreements. In the process of adopting 46 C.F.R. § 535.402, the Commission explained that its revised rules were intended to carry forward its long-standing and consistent precedents regarding the level of specificity required in agreements filed under the Shipping Act:

The Commission has consistently interpreted 46 U.S.C. app. § 1704(a) to require filed agreements to be complete, specific, detailed reflections of the present understanding of the parties. 46 CFR 535.103(g) and 535.407(a). The commenters point to no legislative history to demonstrate that the subject matter jurisdictional limits of the Shipping Act indicate that its drafters did not intend the phrase "true copy" to be interpreted literally. A general definition of the term indicates "[a] true copy does not mean an absolute exact copy but means that the copy shall be so true that anyone can understand it." Black's Law Dictionary (1995 ed.). For oral agreements, the Shipping Act requires that "a complete memorandum specifying in detail the substance of the agreement" be filed. 46 U.S.C. app. § 1704(a). The Commission finds no indication that Congress intended the Commission to subject oral agreements to greater requirements than those that are written.

*Ocean Common Carrier and Marine Terminal Operator Agreements Subject to the Shipping Act of 1984*; Proposed Rule, 68 Fed. Reg. 67510, 67515 (December 2, 2003) (footnote omitted).

In the footnote omitted from the passage quoted above, the Commission cited to *Associated-Banning Co. v. Matson Nav. Co.*, 5 F.M.B. 336, 342, for the proposition that the "true and complete" standard for agreements under the 1916 Act required that "when parties file an agreement for approval they must include all understandings and arrangements of the character covered by section 15 which exist between them at the time." See 68 Fed. Reg. at 67515 n.12. The Commission's historical understanding of the specificity requirement for filed agreements—the understanding that it carried forward in its rulemaking initiated in 2003 and concluded in 2004<sup>6</sup>—is also set forth in other cases. In *Mediterranean Pools Investigation*, 9 F.M.C. 264, 294 (1966), for example, the

<sup>6</sup> See 68 Fed. Reg. 67510 (December 2, 2003) (NPRM); 69 Fed. Reg. 64398 (November 4, 2004) (final rule).

Commission said that: "All agreements should be complete and the language used should be so clear as to eliminate all necessity for interpretation as to the 'intent' of the parties." Similarly, in *Investigation of Overland and OCP Rates and Absorptions*, 10 S.R.R. 899, 921 (1969), although it upheld agreement language of less than ideal clarity, the Commission announced a prospective rule that "a reading of the basic conference agreements" must "show the scope and operation of [the relevant activities] without reference to other documents."

The federal courts, too, have held that the predecessor to the current section 5 requires agreements to be specific and transparent, especially where restrictions in competition are involved:

The parties appear to agree upon the proper standard for the Commission to apply in determining whether tariff amendments like the ones involved here require separate approval under section 15. They all take the position that the Commission must decide whether the amendments restrict competition in a manner than can be reasonably inferred from the original conference agreement already approved by the Commission.

*Interpool Ltd. v. F.M.C.*, 663 F.2d 142, 148 (D.C. Cir. 1980).

Each of these formulations, along with the current language of the statute and the applicable regulations, makes the same point: the Commission cannot perform its oversight functions unless the agreements filed with it clearly spell out the activities that the filing parties intend to undertake. Whatever the outer boundary of the activities that might be deemed to be covered by the language of a particular agreement, it is incontestable that the ban on independent owner-operators from the drayage market in the Port of Los Angeles and the Port of Long Beach is far beyond any activity described in the agreement filed by those two marine terminal operators. There is simply no rational thought process by which one could glean that an agreement about truck engine replacement or truck emissions regulations was intended to authorize re-regulation of the basic structure of an industry and the terms under which individual drivers offer their services and their equipment to licensed motor carriers and the public. Beyond their common subject matter of drayage trucks, regulation of the truck itself and regulation of the economic structure of the drayage industry as a whole are as different as two things can be. One does not follow from the other, and agreement language authorizing one cannot be held to authorize the other. The ports must, through the filing mechanism in the Shipping Act, tell the Commission and the public what they intend to do before they do it. That has not yet happened.<sup>7</sup>

The point is simply that undertakings subject to the Act's agreement filing requirements must be placed before the Commission for its review, particularly where competition is at issue. Certainly the Commission cannot have given antitrust immunity

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<sup>7</sup> The ports' plan also appears to exceed the geographic scope of the filed agreement. The agreement reaches "the geographic scope of the ports," but the plan appears to contemplate regulation of truck traffic beyond the ports. See Husing Report at 60.

to the ports to shut down hundreds of licensed motor carriers and put thousands of owner-operators out of work, yet this is apparently what the ports claim has occurred.

If the Commission were to countenance the ports' apparent reliance on the language in their agreement dealing with truck operations and engine replacement and air emissions standards as authorizing their attempt at completely restructuring the drayage industry at the ports, then it would be difficult to imagine any claim that an activity is covered by an existing agreement that would be too tenuous to pass muster under the Act. Respectfully, if the agreement filing requirements of the Shipping Act are not to become a dead letter, the Commission must act now to address this violation.

b. The Clean Truck Program, and Particularly the Ban on Independent Owner-Operators, Violates Section 10(d)(1), 46 U.S.C. § 41102(c).

Section 10(d)(1) of the Shipping Act, now codified at 46 U.S.C. § 41102(c), states:

**Practices in handling property.** A common carrier, marine terminal operator, or ocean transportation intermediary may not fail to establish, observe, and enforce just and reasonable regulations and practices relating to or connected with receiving, handling, storing, or delivering property.

As a threshold matter, there can be no doubt that restrictive practices imposed on the drayage industry by marine terminal operators fall within the scope of section 10(d)(1). The Commission in *Petition of the Association of Bi-State Motor Carriers, Inc. to Investigate Truck Detention Practices of the New York Terminal Conference at the New York/New Jersey Port District*, 30 S.R.R. 104 (2004), stated:

The truck detention rules promulgated by NYTC under its tariff are integral to the loading and unloading of cargo from common carriers, the interchange of containers and chassis, and the ultimate delivery of property for shippers. As such, we conclude that the promulgation of truck detention rules at the relevant facilities is a terminal function related to "receiving, handling, storing or delivering property" as provided in section 10(d)(1) of the Shipping Act.

*Id.* at 112. If truck detention rules are a proper subject matter for the Commission's consideration under section 10(d)(1), then rules that determine whether a trucker or class of truckers may enter the port at all even more obviously fall within the ambit of that section.

A practice that restricts open competition in providing services for the handling of cargo is "unreasonable" under section 10(d)(1) if it is "excessive," or not "reasonably related, fit and appropriate to the ends in view." *Exclusive Tug Arrangements In Port Canaveral, Florida*, 29 S.R.R. 487, 489 (2002). If an arrangement or rule substantially restricts access to or service in the port, it may be held reasonable only if the MTO respondent can justify the arrangement as necessary: (1) to assure "adequate and

consistent service to a port's carriers or shippers," (2) to ensure "attractive prices for such services," or (3) "generally to advance the port's economic well-being." *Exclusive Tug Arrangements In Port Canaveral, Florida, supra* (2002); *River Parishes Co., Inc. v. Ormet Primary Aluminum Corp.*, 28 S.R.R. 188, 221 (1998) (ALJ Kline); *Petchem, Inc. v. Canaveral Port Authority*, 23 S.R.R. 974 (1986).

Similarly, in a case involving a proposal by a port authority to impose a stevedore licensing regime that would evaluate compliance with safety, environmental, and financial standards, among other factors, the Commission reiterated the Shipping Act's disfavor of port regulations that restrict competition:

Notwithstanding SCSPA's assurances to carriers that the guidelines will not restrict their choice of stevedore, the proposal before us would permit SCSPA to restrict competition based on no more than the kind of speculation described above. Such limitation of the market place is a restrictive practice, the reasonableness of which can be established only by specific facts regarding local conditions justifying departure from the Shipping Act and antitrust principles favoring open competition. We have in the past treated practices which restrict competition at ports and marine terminals in cases determined on the basis of their individual facts. See e.g., *All Marine Moorings, Inc. v. ITO Corporation of Baltimore*, \_\_\_ FMC \_\_\_, 27 SRR 539, 541, 545 (1996), discussing such cases.

We do not find that the record as a whole includes substantial evidence which would justify SCSPA's proposal to restrict competition among stevedores at the Port of Charleston to those presently serving the Port or to base future access by stevedores to the Port on its own assessment of demand for their services. Therefore, we conclude that, to the extent that the guidelines would allow some stevedoring companies access to SCSPA facilities and might deny such access to other companies on the basis of SCSPA's assessment of demand of services by carriers and shippers using its terminals, without showing that such restrictions are necessary and the assessment of demand is accurate, they would constitute an unreasonable practice within the meaning of section 10(d)(1) of the 1984 Act and the first issue specified in the May 1 Order.

*Petition of South Carolina State Ports Authority for Declaratory Order*, 27 S.R.R. 1137, 1164 (1997).

Applying this standard to the requirements that all drayage trucks must be owned by LMCs and that all drivers must be employees, the first question is whether the prohibition on independent owner-operators is a "restriction on competition" that is subject to scrutiny under section 10(d)(1). That analysis need not delay the Commission for long. The ports' economist has answered the question clearly and in the affirmative, stating that:

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 because the program directly and indirectly creates financial thresholds over which firms must climb to enter or stay in the business.

Husing Report at 79 (emphasis added). On the next page, Dr. Husing cautions against the very real possibility that the reductions in competition potentially triggered by the implementation of the plan could substantially reduce drayage capacity in the ports:

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 a 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.*

*Id.* at 80 (emphasis added).

Although the Husing Report indicates that the proposed program would reduce competition whether or not the program includes a ban on independent owner-operators, it is clear that the reduction in competition would be much greater under the employee driver model. The reason for this is simple. The competitive dislocations are driven by the practical need to pay for new trucks in the first year of the program in order to avoid a "Truck Impact Fee" (TIF) that would otherwise eliminate any profit margin from the business. *See* Husing Report at 56. Dr. Husing projects that costs and rates under the employee-only plan would rise by 80%. The more a company has to pay, the more likely it is to go out of business, and companies will have to pay more if they are forced to hire all drivers as employees than if the current system that allows both employees and owner-operators is retained. Thus, although the entire program would reduce competition, the ban on owner-operators makes it even more anti-competitive.

Having established that the program (and especially the owner-operator ban) will have a restrictive, anti-competitive impact on the market for drayage services, the next question is whether the ports can demonstrate that the restrictions are necessary. *See South Carolina State Ports, 27 S.R.R. at 1164.* This prong of the test also virtually answers itself. The most obvious characteristic of the requirements that all trucks must be owned by concessionaires and that they must be operated by employee drivers is that those requirements have no relation whatsoever to the objective of reducing air pollution from trucks. Neither the ports nor the economic report that they have commissioned provides any explanation of why the air will become cleaner if owner-operators are banned from the ports. That there can be no such reason is amply demonstrated by the fact that if an owner operator that possessed a truck that emitted absolutely no air pollution attempted to serve the ports under the proposed program, that trucker would still be denied entry. There is, in short, no legitimate reason to deny this class of service providers access to the ports.

In addition to the fact that banning owner-operators will not help to clean up the air, the Husing Report strongly suggests that, ironically, the owner-operator ban will actually make it harder to reduce truck emissions. This is the case for several reasons. First, the problem of replacing older, dirtier trucks with newer, cleaner trucks is essentially one of money. According to the Husing Report, as noted above, under an employee-only model rates would have to rise by approximately 80% in order to generate the funds necessary to perform the equipment upgrades. Under the independent owner-operator model, rates would have to rise by substantially less. Husing Report at 73, 49. Either will be a shock and will cause displacement in the drayage market. However, it is plain that an 80% increase will both cause more of a disruption in the marketplace and also make it more difficult to obtain the funds necessary to buy and retrofit trucks to meet the proposed emissions standards. Less money means fewer new trucks, and fewer new trucks means dirtier air.

In addition to diverting scarce funds away from truck replacements and upgrades by raising personnel costs, the requirement that all trucks be owned by concessionaires that are not owner-operators will result in trucking companies having to expend additional funds for yards in which to park and maintain their trucks. Husing Report at 72. That extra money—traceable directly to the owned-truck and employee driver requirements—will not be available to purchase or upgrade trucks.

In addition to diverting funds that could be used to upgrade truck fleets, the requirement that port drayage be conducted exclusively using owned trucks operated by employee drivers will, according to the Husing Report, cause practical problems for motor carriers that handle both drayage and non-drayage business. Husing notes (at page 56) that 72% of motor carriers serving the ports also handle non-port business, and that for 19% of motor carriers, non-port business accounted for half or more of their operations. *Id.* The Husing Report then goes on to explain how that set of circumstances will lead to increased costs and increased air pollution under the proposed program:

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 to their customers. *They would also increase the volume of truck trips on Southern California's roads and increase emissions.*

Husing Report at 56 (emphasis added).

Taking these results together, it is plain that the ban on owner-operators is most likely to decrease rather than increase the chances that the proposed program will help to clean up the air. It is axiomatic that provisions that work *against* the ports' stated goal of

cleaning up the air cannot be “reasonably related, fit and appropriate to the ends in view.” *Port Canaveral*, 29 S.R.R. at 489.

It is also important to note that the negative consequences of the owner-operator ban are neither speculative nor remote. The evidence that these negative consequences will in fact occur is found in an extensive economic report that was commissioned by the ports themselves. This is not some “parade of horrors” that has been cooked up by parties seeking to block public progress for private gain. To the contrary, the Husing Report is the ports’ own best prediction of the consequences of the actions that they propose to implement. Moreover, although the implementation date is still unclear, Dr. Husing reports that his interviews with LMCs indicates that some are already planning their exit from the drayage market: “Already, of the over 50 LMCs that participated in one-on-one and group interviews, several indicated that they are currently planning or 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.” Husing Report at 76. The ports’ economic expert predicts that obtaining the funding necessary to implement the proposed Clean Truck Program “will not happen without the threat or actual occurrence of a port drayage crisis.” Husing Report at 58. Unless the ports revise their approach or unless the Commission quickly steps in, that crisis is the most likely scenario.

As important as it is for the Commission to appreciate the immediacy and the seriousness of the trade disruption that is poised to occur, it is equally important for the Commission to understand that such a crisis is neither inevitable nor necessary in order to reduce truck pollution at the ports. The California Air Resources Board (CARB) is in the final stages of drafting a regulation that will regulate air emissions from port trucks.<sup>8</sup> That regulation, which the agency is expected to formally propose by the end of this year, would impose strict retro-fit and new engine emissions requirements on a predictable and definite schedule based on the model year of the truck and, for trucks not currently in drayage service, on the year that the truck enters that service.

Unlike the ports’ plan, the CARB plan incorporates in future years the most stringent standard yet proposed, the model year 2010 California standard for new diesel trucks. Moreover, the CARB regulation will apply state-wide, which, at least among California ports, will prevent cargo diversion and the possibility of dirty trucks being moved from the San Pedro Bay ports to other ports in the state. Finally, of course, CARB is the agency that the state legislature has tasked with regulating vehicular sources of air pollution. *See* Cal. Health & Safety Code § 39002 (“The control of vehicular sources, except as otherwise provided in this division, shall be the responsibility of the State Air Resources Board.”). The ports’ Clean Truck Program, in other words, is not a necessary evil that must be borne in order to correct an otherwise intractable problem. It is, rather, redundant of a comprehensive and aggressive plan about to be implemented on a statewide basis by the agency that is statutorily empowered to address this issue.

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<sup>8</sup> *See* Exhibit 3 (CARB draft rule and explanation).

To the extent that the goal of the Clean Truck Program is cleaner air, that goal is proper and laudable. We support it. The means chosen to reach that goal, however, are broadly restrictive of competition, unnecessary, unlikely to succeed, and virtually certain to do real damage to the flow of U.S. international trade through the largest port complex in the nation. Those means are also, not incidentally, unlawful, and the Commission must act to prevent their implementation.

### III. Action.

The failure of the ports to file an agreement with the Commission disclosing their broad and anti-competitive plan to ban owner-operators from the drayage market in the Ports of Los Angeles and Long Beach represents a direct and serious challenge to the requirement that all covered entities act in accordance with the Shipping Act, the law that the Commission is authorized and obligated to enforce. Even if that plan were fully disclosed, however, the ban on owner-operators bears no logical connection to the goal of cleaning up truck emissions. The ban would reduce competition for drayage services and take away drivers' livelihoods for no purpose related either to efficient transportation or to a cleaner environment. As such, the owner-operator ban, based on the ports' description of its scope and based on the economic report commissioned by the ports, would violate section 10(d) if it were implemented. The harm caused by that violation would reach beyond just the drivers, motor carriers, and drayage customers most directly affected. Instead, the program that the ports have proposed has the potential to injure businesses across the country that rely on the free flow of international trade through the ports of Los Angeles and Long Beach. For better or worse, those ports are the single most important ocean gateway for the nation's trade, and threats of serious disruptions there demand a response by the federal agency tasked with protecting the smooth flow of that trade.

Congress has given the Commission the sole authority and responsibility to take action before, rather than after, an agreement does substantial harm. Section 6(g) of the Act, 46 U.S.C. § 41307(b)(1), states:

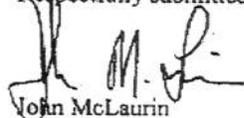
**Reduction in competition.** (1) Action by Commission. If, at any time after the filing or effective date of an agreement under chapter 403 of this title, the Commission determines that the agreement is likely, by a reduction in competition, to produce an unreasonable reduction in transportation service or an unreasonable increase in transportation cost, the Commission, after notice to the person filing the agreement, may bring a civil action in the United States District Court for the District of Columbia to enjoin the operation of the agreement. The Commission's sole remedy with respect to an agreement likely to have such an effect is an action under this subsection.

The requirements of that section are undisputedly met here. The ports have admitted, through an expert economic study that they commissioned, that their proposed program is likely "to significantly reduce competition in the port drayage sector." Husing Report at 79. That reduction in competition, according to the same report, will most

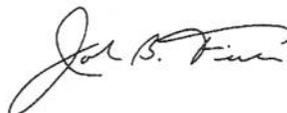
likely result in “the threat or actual occurrence of a port drayage crisis.” *Id.* at 58. A “crisis” reduction in transportation service is by definition unreasonable if it is avoidable, and that reduction in service is even more unreasonable if, as with the owner-operator ban, it is caused by actions that serve no transportation or environmental purpose. Finally, the Husing Report predicts that if the program is implemented with the ban on owner-operators, drayage costs will increase by 80%. *Id.* at. 80. That too—being unnecessary, manmade, and preventable—is unreasonable.

The standard for Commission action is met, the urgency is manifest, and the Commission is the entity uniquely placed to persuade or require the ports to reconsider their ill-conceived plan before they implement it to the great detriment of the nation’s commerce. We therefore respectfully, but forcefully, urge the Commission to require the ports to file their full agreement as is clearly required by the Act. If the ports refuse to comply with the law, or if their filing confirms what their public statements and the report of the economic experts that they have retained both indicate—a massive and unnecessary disruption of operations at these critical gateways for ocean-borne trade—then we urge the Commission to use its powers under section 6(g) to prevent that harm.

Respectfully submitted,



John McLaurin  
President  
Pacific Merchant Shipping Association



John B. Ficker  
President & CEO  
The National Industrial Transportation League

cc: The Honorable Antonio Villaraigosa  
The Honorable Bob Foster  
Mr. Richard D. Steinke  
Dr. Geraldine Knatz, Ph.D.



September 27, 2007

The Honorable Bryant L. VanBrakle  
Secretary  
Federal Maritime Commission  
800 North Capitol Street NW, Room 1046  
Washington, D.C. 20036

RE: Letter dated September 26, 2007 from the Pacific Merchant Shipping Association  
and the National Industrial Transportation League

Dear Mr. VanBrakle:

We have received a copy of a letter dated September 26, 2007 from the Pacific Merchant Shipping Association and the National Industrial Transportation League concerning efforts by the Ports of Los Angeles and Long Beach to reduce air pollution from trucks serving our two Ports.

The Ports have two guiding commitments: We are dedicated to ensuring that the Ports continue to serve the interests of the Nation's commerce through responsible expansion to meet the needs of the American economy in the 21<sup>st</sup> Century. We are also committed to reducing air pollution from port operations that according to the South Coast Air Quality Management District, contributes, on an annual basis, to more than 5000 premature deaths and nearly a million lost work days in the South Coast Air Basin. The Ports have undertaken a comprehensive strategy to reduce port-related air pollution by roughly 45% over the next five years. To meet this goal, the Ports will have to find sensible solutions to emissions from all port sources - trucks, ocean-going vessels, locomotives, yard equipment, and service vessels.

The challenge of meeting this goal is a considerable test of the ingenuity and dedication of all elements of the port community. Contrary to the assertions and intimations of the PMSA/NIT League letter, the final elements of the truck component of our Clean Air Action Plan have not yet been decided. We are, however, very much committed to moving in the near term to effecting significant reductions of all harmful components of diesel exhaust emissions that emanate from port operations. The Ports are prepared to commit substantial public monies to replacement of older, higher-polluting trucks with new vehicles that meet the most recent federal EPA standards for exhaust emissions. Many of the measures being considered are intended to

The Honorable Bryant L. VanBrakle  
September 27, 2007  
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ensure that these public funds are expended for their intended purposes and that environmental gains are sustainable over time.

The Ports have sponsored an extensive and comprehensive outreach program to all stakeholders in the port community in which we have solicited comments and suggestions from the trucking, ocean carrier, cargo, labor, environmental, marine terminal, and neighborhood communities. PMSA, its members, and members of the NIT League have participated in this process. The Husing Report referred to in the PMSA/NIT League letter is a part of that process and will be among the many inputs that inform the decisions of our port commissioners and staff as they analyze alternatives that will meet our environmental, safety and security goals. We have received extensive, and sometimes irreconcilable, suggestions and proposals about how best to proceed. The environmental challenges are complex. We are operating in a fast-changing port environment where additional security, safety, and economic issues must also be addressed. The implementation of a program that will achieve our environmental, security and safety objectives raises many complicated administrative issues about how best to proceed consistent with our obligations to the health of our communities, the commerce of the United States, and the stewardship of public funds that will be necessary to finance the replacement of older, polluting trucks.

Until the final elements of the Clean Truck Program have been decided upon by the Commissioners of the two ports, we cannot address with precision the local, state, and federal regulatory implications of the Clean Truck Program. PMSA and the NIT League appear to be eager to litigate by correspondence against an abstraction. Given the complexity of the issues being weighed by the Ports and the process by which the Ports are attempting to reconcile the legitimate, but sometimes disparate interests of all affected stakeholders in the two Ports, we cannot represent to the Federal Maritime Commission that the final Clean Truck Program will be universally acclaimed. We can commit, however, that it will reflect the Ports' best efforts to protect the health of our citizens and the continued vitality of the significant portion of commerce of the United States that moves through the Ports.

It is, at this point, premature to assess the degree to which any particular part of this environmental program is related to statutes administered by the Federal Maritime Commission. We respectfully disagree with the speculative legal analysis advanced by PMSA and the NIT League, which counsels in favor of maintaining the status quo. The Ports face a looming crisis. Maintaining the status quo is itself unreasonable, as it would have devastating long-term consequences on both public health and the long term growth of trade through the Ports. Accordingly, the Ports have committed themselves to crafting a reasonable way forward, balancing the broad spectrum of interests at stake, including public health, commerce and environmental imperatives, many of which are outside the ambit of the FMC's historical role. If FMC or other federal authorities are implicated by the final shape of the Clean Truck Program, the Ports will work with our federal partners to ensure prompt lawful implementation of the Plan.

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September 27, 2007  
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We most respectfully suggest that, should PMSA, the NIT League, or any other of the many valued stakeholders of the Ports conclude that unresolved legal issues attend the final Clean Truck Program, they bring these matters to our attention directly or pursue their legal concerns in the appropriate fora and venues. The Ports intend to comply fully with all applicable local, state, and federal statutory and regulatory requirements.

We thank the Commission for its interest and assistance in this important and complicated matter and look forward to a continued constructive relationship with the Federal Maritime Commission on issues that affect the health and prosperity of citizens of our port communities and the United States.

Cordially,

PORT OF LOS ANGELES

Date: 9-27-07

  
GERALDINE KNATZ, PhD.  
Executive Director

PORT OF LONG BEACH

Date: 9-27-07

  
RICHARD D. STEINKE  
Executive Director

GK:RDS:cg

The Honorable Bryant L. VanBrakle  
September 27, 2007  
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cc:

John McLaurin, PMSA

John B. Ficker, NITL

The Honorable Antonio Villaraigosa, City of Los Angeles

The Honorable Bob Foster, City of Long Beach

President David Freeman, Los Angeles Board of Harbor Commissioners

President Mario Cordero, Long Beach Board of Harbor Commissioners



**Intermodal Motor Carriers Conference**

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**Curtis E. Whalen**  
Executive Director

October 2, 2007

The Honorable Bryant L. VanBrakle  
Secretary  
Federal Maritime Commission  
800 North Capitol Street NW, Room 1046  
Washington, D.C. 20036

RE: Letters from: Pacific Merchant Shipping Association (PMSA) and the National Industrial Transportation League (NIT League) dated September 26, 2007; and, the Ports of Los Angeles and Long Beach (ports) dated September 27, 2007.

Dear Mr. VanBrakle:

I am writing regarding the above referenced letters to the Commission which address the so-called Clean Air Action Plan (CAAP) being discussed and developed jointly by the Ports of Los Angeles and Long Beach.

The Intermodal Motor Carriers Conference (IMCC) is an affiliated organization of the American Trucking Associations (ATA) representing motor carrier members who operate in or support intermodal transportation related activities. ATA is the largest national trade association for the trucking industry and through a federation of trucking groups, industry related conferences and its 50 affiliated state trucking associations, represents more than 37,000 members covering every type of motor carrier in the United States.

Because the trucking industry and the motor carrier members we represent will be most immediately and directly harmed by the ports implementation of the CAAP, we want to provide the Commission with our initial reaction to the facts and issues raised in these letters which concern what is clearly a critical maritime freight transportation defining proposal. We are of course prepared to more thoroughly discuss and document these initial comments at the appropriate time.

Regarding the overriding ports' compliance issue raised by PMSA-NIT League, the IMCC very much supports and echoes their concerns on the apparent Shipping Act violations resulting from the ports ongoing CAAP related activities. As detailed in numerous public documents and briefings conducted by port officials, the CAAP scheme developed during discussions by port officials will require motor carrier drayage providers to become licensed "concessionaires", own their trucks, operate these trucks using only employee drivers, pay assorted fees and comply with a detailed truck retirement and retrofit program aimed at reducing air emissions.

**Good stuff.**



IMCC/FMC 10-02-07CW

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The ports would have you believe that the details of the program are still very much under discussion and development: i.e., it is a work in progress. Based on the public record to date, we disagree. The port stakeholder meetings that have been held to discuss the proposal more often seem to trucking participants as briefings intended to inform the industry on what the few selected "deep pocket" motor carrier concessionaire applicant winners will have to do under the ports' plan to stay in business. From a highly competitive port trucking industry comprised of some 1300 small and medium sized motor carriers and 16,000+ owner operator drivers, CAAP implementation will permit only a handful of larger motor carrier companies to remain in the LA Long Beach port dray business, and they must do so using no independent owner operators-only employee drivers.

Moreover, industry attempts to present and have our concerns considered appear to us to date to have fallen on deaf ears. For example, ATA's federation member the California Trucking Association (CTA) in a June 1 letter (attached) to the port leadership detailed the many economic and operational freight transport problems and impacts the CAAP would cause and which the industry had been voicing since the plan was first released in April. The accuracy of the CTA economic harm analysis has now been verified by the ports own belatedly requested economic impact study...the so called Husing report, which was released in September and referenced in both the PMSA-NIT League and ports letters. The CTA written comments and concerns were never responded to, and, as reflected by comments in the September 27 letter, port officials seem to be downplaying the findings and importance of their own study... it apparently is now just one of many considerations.

That local government port entities could, with or without government antitrust protection, meet, discuss, develop and potentially implement such an anticompetitive and economically disruptive program is clearly injurious to the trucking community. That they would attempt to require the total restructuring of a federally deregulated industry that has successfully adapted to meet the ever increasing maritime freight demands generated by today's global marketplace...and done so operating under often inefficient operating procedures which these same ports have done virtually nothing to improve...is abhorrent.

The ports would also have you believe that this debate is only about clean air and health. However, the ports' scheme actually goes far beyond the environmental and health objectives outlined in the CAAP and amounts to a mandated restructuring of the port drayage business under the guise of environmental improvements. In fact, these same clean air and health objectives cited by the ports are being addressed in the California Air Resources Board's (CARB) far more comprehensive statewide port and truck fleet emission programs that are now being finalized. Importantly, but a fact apparently being ignored by port officials, unlike their CAAP plan, virtually all port stakeholders and particularly the trucking industry are already on record as supporting the basic elements of CARB's clean air-truck retirement and retrofit program and are working with the agency to fashion an effective and cost efficient program. Based upon the substantial progress and cooperative work done to date, we are confident that such a program will be finalized shortly, and we also certainly believe that California does not need two port truck emissions programs. And, unlike the ports' plan, CARB's focus is correctly and

legitimately on securing truck emission reductions, not on mandating anticompetitive reregulation and illegal and inefficient trucking operational edicts that are the core requirements of the CAAP.

We likewise find it most disturbing that the ports' seem to be encouraging-even inviting litigation. ATA-IMCC are on record and are indeed actively preparing to seek corrective action in *federal district court and before the Commission... should* the ports in fact approve and act to implement CAAP in its current form. But given the overriding economic importance that maintaining reliable freight flows through America's largest port complex has for the trucking industry, the maritime transportation sector and the public, time consuming litigation is not our first choice. We would instead prefer that before the ports and city officials approve their plan and force litigation, these public officials should first consider complying with the legal discussion agreement requirements detailed in the PMSA-NIT League letter. Once in compliance, they should work openly with all port stakeholders and CARB to ensure that emission reduction needs are met, which will thereafter permit approval of much needed and already identified port expansion projects, without disrupting the existing marine transportation system which has served the LA Long Beach ports and the public so well.

We also concur with the PMSA and NIT League assessment that the Commission, through its powers of persuasion and enforcement should take an immediate and active oversight role in this critical national policy debate. We are encouraged and applaud the fact that a well prepared group of senior FMC staff has recently conducted in-depth onsite *fact finding meetings in the LA area*, and hope this was a preparatory first step indicating further commission involvement.

Finally, we do not agree with the ports questioning Commission involvement at this time. We suggest they go to your website and read and consider the commission's approved and concise mission statement to:

- Develop and administer policies and regulations that foster a fair, efficient and secure maritime transportation system;
- Protect U.S. maritime commerce from unfair foreign trade practices and market-distorting activities;
- Facilitate compliance with U.S. shipping statutes through oversight and outreach; and
- Assist in resolving disputes.

Thank you.

Respectfully submitted,



Curtis E. Whalen

October 5, 2007

The Honorable Antonio Villaraigosa  
Mayor  
City of Los Angeles  
200 North Spring Street, Room 303  
Los Angeles, CA 90012

The Honorable Robert Foster  
Mayor  
City of Long Beach  
333 West. Ocean Blvd., 14th Floor  
Long Beach, California 90802

Dear Mayor Villaraigosa:

Dear Mayor Foster:

The undersigned state and national associations representing importers and exporters, and the service supplier industries which support them such as customs brokers, forwarders, warehousemen, and NVOCC's, doing business at the ports of Los Angeles and Long Beach are writing to express our concerns about aspects of the San Pedro Area Ports' proposed Infrastructure and Environment Container Fee (IECF), and the Clean Air Action Plan (CAAP) truck replacement proposal. We understand that aspects of both of these proposals will be taken up and likely approved by the both Port Commissions at an upcoming meeting.

We are writing, not merely to object to aspects of these proposals, but to suggest discrete changes that we believe would improve them. We urge you to consider these proposed changes prior to any such meeting of the Port Commissions. We also pledge ourselves to continue to work with you to find a compromise that will result in private-sector support. It is our understanding that some industry stakeholders are considering litigation against the ports if the plan and fee as currently drafted are approved, something that we would like to see avoided.

We have three recommendations for change:

- 1. Eliminate the Employer Requirement in the CAAP Truck Replacement Plan.**  
The CAAP truck replacement plan as outlined earlier this year would eliminate independent owner-operators by requiring all truckers serving the harbor to become employees of a small number of large licensed motor carriers. This anti-competitive proposal is almost sure to be litigated, and, as such, it will not move us closer to cleaner trucks operating in the harbor. A better way would be to eliminate these requirements and focus on emission standards and mitigation fees. We publicly support tighter emission standards for trucks and believe the private sector can pay for them. Indeed, some of the importers represented by the undersigned organizations have *already committed privately* to move freight using trucks that meet the EPA 2007 standard or higher. These importers have committed to higher dray rates and are working with licensed motor carriers who are providing financial help and incentives to get independent contractors into cleaner trucks. Standards coupled with mitigation fees will result very rapidly in

cleaner trucks, as has been suggested by the recent economic study undertaking on the CAAP Truck Replacement Plan.

2. **Focus port-collected user-fees on port projects only.** We expect that the Port Commissions will consider a new tariff that calls for a \$26 per TEU fee (the Infrastructure and Environmental Container Fee--ICEF) on loaded containers to be paid by Beneficial Cargo Owners (BCOs). The projects supported by this fee include \$1.5 billion in road and bridge improvements inside the ports, \$600 million in rail improvements not located on any specific terminal that, nevertheless, support on-dock rail, and \$3.7 billion in projects (mostly the Alameda Corridor East) that fall outside the port boundaries.

We support the \$2.1 billion of infrastructure projects the ports have identified that fall within the boundaries of either the Port of Los Angeles or the Port of Long Beach. The ports have estimated a private sector contribution to these projects of almost \$800 million, and we do not object to that contribution. We believe the private sector has an obligation to help defray the costs of these projects, and we acknowledge that the ports have the authority to raise reasonable tariffs to undertake these projects.

However, the ports do not have the legal authority under state law to collect fees for projects that fall outside their boundaries. Pursuing these projects in this manner will result in litigation. Projects like Colton Crossing and the Alameda Corridor East are important projects, but they should be part of the state working groups that the Governor and Senator Lowenthal recently announced. We have long supported the notion of creating state corridor authorities that could prioritize projects in a coordinated way and bring together much larger groups of potential users to help defray the costs. We strongly oppose making the port authorities the collection agents for every infrastructure project in Southern California. Their nexus is only with the freight community, and the freight community is but one user of highways in Southern California.

3. **Create a user fee that doesn't penalize intermodal rail or benefit free riders:** The ICEF proposed by the ports would be assessed on all loaded containers, including intermodal rail containers that already pay the Alameda Corridor fee. Because the majority of the projects are road projects, the fee is inherently unfair and would penalize intermodal, on-dock rail users, which would be simply bad policy.

In addition, the fee creates free-riders who are not BCOs but who nevertheless use the port road infrastructure. These free-riders include those moving empties or those moving bob-tail rigs. It creates a large class of BCO free riders who move break bulk or project cargo through the ports. Finally, of course, vehicle users of the roads and bridges would also be exempt from having to pay for the improvements.

Given these deficiencies, the IECF is hardly a user fee. Unless restructured, it will be challenged under the Shipping Act and at the Federal Maritime Commission. It may also be challenged on Constitutional grounds as a tax on foreign commerce.

We would propose the following changes: 1) move the financing of the \$600 million of on-dock rail projects to the Alameda Corridor Authority (ACTA) and let the ACTA finance those projects through the existing or adjusted ACTA fees and 2) find an equitable user-fee that eliminates free-riders for the remaining \$1.5 billion in road and bridge improvements that lie within the port. The BCOs of containerized cargo are not the nexus for all of these possible users of improved port infrastructure. Hence the container fee as proposed is not equitable or fair. The BCO fee should be dropped in lieu of something that includes more port users. The mechanism for collecting a fair and equitable toll is not entirely clear, and we would urge you to bring stakeholders together to determine a way to collect road user fees and/or tolls that would: 1) ensure that truck traffic does not divert to side streets, 2) ensure that trucks using facilities not located on Terminal Island still pay some form of user fee for the roads and bridges necessary to serve the port community, and 3) ensure that any fees on truck movements can be passed through to importers and exporters of all types of cargo and other types of users such as those whose equipment travels on port-financed roads and bridges.

We realize time may be short, but we want to emphasize that we have always been willing to work toward fair and equitable user-fees to support infrastructure within the port boundaries. In addition we have supported the concept of public-private partnerships to help finance larger projects that would be undertaken by state corridor authorities and supported by Proposition 1B funds. Our most sincere hope is to avoid litigation and move forward in collaboration with the ports and the cities of Los Angeles and Long Beach to manage the growth in international trade and transportation in a more rational and environmentally sound manner.

Sincerely,

Agriculture Transportation Coalition  
American Apparel & Footwear Association  
American Association of Exporters & Importers  
American Import Shippers Association  
California Chamber of Commerce  
California Grocers Association  
California Independent Grocers Association  
California Manufacturers & Technology Association  
California Retailers Association  
Coalition of New England Companies for Trade  
Consumer Electronics Association  
Footwear Distributors and Retailers of America

Idaho Retailers Association, Inc.  
Illinois Retail Merchants Association  
Joint Industries Group  
Maryland Retailers Association  
Meat Importers Council of America, Inc.  
Minnesota Retailers Association  
Missouri Retailers Association  
National Customs Brokers & Freight Forwarders Association of America  
National Foreign Trade Council  
National Retail Federation  
Pacific Coast Council of Customs Brokers & Freight Forwarders  
Retail Industry Leaders Association  
Retail Merchants Association of New Hampshire  
Retail Merchants of Hawaii  
Sporting Goods Manufacturers Association  
The Waterfront Coalition  
Toy Industry Association  
Travel Goods Association  
US Association of Importers of Textiles and Apparel (USA-ITA)  
US Council for International Business  
Virginia Retail Merchants Association  
Wine Institute

cc:

**Los Angeles Board of Harbor Commissioners**

President S. David Freeman  
Vice President Jerilyn López Mendoza  
Commissioner Kaylynn L. Kim  
Commissioner Douglas P. Krause  
Commissioner Joseph R. Radisich

**Long Beach Harbor Commission**

Mario Cordero, Commission President  
Dr. Mike Walter, Commission Vice President  
Doris Topsy-Elvord, Commission Secretary  
James C. Hankla, Commissioner  
Nick Sramek, Commissioner



The Port of  
**LONG BEACH**

# San Pedro Bay Ports Clean Air Action Plan

**For Immediate Release**

**November 8, 2007**

## **Los Angeles and Long Beach Harbor Commissions Approve Clean Trucks Tariff**

**Ban will phase out the oldest trucks to bring significant air quality improvements within five years.**

The Los Angeles and Long Beach Boards of Harbor Commissioners have voted to ban the oldest, dirtiest trucks from operating at the Port of Los Angeles and Port of Long Beach, separately approving a tariff that will gradually limit access to all but the cleanest vehicles.

The Los Angeles vote on November 1 and the Long Beach vote on November 5 enacted a tariff that will result in an 80 percent cut in air pollution from short-haul or drayage trucks serving port cargo terminals. In Los Angeles, but not Long Beach, the tariff will also require mayoral and city council approval for adoption as a city ordinance.

The tariff is based on a progressive ban of the oldest trucks. The schedule is:

- Oct. 1, 2008: All pre-1989 trucks will be banned from port service.
- Jan. 1, 2010: 1989-1993 trucks will be banned along with unretrofitted 1994-2003 trucks.
- Jan. 1, 2012: All trucks that do not meet the 2007 federal standard will be banned.

"This tariff sets into motion our goal of modernizing the fleet of trucks that serve our ports by either replacing or retrofitting them to attain substantially lower emissions," Port of Los Angeles Executive Director Geraldine Knatz, Ph.D. "We need to do this to meet the health standard we set for ourselves in the San Pedro Bay Ports Clean Air Action Plan approved by Los Angeles and Long Beach harbor commissions last November."

-more-

"The Commission's action will allow the Port of Long Beach to achieve steady progress in the effort to reduce air pollution. It's a sensible plan that will help to aggressively clean the air while continuing the efficient movement of goods in and out of the Port," said Richard D. Steinke, Port of Long Beach Executive Director.

The tariff's ban will rely on an electronic identification system such as RFID – Radio Frequency Identification. RFID tags or similar technology will be placed in trucks, and tag readers will be installed at Port terminal gates to ensure access only for clean trucks.

# # #

**For More Information, Contact:**

Theresa Adams Lopez, Port of Los Angeles Director of Media Relations  
(310) 732-3507, (310) 418-6131 (cell), or [tadams-lopez@portla.org](mailto:tadams-lopez@portla.org)

Art Wong, Port of Long Beach Assistant Director of Communications/Public Information Officer, (562) 590-4123, (562) 619-5665 (cell), or [wong@polb.com](mailto:wong@polb.com).



## News Release

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### **Long Beach Harbor Commission Approves Clean Trucks Tariff** Phasing out older trucks to bring significant air quality improvements

November 5, 2007

Long Beach Harbor Commissioners today (Monday, November 5, 2007) voted to ban the oldest, dirtiest trucks from operating at the Port of Long Beach, through approval of a port tariff that will gradually limit access to all but the cleanest vehicles.

The tariff, which matches one enacted last week by the Port of Los Angeles, will cut air pollution from short-haul (or "drayage") trucks working in the harbor by nearly 80 percent within five years.

The tariff is based on a progressive ban of the oldest trucks. The schedule is:

- October 1, 2008: All pre-1989 trucks will be banned from Port service.
- January 1, 2010: 1989-1993 trucks will be banned along with unretrofitted 1994-2003 trucks.
- January 1, 2012: All trucks that do not meet the 2007 federal standard will be banned.

"With this clean truck program, the Port of Long Beach has taken a major step forward for clean air," said Long Beach Harbor Commission President Mario Cordero.

"The Commission's action will allow the Port of Long Beach to achieve steady progress in the effort to reduce air pollution. It's a sensible plan that will help to aggressively clean the air while continuing the efficient movement of goods in and out of the Port," said Richard D. Steinke, Port of Long Beach Executive Director.

The Los Angeles Harbor Commission approved a similar tariff at its November 1 meeting.

The tariff's ban will rely on an electronic identification system such as RFID – Radio Frequency Identification. RFID tags or similar technology will be placed in trucks and tag readers will be installed at Port terminal gates to ensure access only for clean trucks.

Contact: Art Wong, Port of Long Beach Assistant Director of Communications/Public Information Officer, (562) 590-4123, (562) 619-5665 (cell), or [wong@polb.com](mailto:wong@polb.com)

CTP Coordination Committee Meeting  
7:30 - 10:30  
Port of Los Angeles  
November 20, 2007

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DIR OF ECON & AGRI AFFAIRS

Action Items

- Chris Cannon to draft board memo; the finance team to provide data.
- Chris Lytle to check on CAPA timing for tariff review.
- Team to send comments on draft permit requirements to Paul Johansen and Bob Kanter.
- Chris Lytle to draft PierPass request letter for submittal to the two Executive Directors.

Minutes

Subcommittee Team Updates

**Fee and Finance Team**

Steve Rubin said the next step is to adopt a container fee through a tariff without specifics of how the funding would be formulated regarding grants and bonding. The subcommittee agreed to calculate the fee with an understanding that it could be adjusted at any time if incorrect assumptions were made. The team assumed 16,800 semi-frequent and frequent trucks will need to be replaced based on 2005 data. There is no commitment on fleet configuration with regard to clean diesel and alternative fueled vehicles, although a 50:50 split was assumed for calculation purposes. Outside funding assumes \$200M in Prop 1B funds. The ports may also be able to drive costs down through volume purchasing, so the ports wouldn't have to subsidize actual costs at 80%.

The draft tariff language reflects that the MTO is responsible for paying the fee, although the intent of the board will be that the fee is passed on to the beneficial cargo owner (BCO). With a fee start date of June 1, 2008, the terminal operators have adequate time to include the fee in their negotiations with the shippers for the upcoming year. The ports will be collecting the fee in advance of October 1, 2008, so there will be funds collected in advance of the first ban date. To reiterate, empties and on dock rail (including TICTF) are excluded. The fee applies to all loaded containers, imports and exports, and the fee will sunset after conclusion of the Clean Trucks Program. This funding is for the transitional period to allow industry time to adjust, and industry must come up with a way to fund future replacement of these trucks. The team envisioned these assumptions being incorporated into the tariff, and still need the final calculations based on these fees: previous calculations came out to be \$24/teu, plus or minus, with a fee for non-containerized cargo based on metric tons.

The tariff would be ready for the boards to adopt in early January, and would very briefly describe other funding options staff are working on. The boards could direct staff to come back with a more detailed plan with regard to leasing grants, low interest loans, loan guarantees, Gateway Cities and Cascade Sierra Solutions. There is no detail formulated on these programs as yet, and there are pros and cons with each depending on who will receive the grant with regard to employees or independent owner operators,

*Handwritten notes:*  
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5/20/08

they will make more moves than they have in the past but it may be balanced by the point that the ports will lose some trucks. Brightbill and Husing have previously suggested the ports plan be as flexible as possible while preserving the maximum number of trucks and drivers absent any undue constraints on the program. John Holmes suggested the ports should be looking at funding the number of trucks that will be needed rather than the number of trucks used in the past. Steve Rubin restated that staff are trying to balance all these things and the good news is that the fee can be adjusted at any time.

*M. Can  
H. CRISIS?*

#### **Tariff Amendment**

An amended tariff was circulated to the team. The boards will readopt the entire truck tariff because it currently requires an RFID sticker; the plan is to modify appropriately and tack two short sections on the end, one defining the fee, and one defining the use of the fund. Most critical legal issue is the other cargo fee. The sooner staff calculates and defines the basis for them the better.

Someone said that optical character recognition (OCR) is hugely inaccurate. Using it to recognize a license plate on the tractor and comparing it to something in the database will be problematic. Even the best OCR software will only claim to recognize 90% of the readable plates and US license plates are some of the hardest to read. Steve Rubin said the team is prepared to have something for review the first week in December. Heather Morris suggested scheduling the tariff to go to the boards on the 18<sup>th</sup> or 19<sup>th</sup> of December. Paul Johansen suggested the ports do not discuss the clean diesel/LNG split in the formatting of the calculation. Rick Cameron said the 50:50 split is consistent with the CAAP and the discussion should build in the flexibility that it could be modified. Steve Rubin suggested leaving the dollar calculation alone for now and with a very careful explanation that details regarding diesel and LNG trucks will be flushed out in a subsequent action.

Christopher Patton said it is a policy decision to exclude intermodal rail containers. ?

#### **Meeting Date**

Los Angeles has a regular board meeting on December 20 and Long Beach on December 17. Perhaps a joint meeting could occur on the 18<sup>th</sup> or 19<sup>th</sup>. Bob Kanter said staff should try to find a joint meeting date, but failing that staff can fall back to two separate meetings the same week.

Next week documents to circulate include the board letter, draft tariff with remaining issues worked out regarding boundaries and non-container cargo fee, the revised name, and a paragraph of intent explaining how funds will be used. Fund distribution will be up to the boards, absent any entitlement to a retailer or other entity.

#### **Permit/License Agreement**

Katharyn McDermott had previously argued for the inclusion of a workforce development component, however Bob Kanter said he and Dick Steinke only want items directly related to cleaning up the trucks in the license. It may be possible to prepare a separate handout articulating the benefits of the workforce development centers. Paul

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→ can we  
do this?

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**New Deputy Chief of Staff for Mayor Villaraigosa**

John Holmes announced that Dan Grunfeld is a new Deputy Chief of Staff for Mayor Villaraigosa; he is focusing on the trucks program and trying to get up to speed and put issues in front of the Mayor for decision. He is bringing Geraldine Knatz and Commissioner Freeman in to talk with the Mayor again; Holmes is confident he will bring the employee issue to a resolution.

**Drayage Truck Registry Implementation**

Chris Lytle said that the PierPass attorneys have determined the ports do not need a bridge agreement to proceed with negotiations with the ports. Staff are recommending the ports sole source a contract to PierPass. Bruce Wargo said all the trucks could be registered by May; along with all necessary. They already have data fields for trucks and drivers, and can easily enrich the system to include data fields for TWIC and an LMC database with permit number, etc. To proceed they need a letter from the ports with a specific request. The request will enable them to develop a proposal with a price based on stated requirements. Chris Lytle will be drafting the letter and submitting it to the two Executive Directors. John Holmes said the ports must seek legal counsel on who owns the data and the databases, there cannot be co-mingling of the data due to security issues. There are three locations without automatic readers in place, West Basin, Evergreen and Hangin. Hangin has their readers ordered, which is a 2-3 month process.

BARBARA BOXER  
CALIFORNIA

COMMITTEES:  
COMMERCE, SCIENCE,  
AND TRANSPORTATION  
ENVIRONMENT  
AND PUBLIC WORKS  
FOREIGN RELATIONS

## United States Senate

HART SENATE OFFICE BUILDING  
SUITE 112  
WASHINGTON, DC 20510-0505  
(202) 224-3553  
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November 27, 2007

Honorable Bryant L. VanBrakle  
Secretary  
Federal Maritime Commission  
800 North Capitol St., NW  
Washington, DC 20573

Dear Mr. VanBrakle:

I write to express my support for the efforts underway by the Port of Los Angeles/Long Beach to craft a port plan that will dramatically improve air quality, reduce congestion, improve working conditions and labor standards for port truck drivers, and strengthen port safety and security. I ask the Federal Maritime Commission to give this important proposal full and fair consideration as it progresses.

I am aware that the FMC has traditionally limited its consideration of a port plan to the question of whether it would decrease the supply of transportation services or increase the costs to shippers. But as our country grapples with unprecedented new environmental and homeland security challenges, I believe the FMC must also consider the broader environmental and public health effects of port operations.

In 2006, the Port of LA/LB was responsible for nearly 44 percent of all containerized cargo brought into the U.S. by ship, with an estimated value of nearly \$200 billion, and this trade is expected to more than double by the year 2020. The Port of LA/LB is critical to our entire nation's manufacturing and retail industries, providing jobs and economic benefits.

As you know, over the past decade, the Port of LA/LB has had difficulty increasing its capacity due to legal challenges based on environmental and public health concerns. Port officials seek to move forward with long-delayed projects that would enlarge their capacity and upgrade infrastructure, but unless they address air pollution problems, they are expected to face protracted legal challenges.

The California Air Resources Board (CARB) estimates that particulate matter air pollution alone in the South Coast area causes approximately 5,400 premature deaths, 980,000 lost work days, 2,400 hospitalizations, 140,000 asthma and lower respiratory cases, and a significant increase in cancer risks. CARB also has found that port activity will be responsible for about one-third of the South Coast particulate matter pollution in 2014, and nearly half of this air pollution by 2020. And statewide, CARB estimates that air pollution costs \$2.3 billion in health care costs annually.

1700 MONTGOMERY STREET  
SUITE 240  
SAN FRANCISCO, CA 94111  
(415) 403-0100

312 NORTH SPRING STREET  
SUITE 1748  
LOS ANGELES, CA 90012  
(213) 894-5000

501 'I' STREET  
SUITE 7-600  
SACRAMENTO, CA 95814  
(916) 448-2787

2500 TULARE STREET  
SUITE 5290  
FRESNO, CA 93721  
(559) 497-5109

600 'B' STREET  
SUITE 2240  
SAN DIEGO, CA 92101  
(619) 239-3884

201 NORTH 'E' STREET  
SUITE 210  
SAN BERNARDINO, CA 92401  
(909) 888-8525

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In addition to the environmental and public health costs that result from port activities, port-related congestion costs hundreds of millions of dollars in lost productivity and additional infrastructure needs. Clearly the public health costs are borne most directly by those who live and work in the port district and their families, who experience higher rates of asthma and cancer.

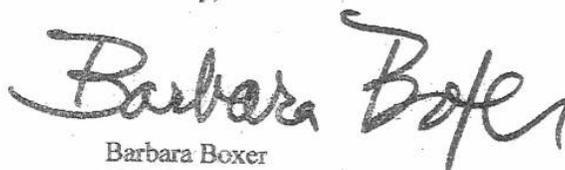
As you are aware, the Port of LA/LB recently took the first step toward implementing emissions standards for trucks. It is my understanding that the Port will next consider a fee to help defray the cost of cleaner trucks, and decide what criteria trucking companies would have to meet in order to participate in the program. The Port will also consider future requirements for vessel and terminal operations.

I believe that changes to the port drayage system are vital to creating a sustainable clean truck program. There are those that will tell you that such a program, as envisioned by the port, could increase costs enormously, but if you look behind the numbers, the truck portion of overall shipping costs is extremely small – by some estimates only one cent per \$75 item.

As the Port continues to refine its proposal, I hope to work with the FMC to ensure it understands the huge financial, environmental, and public health costs of inaction, and the urgent need for a plan that makes the health, safety and well-being of the millions of people who live and work in the port district a top priority.

I thank you for consideration and look forward to working with you.

Sincerely,



Barbara Boxer  
U.S. Senator

NRDC Issue Paper  
December 2007

# Driving on Fumes

## Truck Drivers Face Elevated Health Risks from Diesel Pollution

### Lead Authors

Diane Bailey  
*Natural Resources Defense Council*

Zach Goldman  
*Coalition for Clean and Safe Ports*

Maria Minjares  
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*Natural Resources Defense Council*

COALITION FOR  
& CLEAN  
& SAFE  
PORTS



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**About NRDC**

The Natural Resources Defense Council is an international nonprofit environmental organization with more than 1.2 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, Chicago, San Francisco, and Beijing. Visit us at [www.nrdc.org](http://www.nrdc.org).

**About CCSP**

The Coalition for Clean & Safe Ports is a coalition of environmental, labor, faith, and community organizations promoting sustainable economic development at West Coast ports. We are working to clean up the port trucking industry, reduce environmentally harmful port emissions, and stimulate greater economic opportunities for surrounding port communities. To ensure a level playing field, the Coalition is organizing at the Ports of Oakland, Los Angeles, Long Beach, and Seattle, so that standards are lifted regionally and no one port is put at a competitive disadvantage.

**Acknowledgments**

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An appendix reviewing the literature on the topic of truck driver in-vehicle diesel exhaust exposure is available online at [www.nrdc.org/policy](http://www.nrdc.org/policy).

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## Executive Summary

**D**iesel pollution is well known to be hazardous to human health. Groups at particular risk include workers in diesel industries, such as trucking and rail, and communities located near major sources of diesel pollution, such as ports and freeways. Truck drivers who serve ports are at especially high risk. They may be exposed to pollution from their own diesel trucks, and they drive in locations where there are many other sources of diesel pollution—including other port trucks, cargo-handling equipment, ships, and locomotives—and are likely to inhale soot from the air around them.

Our investigation is one of the first to measure truck drivers' exposure levels to diesel soot, or black carbon, inside trucks serving our nation's ports. To do so, we monitored the air inside the cabs of trucks—ranging in age from 1981 to 2006 model years—for an entire work shift serving the Port of Oakland. What we found was disturbing. All of the average black carbon levels measured within the truck cabs were at least 10 times higher than the background level of 0.3  $\mu\text{g}/\text{m}^3$  found in a residential area of Oakland; samples from inside the 1981 truck showed levels of black carbon roughly 25 times higher than the background. These levels are significantly higher than what was previously found along truck corridors near the Port of Oakland and at Port of Oakland terminals, suggesting that diesel exhaust may be accumulating inside the truck cabs.

Thus port truck drivers face even greater health risks than do the residents of surrounding communities. The amount of black carbon we measured inside the truck cabs was high enough to increase health risks by up to 2,600 excess cancers per million drivers—double the level considered acceptable by the Occupational Safety and Health Administration (OSHA), and roughly 2,000 times greater than the level typically considered acceptable by state and federal environmental protection agencies. Although we were unable to quantify them, the non-cancer health risks, such as premature death, are likely to be even greater.

Our investigation indicated that the air in newer trucks tends to be slightly cleaner than the air in the oldest trucks, implying that some portion of the diesel particulate matter (DPM) that the drivers inhale comes from their own trucks. However, the DPM levels found inside the cabs of newer, cleaner trucks remained elevated across model years, showing greater variation depending on the location. This led us to conclude that most of the exposure was from surrounding diesel sources in the port environment.

Based on direct observations of three separate truck drivers' shifts, we also found that drivers spent a lot of time waiting in lines at the port, amounting to almost two-thirds of their day at or around the Port of Oakland. Levels of diesel soot at and around the port were second only to freeway levels among locations with the highest levels of diesel exhaust measured in this work.

To reduce health risks to drivers and local residents, it is necessary to clean up the port truck fleet, increase efficiency to reduce the time trucks spend at the terminals, and reduce pollution levels from other port sources.

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## CHAPTER 1

# The Negative Health Effects of Diesel Pollution

Air quality-related health issues have been a major concern to those who work at our nation's ports and those who live nearby. Many of these health concerns are directly related to diesel exhaust from trucks, cargo equipment, ships, and trains, many of which are old and dirty and tend to be highly concentrated in areas near freeways, port terminals, and rail yards. Diesel engines emit a toxic brew of particulate matter (DPM), smog-forming nitrogen oxides (NOx), and volatile organic compounds.<sup>1</sup> Diesel exhaust can also contain an estimated total of 450 different chemicals, about 40 of which are listed by the California Environmental Protection Agency as toxic air contaminants with negative effects on health and the environment.<sup>2</sup>

### Diesel Pollution Can Be Deadly

Diesel exhaust is a well-known human carcinogen,<sup>3</sup> estimated to be responsible for 70 percent of the total cancer risk from air pollution.<sup>4</sup> Notably, the occupational exposure of truck drivers, railroad workers, heavy-equipment operators, and other workers is associated with lung cancer risks 40 percent higher, on average, than in the population at large.<sup>5</sup> In fact, a recent study of the U.S. trucking industry found an excess risk of death due to lung cancer and ischemic heart disease particularly among drivers.<sup>6</sup> Numerous studies have documented a wide range of other adverse health impacts from long-term exposure to fine particulate matter, a major component of diesel exhaust. These include increased risk for cardiovascular disease such as atherosclerosis,<sup>7</sup> increased heart attacks,<sup>8</sup> increased emergency room visits for acute health events,<sup>9</sup> birth defects,<sup>10</sup> low birth weights,<sup>11</sup> premature births,<sup>12</sup> and increased rates of death.<sup>13</sup> A recent California Air Resources Board (CARB) report quantified some of the health impacts caused by diesel exhaust from freight transport in California; it found 2,400 premature deaths, 2,830 hospital admissions, 360,000 missed workdays, and 1,100,000 missed days of school in 2005.<sup>14</sup>

*According to CARB, trucks are responsible for more than half of the estimated 2,400 premature deaths attributable to diesel exhaust from California freight transport in 2005.*



Truck traffic near the Port of Oakland

BETH TRIMARCO

### **Health Risks Affect Workers and Communities**

Diesel pollution is particularly severe in communities surrounding California's seaports. CARB reported that the cancer risk for residents of communities next to the Ports of Los Angeles and Long Beach was greater than 500 in a million, a risk 500 times higher than what the federal government considers acceptable.<sup>15</sup> Compared with the rest of the state, West Oakland residents are exposed to six times more diesel particulate matter per person.<sup>16</sup>

The negative health impacts of diesel pollution affect workers, too. Port workers ranging from longshoremen to truck drivers are exposed to high levels of diesel pollution on the job—and truck drivers are especially vulnerable. The vast majority of drivers work as independent contractors and must arrange for their own health insurance. But most are too poorly paid to afford it. In recent studies, 90 percent of drivers serving the Ports of Los Angeles and Long Beach reported having no health coverage, and in Oakland nearly two-thirds of drivers reported lacking coverage. Furthermore, as independent contractors, port drivers do not receive paid sick days, nor are they covered by workers' compensation insurance. Although all drivers and longshoremen are heavily impacted by the negative health impacts of diesel pollution, independent port drivers are especially susceptible when compared with employee workers. The fact that OSHA regulations protecting employee drivers while on the job do not also apply to and protect independent contractor drivers exacerbates the problem.

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## CHAPTER 2

# Investigating Drivers' Exposure to Pollution Inside the Truck Cab

Our work investigates the exposure of port truck drivers to harmful pollutants in the course of their work and considers the potential health impacts from such exposure. Many studies on this issue have assessed health impacts based on air pollution modeling and estimates of pollution levels and have measured vehicle tailpipe emissions or roadway pollutant levels. We are aware of very few studies measuring the direct exposure to pollutants that drivers face inside the cabs of their trucks.<sup>17</sup>

Our goal was to gather information about the levels of diesel soot drivers are typically exposed to during their shift and whether the age of their trucks makes a significant difference in exposure. The small sample size of this work—only seven trucks—indicates the severity of the occupational health impacts but must be considered preliminary. We encourage air quality agencies to do a more comprehensive evaluation both of health impacts to drivers and of truck performance.

### How We Obtained Our Air Samples

An air monitor was placed inside the cab of seven different trucks for one shift each in service at the Port of Oakland for a total of 68 hours of sampling time. The monitor, an Aethalometer, continuously recorded concentrations of black carbon, a pollutant associated with diesel exhaust.<sup>18</sup> The instrument was placed in the cab of each truck with a Global Positioning System (GPS) device attached to track each driver's route.<sup>19</sup> The Aethalometer was run for one day in a residential area of Oakland to obtain a background sample.<sup>20</sup>

A total of nine shifts were assessed, three of them accompanied by an observer. The observer documented specific activities, locations, and the time spent in each location. Details of these observations are summarized in the sidebar entitled *A Day With a Truck Driver*. Five drivers were employees of a private trucking company; the other two were independent owner-operators. One truck was monitored in triplicate to determine the degree of variation possible from day to day. The trucks' model years were: 1981, 1986, 1994, 1999 (two trucks), 2001 (alternative-fuel), and 2006. Details of the trucks monitored are listed in Table 1.

Black carbon measurements were processed by taking averages of the minute-by-minute measurements over the course of the whole shift, or, where an observer was present, over the aggregated time spent in each of four types of locations. Average exposures to black carbon were converted to DPM to assess occupational cancer risk according to accepted guidelines.<sup>21</sup>

**Table 1: Truck and Driver Information**

Date of Monitoring	Years Driving	Model Year	Mileage	Windows	Reported Health Problems
7/2/07*	4	1999	572,592	Open	Back pain
7/18/07,* 7/19/07, 8/16/07	15	1994	N/A	Open	None
7/20/07*	3	1999	717,622	Closed	Asthma
7/24/07	21	1986	N/A	Open	Eye problems
7/25/07, 8/3/07**	15-18	1981	313,510	Varied	None
8/13/07	11	2001***	253,439	Closed	Breathing problems****
9/4/07	2	2006	217,567	Closed	Back pain

\* Monitoring runs accompanied by an observer.

\*\* Monitoring on 7/25 stopped after several hours, likely due to accidental disconnection of power source; monitoring was resumed on 8/3.

\*\*\* Truck used liquefied natural gas (LNG). All other trucks in this work were powered by diesel fuel.

\*\*\*\* This driver mentioned that when he gets back from vacation and begins working again, he gets nasal congestion when sleeping.

Despite numerous requests for information, we were unable to ascertain the mileage of two test vehicles.

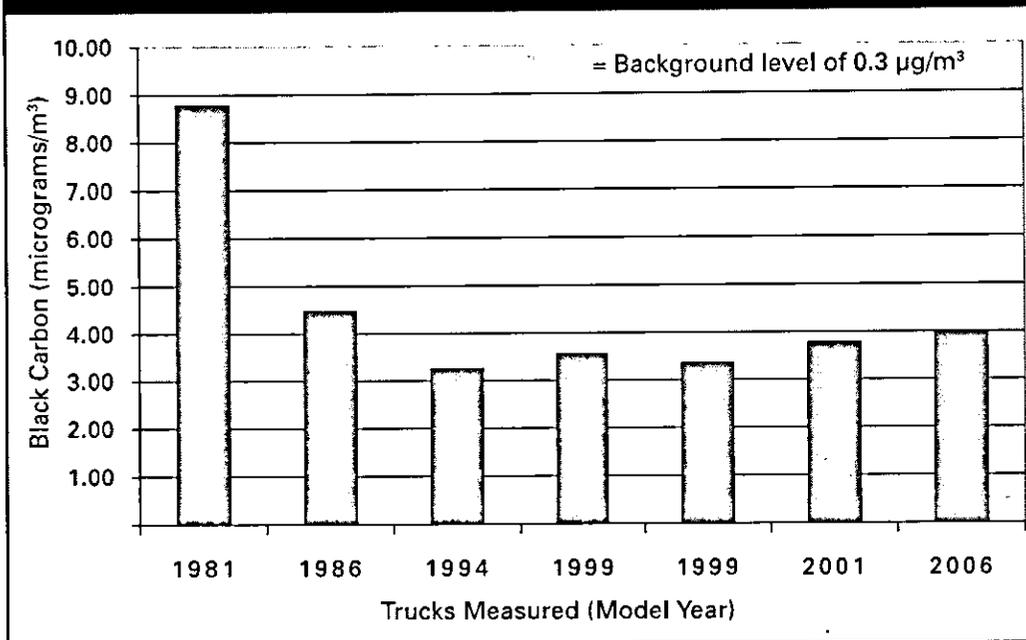
### **Investigation Reveals Elevated Pollution Levels Inside the Truck Cab**

The average black carbon concentrations measured during a typical work shift for each truck is shown in Figure 1. The concentrations are similar for all except the oldest truck, which was visibly smoking. The level of black carbon was more than twice as high in the cab of this truck as in all of the newer trucks, suggesting that some of the smoke from the engine was getting inside the cab, even though the truck was moving most of the time.

The two 1999 model year trucks had nearly identical average black carbon levels in the cabs (3.4 and 3.5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )). Although the measurements were taken several weeks apart, we believe the very close averages are a coincidence and cannot be taken to represent the average concentration in all 1999 trucks. In fact, three daily measurements were made on the same 1994 truck over the span of one month, and the results (2.9, 3.0 and 4.8  $\mu\text{g}/\text{m}^3$ ) had a range broad enough to suggest the heavy influence of differing background conditions.

All of the average black carbon levels measured within the truck cabs were at least 10 times higher than the background levels of 0.3  $\mu\text{g}/\text{m}^3$  in a residential area of Oakland; the 1981 truck that was sampled showed levels of black carbon more than 25 times higher than the background.

**Figure 1: Average black carbon levels measured inside trucks**



The three monitoring runs done with an observer yielded information about how different locations impact drivers' exposure to soot. Each of the three shifts was divided into four location categories: "Port," "Road," "Freeway," and "Yard." "Port" included terminals, waiting areas outside of terminals, and any roads near terminals. "Road" included any thoroughfares that were not adjacent to the port complex and not considered a freeway. They also included customer drop-off sites, which were in Pittsburg, Hayward, and San Francisco, California. "Freeway" refers to a high capacity, high speed highway with access via ramps and with 100 percent grade separations. "Yard" refers to the lot at which these trucks are based.

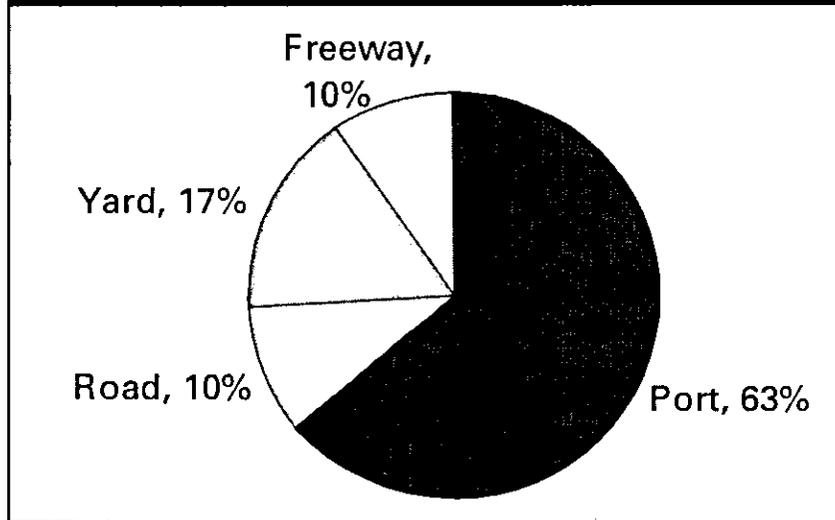
### **A Day With a Truck Driver**

My name is Mohammed Asif, and I have been driving at the Port of Oakland for five years. The port truck drivers get no respect inside the port. I usually work 10 hours a day moving containers from one terminal to another. In order to make a decent living I try to make four trips a day. But usually I can only make three, because many times I have to wait up to two hours to pick up a container at the terminal.

While we wait in these lines our trucks are polluting the air and getting ourselves and the community sick from this pollution. I know that my truck pollutes the air, but there is nothing that I can do about it because as an independent port truck driver I cannot afford a new one.

I don't have health insurance. Fortunately, my wife has insurance for herself and our child. I am lucky that I don't currently have any medical problems, but many of my fellow drivers have breathing problems and back pain. I want to work hard, provide a good life for my family, and not pollute the air that we all breathe. But the trucking system at the port is so broken that it isn't possible.

**Figure 2: Time spent in different locations for an average shift of three truck drivers**



**Figure 3: Average concentration of diesel particulate matter for four location types, measured in the cabs of three truck drivers during the course of a shift.**

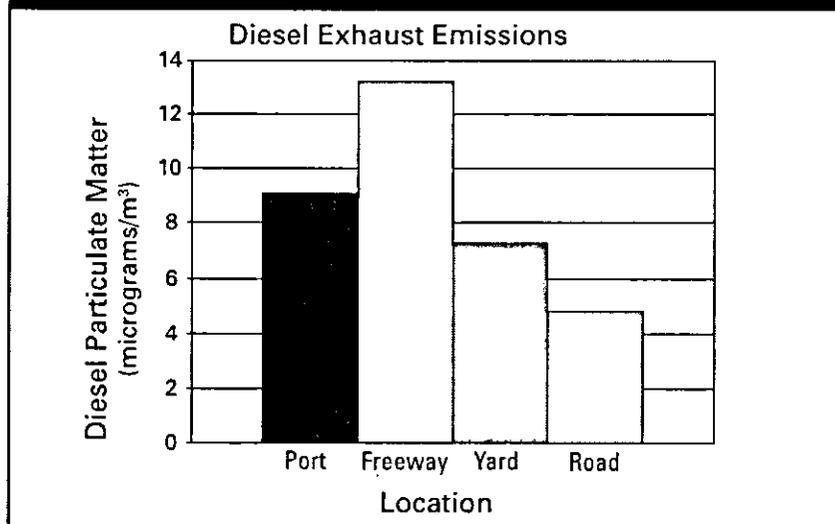


Figure 2 shows where the three drivers spent their time during a typical workday. The most time, almost two-thirds of a shift, was spent at or near the Port of Oakland. The remaining time was divided among the yard (17 percent), freeways (10 percent), and roads (10 percent). Estimated levels of DPM based upon black carbon measured<sup>22</sup> in the truck cabs varied considerably depending on location. An average DPM level was calculated for each location type, averaged over the three days, and weighted by the time spent there. The highest average DPM was attributable to freeway driving (13.2  $\mu\text{g}/\text{m}^3$ ), followed by the port area (9.1  $\mu\text{g}/\text{m}^3$ ), the yard (7.3  $\mu\text{g}/\text{m}^3$ ), and roads (4.8  $\mu\text{g}/\text{m}^3$ ) (see Figure 3).

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A range of elevated cancer risks was calculated, based on the highest and lowest average black carbon concentrations that drivers were exposed to inside their truck cabs over the course of a typical shift. We assumed a 40-hour workweek for 50 weeks a year for 40 years. Elevated cancer risks for truck drivers ranged from 966 to 2,631 cases in a million, which is more than double the level considered acceptable by the Occupational Safety and Health Administration (OSHA) and up to 2,000 times greater than typically considered acceptable by environmental protection agencies.<sup>23</sup>

### **Waiting at the Port: A Day With a Truck Driver, Part II**

Maria Minjares, coauthor of this report, spent three full shifts riding along with truck drivers serving the Port of Oakland in July 2007. She observed that an average transaction at the port takes almost two hours to complete; the majority of time is spent waiting in a series of lines to receive instructions from port employees. Waiting time on the lines is typically between 5 and 30 minutes—during which trucks are often left idling—and these times can be compounded by breaks taken by port employees. Additionally, on several occasions during the course of Minjares's observations, drivers received incorrect or incomplete instructions from the port and were forced to return to a line to wait for correct instructions. In one case, a driver spent nearly four and a half hours at the Port of Oakland to complete a single assignment.

Almost two-thirds of the truck drivers' exposure to diesel particulate matter (DPM) recorded in this work took place at the port, despite the fact that background DPM levels at the port are significantly lower than those on freeways. The protracted length of time needed to complete each trip to the port, and the resultant long exposure times to DPM emissions, are in large part responsible for this finding.

Drivers did not have any designated breaks to eat or to use a rest room, and some pressed through their shift without a single break. Access to rest rooms was limited: Although portable toilets were dispersed along the roads near the port, they were not utilized by any of the drivers, who apparently consider them a last resort. Additionally, some drivers reported health problems related to their work. One driver with asthma said, "At the end of my shift, when I get home, I wash my face. It takes a few cotton swabs, and they are covered in black when I am done."

### **Comparing Levels of Background Pollution**

Heavy-duty trucks are the largest source of diesel particulate matter in California,<sup>24</sup> affecting the health of residents living near truck routes and especially the health of drivers. The background health risk from DPM in urban areas is 500 to 800 potential cancers per million people.<sup>25</sup> This risk roughly doubles in areas with major diesel sources such as ports and rail yards and along major transportation corridors.<sup>26</sup> Truck drivers likely face health risks that are even higher than the risks faced by residents living near these facilities, especially if they live as well as work in impacted areas.

The average DPM levels in the truck cabs of this investigation (8.6 to 23.4  $\mu\text{g}/\text{m}^3$ ) are significantly higher than levels found previously along truck corridors near the Port of Oakland and at Port of Oakland terminals, suggesting that diesel exhaust is accumulating inside the truck cabs. In Table 2, DPM levels and corresponding cancer risks found in this work are compared with those for California at large and for those documented at freight transport facilities and on school buses. DPM levels in the seven trucks tested were similar to the levels found in school buses that we tested in 2000.<sup>27</sup> Similar levels were also documented in a previous study on a Port of Oakland terminal.

**Table 2: Diesel Particulate Matter Levels Inside the Cab of Trucks Compared to Other Locations<sup>28</sup>**

	<b>Inside Truck Cabs</b>	<b>7th Street Oakland Truck Corridors<sup>29</sup></b>	<b>Port of Oakland Terminal<sup>30</sup></b>	<b>Inside School Buses<sup>31</sup></b>	<b>Oakland Background<sup>32</sup></b>
Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	9–23	6	13	8–19	1
Associated Cancer Risk Levels	1,000–2,600 per million (occupational)	2,300 per million	1,500 per million (occupational)	23–46 per million (limited duration)*	400 per million

\*Duration based on 1 to 2 hours on a school bus per day for 180 days per year for 10 years.

These higher in-vehicle DPM levels are not surprising given recent studies indicating that exhaust pollutants are concentrating inside passenger vehicles at unsafe levels. One study of nonsmoking Los Angeles residents estimated that up to half of their total DPM exposures occur during their 90 minute-per-day average drive time.<sup>33</sup> Ultrafine particles can concentrate even more inside vehicles.<sup>34</sup> In fact, several studies have found that high concentrations of black carbon and other pollutants such as ultrafine particles, nitric oxide, and particle-bound polycyclic aromatic hydrocarbons (PAHs) are primarily driven by the amount of diesel truck traffic.<sup>35</sup>

The significantly higher black carbon measurements documented on freeways compared with other roadways is similar to the findings of other studies. For example, preliminary results from the Harbor Communities Monitoring Study show black carbon levels on freeways to be roughly double the level found on surface or residential streets.<sup>36</sup> That study also showed much higher black carbon levels in the morning than in the afternoon—something we did not find in this work. Meteorological conditions such as wind speed may account for the difference between morning and afternoon results in the Harbor Communities study.

Differing weather patterns and several other factors lead to substantial day-to-day variability. For example, the trucks measured in this work traveled in similar areas around the Port of Oakland, but they did not have identical routes. Surrounding emissions sources such as trucks, trains, ships, and stationary sources likely varied somewhat in activity and pollutant outputs during each test day. Due to its small sample size, our investigation had limited ability to capture the full range of variability likely to occur. Furthermore, the characteristics of the Aethalometer and the general conversion factor for black carbon to DPM contributed to some uncertainty.<sup>37</sup>

Finally, it should be noted that the extent to which emissions from a truck penetrate the inside of the truck cab is unknown. A 1978 study found significant contributions to driver exposure from their own trucks, but those trucks were old and poorly maintained.<sup>38</sup> The study found that in-cab pollutant levels doubled in trucks that had leaks (such as holes in the floor around the pedals); this may have been the case with the 1981 truck in our work, which tested at more than twice the concentrations found in the other trucks. A more recent study suggests that seepage of diesel exhaust into a truck cab worsens with age due to leaks from the cab's rubber seals that allow exhaust from the engine compartment to enter the cab.<sup>39</sup>

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## CHAPTER 3

# Cleaning Up the Fleet

A number of programs have been developed to address the impacts of diesel exhaust from heavy-duty trucks in California, including idling limits and exhaust control retrofits. Several incentive funding programs exist in California to help offset the costs of cleaning up diesel trucks. The Carl Moyer Program provides funding for retrofits and for the purchase of alternative fuels or newer, cleaner heavy-duty trucks, within strict eligibility guidelines.<sup>40</sup> A program specific to Southern California, Gateway Cities, was established to remove pre-1984 heavy-duty trucks from the roads and has so far replaced more than 600 of them with 1994 or newer trucks.<sup>41</sup> In Northern California, the Sacramento Emergency Clean Air and Transportation (SECAT) program offers funding for retrofits and newer, cleaner engines and vehicles and has replaced more than 700 old trucks so far.<sup>42</sup> Last, the Port of Oakland Truck Replacement Project will fund upgrades to 1999 or newer model years for 80 trucks serving the Port.<sup>43</sup>

### Idle Rules

Several years ago, CARB passed a five-minute idling limit for trucks and banned all idling within 100 feet of residential areas. CARB later required the use of auxiliary power units or alternative sources of power for the sleeper cabs of trucks when drivers were using them to rest or sleep. The rules exempt certain situations, such as waiting in line at the gates of port terminals, rail yards, or distribution centers. Assembly Bill 2650, passed in 2003, attempted to address the excessive idling occurring at ports by requiring port terminals to operate in a manner that prevents trucks from idling outside of the terminal for more than 30 minutes. If a terminal violates the rule, it is fined \$250, and monetary returns are used for the California Ports Community Air Quality Program Fund.<sup>49</sup> According to the Bay Area Air Quality Management District (BAAQMD), which is responsible for the enforcement of AB 2650 at the Port of Oakland, only five violations have been filed, of which three have been settled (in 2004), yielding a total of just \$750.<sup>50</sup> Apparently no further funding has been generated, and enforcement efforts have decreased since the law's implementation.<sup>51</sup> Based on our limited observations of three drivers' shifts, it appears that idling at the Port of Oakland is still a significant problem.

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The Strategic Growth Plan for California includes a Goods Movement Action Plan that calls for sweeping programs to clean up the truck fleet serving major ports and rail yards.<sup>44</sup> The Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006 (Proposition 1B) is expected to fund several thousand truck replacements, among many other items related to the movement of goods.<sup>45</sup> It should be noted that the bond funding, while a helpful step toward mitigating pollution from freight transport, will provide only \$1 billion of the \$10 billion that CARB determined would be necessary for this purpose.<sup>46</sup> The port programs outlined in the sidebar *A New Approach to Socially Responsible Trucking*, together with the regulatory measures discussed below, may help close this gap.

Two separate regulations are under development by CARB. The "Port Truck" regulation will mandate the cleanup of trucks that serve major ports and rail yards in the state. Approximately 18,000 heavy-duty trucks will need to be retrofitted, replaced or otherwise upgraded by 2009.<sup>47</sup> A second proposal covers all heavy-duty trucks, requiring further clean up in 2014 and beyond.<sup>48</sup> Both of these rules can be considered backup to the port-proposed cleanup program, intended to offer assurances that the fleets will be cleaned up. However, neither proposal offers funding.

### **A New Approach to Socially Responsible Trucking**

The Clean Trucks Program, proposed by the Ports of Los Angeles and Long Beach would replace or retrofit 16,000 harbor trucks in five years, limit terminal access with tariffs, and allow only "clean" trucks into terminals. The Clean Trucks Program seeks to create concession agreements between the ports and trucking companies through which the ports can set uniform environmental standards. The ports would require trucks serving their terminals to meet 2007 emission standards, with a progressive ban on old trucks phasing in between 2008 and 2012.<sup>52</sup> Trucks not meeting the standards would be subject to a Truck Impact Fee. The Port of Oakland is contemplating proposing a similar program.<sup>53</sup>

The Coalition for Clean & Safe Ports is a coalition of environmental, community, and labor organizations working to promote sustainable trade through California's largest ports. The Coalition supports the ports' efforts to implement a concession model for port trucking. The concession model will allow the ports to set environmental, community, and labor standards for trucking companies operating at the ports. Setting uniform standards that all companies must follow will promote investment in clean trucks, result in a sustainable reduction of pollution, and increase the efficiency of port operations. Requiring employee drivers through the concession model will shift the responsibility of maintaining new trucks to the trucking companies and will afford drivers the protection of health and safety laws. Independent contractor drivers do not currently have OSHA protections on the job, whereas employee drivers do.

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## CHAPTER 4

# Conclusions and Recommendations

The most striking finding of this work is that all of the truck drivers that participated are exposed to unhealthy levels of soot, regardless of how new or clean their truck is. This finding suggests that in order to reduce drivers' health risk, it is likely necessary to upgrade the port truck fleet to "clean" trucks, reduce wait times at the terminals, and reduce pollution levels from other port sources. While this work focused on trucks serving the Port of Oakland, we expect similarly severe conditions affecting truck drivers serving the Ports of Los Angeles and Long Beach. Further study is clearly called for to assess the finer details of exposure based on location and individual truck characteristics.

The major health impacts occurring within the port trucking industry highlighted here should be taken as a call for immediate action to mitigate port pollution. Not only does the port truck fleet need to be cleaned up as quickly as possible, but it is clear that improvements are needed on a fleetwide, statewide basis in order to reduce the levels of diesel soot to which truck drivers are exposed. All major sources of freight transport pollution—ships, locomotives, cargo equipment, and trucks—should be addressed simultaneously.

The following recommendations provide a roadmap for reducing diesel pollution and minimizing the health threats to truck drivers working at and near California's ports.

### PORTS AND RAIL YARDS

- The Ports of Los Angeles, Long Beach, and Oakland should use their authorities as landlords to implement concession agreements (contracts that set environmental, community, and labor standards) for all port trucking companies in order to achieve a quick and sustainable clean up of the port truck fleet. In addition to requiring clean trucks, it is important that these concession agreements require the use of employee truck drivers in order to shift the maintenance responsibilities to the trucking companies.
- Ports should ensure that all existing air quality planning goals are met on time and should impose green standards on all tenants.
- Ports should detail enough full-time staff members to properly enforce regulations, including idling restrictions, both on port property and at the gates.
- Rail yards should commit to phasing out all locomotives that cannot achieve 90 percent reductions in particulate matter from current standards (U.S. EPA Tier 2). They should also begin to electrify infrastructure; institute clean truck programs; ensure that all vehicle, equipment, and locomotive replacements are the cleanest, most efficient models available; and utilize operational efficiency measures to reduce pollution.

### REGULATORS

- EPA should expedite implementation of new emission standards for locomotives and marine vessels.
- The California Air Resources Board should move forward quickly with its Goods Movement Emission Reduction Plan, including rules requiring clean trucks, shoreside power, and cleaner marine fuels, among other measures.

### POLICYMAKERS

- Governor Schwarzenegger should work with the California legislature to implement container fees for major ports in California in order to help fund the replacement of polluting equipment.
- Policymakers should ensure that a portion of Proposition 1B infrastructure bond funding goes to alternative forms of freight transportation that reduce pollution and fossil fuel use, such as electrified rail projects.

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**DRIVERS, OWNERS, AND FLEET MANAGERS**

- Regular maintenance to keep trucks in good working condition should be performed.
- Vehicles should be checked daily to make sure they are not smoking or burning excessive amounts of fuel or oil. Upon recognition of any of these problems, the vehicle should immediately be taken out of service for maintenance.
- Idling limits set by the state should be followed and idling should be minimized in order to save fuel, reduce pollution, and limit exposure to unhealthy exhaust.
- Funding available to help offset the cost of purchasing cleaner replacement trucks or exhaust controls for older trucks should be aggressively pursued.

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# Afterword

**By Margaret Gordon, Co-Director, West Oakland Environmental Indicator Project and Wafaa Aborashed, Executive Director, Healthy San Leandro Environmental Collaborative**

For most people, the word “neighborhood” conjures up images of quiet tree-lined streets, children riding their bicycles under clear skies, and perhaps the occasional ice cream truck driving down the street. But, that’s not the reality in our neighborhoods. Instead our neighborhoods are inundated with hundreds of diesel semi-trucks each day, carrying containers to and from the Port of Oakland, the airport and distribution centers. Maybe it’s no surprise that we have so many residents with asthma and other breathing problems. These trucks clog our streets and the air surrounding our homes and schools. The black diesel plumes emerging from the trucks’ tailpipes pose serious health threats, like cancer, asthma, and other respiratory problems, to the residents living in West Oakland, East Oakland and San Leandro neighborhoods.

The Port of Oakland, already one of the nation’s largest container ports, is only getting busier. With plans for expansion in the works, the communities bordering the Port can only expect more truck traffic, noise pollution, and toxic soot enveloping their neighborhoods. In fact, the Port estimates truck traffic to increase to 22,000 trips per day by 2010. But those trucks don’t move themselves. It’s not often that we think of the people who sit in driver’s seat of each of those of trucks, but we should.

Port truck drivers, like those of us living in nearby Port communities, are exposed to high levels of toxic diesel pollution in their everyday lives. Not only are truck drivers breathing in exhaust from their own polluting trucks, but they are also exposed to a whole host of other sources of diesel pollution, including cargo equipment and ships carrying freight. Instead of viewing the trucks as our “enemies,” we recognize that there are humans inside each of those trucks—each with their own personal story and their own health issues. Some of the drivers are suffering from asthma or other illnesses; others are working extra-long hours to support their families. Similar to the residents in our communities, port truck drivers are an at-risk population that shouldn’t be overlooked. As two groups within our society who share the unfair burden of high exposure to diesel pollution, we are working in unity to get pollution from trucks and port operations cleaned up in order to protect our health and improve our quality of life.

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- 20 It should be noted that there is no "typical" day. However, previous measurements in the same location have been very similar; all have averaged less than 0.5 µg/m<sup>3</sup> of black carbon. The "urban background" location we used is several miles from downtown Oakland in the China Hill neighborhood, approximately 1,200 feet south of the I-580 freeway; heavy-duty trucks are barred from that segment of the freeway.

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$$\text{Dose Inhaled} = \frac{(\text{Cair})(\text{DBR})(\text{A})(\text{EF})(\text{ED})(1 \times 10^{-6})}{\text{AT}}$$

Parameter	Definition	Value
Dose Inhaled	Dose through inhalation (mg/kg/day)	
Cair	Concentration in air ( $\mu\text{g}/\text{m}^3$ )	$2.67 * BC$
DBR	Daily breathing rate (L/kg body weight-day or L/kg-day)	149 (Recommended value for outdoor workers for an 8-hour day)
A	Inhalation absorption factor	1 (currently used for all substances included in CARB's Hot Spots program)
EF	Exposure frequency (day/year)	250 days/year
ED	Exposure duration (years)	40 years
AT	Averaging time period over which exposure is averaged, in days	14,600 days (40 years)
$1 \times 10^{-6}$	Micrograms to milligrams conversion ( $10^{-3} \text{ mg}/\mu\text{g}$ ), liters to cubic meters conversion ( $10^{-3} \text{ m}^3/\text{l}$ )	

Cancer Risk Potency Factor for diesel PM =  $3.0 \times 10^{-4}$  per  $\mu\text{g}/\text{m}^3$  or 1.1 per mg/kg-day

Cancer Risk (chances per million) = Dose Inhaled (mg/kg-day) x Cancer Potency (mg/kg-day)<sup>-1</sup> ( $1 \times 10^6$ )

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**DRAYAGE TRUCK REGULATORY ACTIVITY***This page last reviewed August 1, 2008***ARB's Drayage Truck Regulatory Activities****Background:**

The Drayage Truck Regulation is part of the Air Resources Board's (ARB) ongoing efforts to reduce PM and NOx emissions from diesel-fueled engines and improve air quality associated with goods movement. In addition, this regulation also provides green house gas benefits and is designed to support local emissions reduction goals such as the Clean Air Action Plan by the ports of Los Angeles and Long Beach and the Comprehensive Truck Management Plan by the Port of Oakland.

This webpage will be maintained to provide a single site to obtain information on public meeting schedules, documents, contact information, regulatory status and development, and share information.

*The "Local Links" in the left-hand column provide quick navigation to the different areas of the Drayage Truck Website.*

*Please also view our Drayage Truck Emission Rule **VIDEO***

**Status Update****Posted: July 10, 2008**

**NEW!** Now available [Drayage Truck Regulation Port Informational Packet](#).

Now available [Goods Movement Program Funding](#) links.

**Posted: June 2, 2008**

- Now available [Truck Exemption Guidelines](#). This packets contains examples and explanations of exempt and non-exempt trucks as they apply to the Air Resources Board's drayage truck regulation.

**Posted: May 28, 2008**

We have posted the 15-Day "Notice of Public Availability of Modified Text for the Public Hearing to Consider the Adoption of a Proposed Regulation to Control Emissions from In-Use On-Road Diesel-Fueled Heavy-Duty Drayage Trucks at Ports and Intermodal Rail Yard Facilities. These documents and the associated "formal" regulatory materials can be accessed from our website at the address: <http://www.arb.ca.gov/regact/2007/drayage07/drayage07.htm>

The modifications are open for public comment until June 13, 2008.

Please submit any comments here: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Your comments should only address the proposed modifications.

**Posted: May 19, 2008**

- Drayage Truck [fact sheet](#) now available.

**Posted: April 30, 2008**

- Changes to the regulation are currently undergoing internal review and will be available soon for public comment in ARB's 15-Day Notice. The 15-Day Notice and regulatory changes are expected to be published in the end of May. Please join our list serve or monitor this website for notification.

**Posted: December 7, 2007**

Approved-The regulation was approved by the Board on December 7, 2007. The 15 day changes should be available soon .

<http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm>

11/17/2008

 Please stay tuned for more important update informaion.

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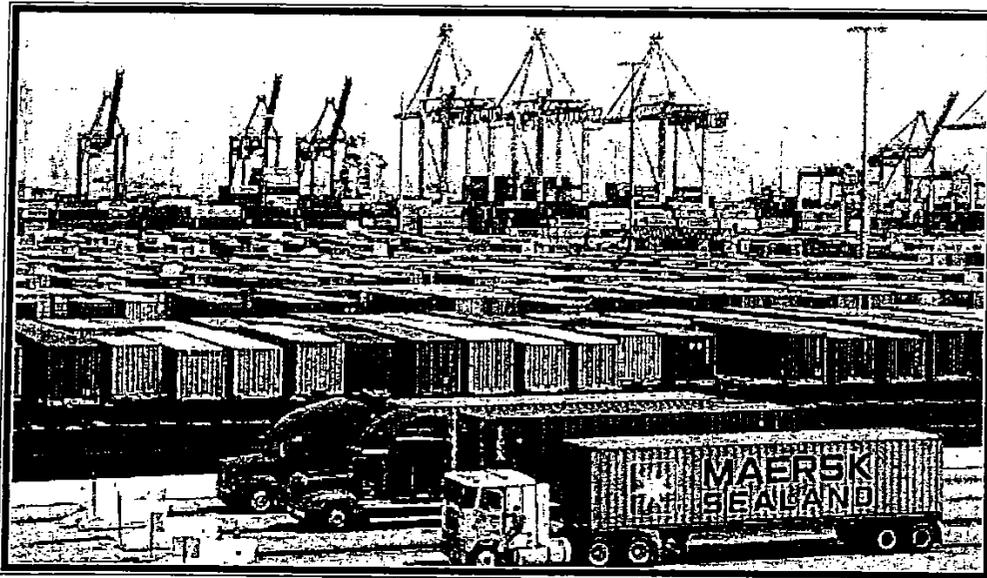
The Board is one of six boards, departments, and offices under the umbrella of the California Environmental Protection Agency.  
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# San Pedro Bay Ports Clean Air Action Plan

## Clean Truck Program Option Assessment

### Proposed Clean Truck Program

DRAFT



December 16, 2007

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### DRAFT

### Clean Truck Program Option Assessment

As part of the decision making process for the Clean Truck Program, the Port of Los Angeles and the Los Angeles Mayor's Office have requested an analysis of the implications of three variations in how the implementation process for the program might take place. These different approaches are referred to below as Option A, Option B and Option C. They present different ways in which the trucks, drivers and grant funds could be organized in attempting to meet the goals of the program.

This report is organized into the following sections:

1. **Goals.** Lays out the purposes of the Clean Truck Program.
2. **Policy Criteria.** Enumerates the criteria on which the three options will be evaluated to assessing the implications of the way they would go about achieving the program's goals.
3. **Implementation Issues.** Discusses the evaluation issues that will be covered in discussing how each of the three options deals with each of several policy criteria.
4. **Options: Common Elements.** Describes the common factors needed in each of the three options if they are to meet the goals of the Clean Truck Program.
5. **Options: Differing Elements.** Lays out the elements on which the three options fundamentally differ.
6. **Assessment.** Evaluates the implications of the three options with respect to each policy criteria in light of the issues that must be addressed to reach the Clean Truck Program's goals.

Note: This analysis is not intended to reach a final conclusion. Rather, it is intended as a tool to assist policy makers in reaching their own final judgments about how the Clean Truck Program should be implemented.

#### 1. Goal

On November 20, 2006, the San Pedro Bay Ports Clean Air Action Plan (CAAP) was unanimously adopted by the Los Angeles Board of Harbor Commissioners and the Long Beach Board of Harbor Commissioners. In doing so, the commissioners acknowledged the fact that the Ports "ability to accommodate the projected growth in trade will depend upon their ability to address adverse environmental impacts (*and, in particular, air quality impacts*) that result from such trade. The CAAP is designed to develop mitigation measures and incentive programs necessary to reduce air emissions and health risks while allowing port development to continue."<sup>1</sup>

Among the major elements of the CAAP are strategies designed to significantly reduce the emissions from the Heavy Duty Vehicles that move containers in and out of the ports. This effort, known as the Clean Truck Program, has two intertwined objectives:

- Conversion or retrofitting of the truck drayage fleet to cleaner technologies.
- Ensuring that the fleet is kept at a level to maintain air quality.

<sup>1</sup> San Pedro Bay Ports Clean Air Action Plan, Overview, P. 13.

In designing a program to achieve these clean air objectives, the ports further addressed three other concerns:<sup>2</sup>

- The fear that the documented shortage of U.S. truck drivers will ultimately lead to an insufficient number of drivers to haul the growing volume of port containers.
- Related is the issue of driver compensation since, on average, port truckers appear to be among the lowest paid workers in the supply chain.
- Additionally, there is concern that trucking operations be conducted in a way that enhances port security.

A corollary to these issues are concerns that the Transportation Worker Identification Credential (TWIC) program as well as the transition to the Clean Truck Program might cause drivers to leave port drayage, causing a disruption of cargo flows and interfering with the import and export supply chains. Such a disruption could adversely impact Southern California's economy.

From these statements, the goals of the Clean Truck Program can be summarized as:

1. **Throughput.** Allowing port growth to continue without disruption given the significant economic impact it has on Southern California and the nation.
2. **Truck Clean-Up.** Cleaning up the adverse environmental impacts caused by heavy duty trucks moving goods to and from the ports and keeping those trucks clean.
3. **Driver Supply and Pay.** Ensuring that the pay of port drivers is high enough to attract a sufficient number of truck drivers to move port cargo.
4. **Security.** Providing for the security of the ports in conjunction with the TWIC program.

## 2. Policy Criteria

To assess the implications of how the Clean Truck Program would be implemented under Options A, B and C below, four major criteria are used. These can be thought of as questions, the answers to which show the extent that each option is able to address one of the five major goals of the program:

1. **Throughput.** To what extent will each option ensure that the ports are able to maintain and grow the volume of containers moving through them without any short term disruptions?

In 2006, the ports handled 44% of U.S. imported goods and 24% of U.S. exports.<sup>3</sup> It has been repeatedly stated by the port staff, the harbor commissioners and city leaders that they see it as their obligation to ensure that the ports are able to continue being this key link in U.S. and Southern California international trade.

2. **Clean Trucks.** To what extent will each option lead to meeting the clean truck requirements and deadlines passed by the two Boards of Harbor Commissioners?

If the Clean Truck Program is implemented as planned, *by its fifth year*, it is anticipated that diesel particulates from port truck operations would be 184 tons instead of the 966 tons that port growth would have created, down 782 tons (-81%). Oxides of nitrogen emissions would

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<sup>2</sup> Statements of the Presidents of the Los Angeles & Long Beach Boards of Harbor Commissioners, San Pedro Bay Clean Air Action Plan, Overview, Introduction.

<sup>3</sup> Port Import Export Reporting Service (PIERS), collected from Vessel Manifests and Bills of Lading, as reported by U.S. Department of Trade Maritime Administration.

be 4,041 tons not the 10,269 tons anticipated, a 6,228 ton cut (-61%). Sulfur oxide emissions would be seven tons not nine tons, down two tons (-22%).<sup>4</sup> The port staff, the harbor commissioners and city leaders have repeatedly indicated that achieving these reductions is the primary reason for the Clean Truck Program.

Note: Earlier implementation could have significant air quality benefits for the various port communities. If the program were to be completed by the end of 2009, for instance, diesel particulates would be down 782 tons that year instead of 442 tons; oxides of nitrogen emissions would be down 6,228 tons instead of 3,329 tons.

3. **Driver Supply.** To what extent will each option impact the supply of port drayage drivers?

Pay scales are one consideration that will impact the supply of drayage drivers. There are also other issues such as the desire of some drivers to be employees and others to remain Independent Owner Operators (IOO); the desire for some drivers to be union members and others not; the desire for some drivers to have benefits and others to retain their tax status as self-employed; and the potential need to convince non-drayage drivers to work in the congested port environment.

4. **Driver Pay.** To what extent will each option assist port drayage drivers to receive compensation on a par with other truck drivers in Southern California to enable sufficient driver supply for the sake of port cargo throughput?

It is generally acknowledged that the U.S. faces a shortage of truck drivers that will increase in the coming years.<sup>5</sup> Further, it has been estimated that the federal TWIC security process will remove from 15% to 22% of the drayage drivers currently serving the San Pedro Bay ports.<sup>6</sup> In addition, the expansion of the ports will increase the need for drayage drivers. Also, there will be driver losses due to turnover and retirements. Combined, these factors underscore why the port staff is concerned that drivers receive sufficient pay to ensure a supply of drivers to handle port throughput.

5. **Security (TWIC) & Driver Oversight.** To what extent will each option result in maximum compliance with national security requirements and ensure that truck drivers are meeting legal requirements to be driving their vehicles?

For reasons of safety and security, the ports would like to ensure that drivers involved in drayage are qualified to drive heavy duty trucks under DMV and DOT regulations. It will thus be a requirement of the port permits that LMCs maintain oversight and records of the qualifications of their drivers, be they employees or IOOs.

Meanwhile, in December 2007, the Transportation Security Administration (TSA) and U.S. Coast Guard are scheduled to begin registration for the TWIC program. An applicant "must complete a TSA security threat assessment and will be disqualified from obtaining a TWIC if he or she has been convicted or incarcerated for certain crimes within prescribed time peri-

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<sup>4</sup> San Pedro Bay Ports Clean Air Action Plan Technical Report, Tables 6-1, 6-2, 6-3, p. 157.

<sup>5</sup> "There is already a shortage of long-haul heavy-duty truck drivers equal to perhaps 1.5% of the over-the-road driver workforce, or about 20,000 drivers. In the absence of substantial market adjustments, this driver shortfall - projected demand less projected supply - would rise to 111,000 in 2014." The U.S. Truck Driver Shortage, Analysis and Forecasts, Global Insight, Inc., 2004, Executive Summary.

<sup>6</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 28.

ods, lacks legal presence and/or authorization to work in the United States, has a connection to terrorist activity, or has been determined to lack mental capacity.”<sup>7</sup>

As the Licensed Motor Carriers (*LMCs*), under whose auspices drivers work as employees or IOOs, have the greatest understanding of their drivers, the port staff, harbor commissioners and city officials want to see that knowledge efficiently harnessed in the initial implementation of the TWIC process.

In assessing the implications of how the Clean Truck Program would be implemented under Options A, B and C below, there are several additional criteria that will be used. Again, these can be thought of as questions, the answers to which show the extent that each option is able to address an important aspect of the Clean Truck Program.

6. **Maintenance of Clean Truck Devices.** To what extent will each option ensure that clean truck emission control equipment and technology is maintained according to manufacturer’s specifications?

As indicated in the discussion of the goals of the Clean Truck Program, it is not sufficient to simply clean-up the trucking fleet.<sup>8</sup> For the program to be a success, the emission equipment on the new trucks must be properly maintained over time so that the full benefit of the cleaner vehicles is realized.

7. **Required Truck Safety and Maintenance Check-Ups and Repairs.** To what extent will each option ensure that truck owners have their vehicles undergo regular check-ups and safety inspections plus have necessary repair work completed?

Already, port drayage firms are subject to audits of their driver logs, truck insurance, safety and maintenance records by the U.S. Department of Transportation (*DOT*). However, the agency only has the staff to oversee 2% of carriers, nationally.<sup>9</sup> In addition, every 25 months, the California Highway Patrol (*CHP*) through its Biannual Inspection Program (*BIT*)<sup>10</sup> is supposed to review the records of 90-day truck safety and maintenance check-ups by every state trucking firm as well as their driver’s logs. CHP is also supposed to physically check a sample of their trucks.<sup>11</sup> However, CHP only has staffing for about half this work.<sup>12</sup>

Given the intensity of truck operations near the ports, the port staff, harbor commissioners and city leaders would like to see stronger oversight of truck maintenance and safety. One potential side effect of the Clean Truck Program could be to assist DOT and CHP in being able to do so.

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<sup>7</sup> Transportation Worker Identification Credential (TWIC) Implementation in the Maritime Sector; Department Of Homeland Security, Transportation Security Administration, United States Coast Guard, 2006, p. 18.

<sup>8</sup> See bottom of p. 1.

<sup>9</sup> Motor Carrier Safety: the FMCSA’s Oversight of High-Risk Carriers, Opening Statement, Hon. Peter DeFazio’s, House Transportation & Infrastructure Committee, Subcommittee on Highways and Transit Hearing, July 11, 2007.

<sup>10</sup> California Vehicle Code Section 34501.12 requires any person or organization directing the operation of certain trucks or trailers to participate in an inspection program conducted by the California Highway Patrol (CHP). The law requires the CHP to inspect California truck terminals every two years.

<sup>11</sup> California Vehicle Code 34505.5(a) a truck operator must have vehicle safety inspections every 90-day conducted by qualified inspectors. California Vehicle Code Section 34505.5(c) requires that inspection records be maintained for two years.

<sup>12</sup> Analysis of the 2007-08 Budget Bill: Transportation, California Highway Patrol (2720), California Legislative Analysts Office.

8. **Technology Installation and Training.** To what extent will each option ensure that the trucking fleet has installed required technology and that drivers are trained in a manner that will allow the Clean Truck Program to be administered while assisting the ports with future efforts to increase efficiency and throughput ?

To administer the Clean Truck Program, it will be necessary for trucks be equipped with Radio Frequency Identification Devices (*RFID*) and Automatic Vehicle Locators (*AVL*). In addition, these and other technologies could be needed on trucks as part of a future technology program designed to increase the speed of port cargo throughput. This would be in the interest of the ports. It would also be in the interest of LMC and drivers as increased throughput directly impacts driver compensation.

9. **Parking and Parking Facilities.** To what extent will each option enhance compliance with local trucks parking ordinances and result in LMCs providing parking?

Local communities have expressed repeated concern over heavy duty trucks being parked illegally in their neighborhoods. There is considerable interest by the ports, the harbor commissioners, city officials that firms provide parking facilities for their trucks.

10. **Geographic Use of Trucks.** To what extent will each option ensure that the trucks financed via the Clean Truck Grant Program meet minimum usage requirements in port drayage?

The purpose of the Clean Truck Grant Program is to assist the drayage industry in overcoming its lack of capital in replacing trucks. It is thus reasonable for the ports to insist that trucks financed with their assistance meet minimum mileage percentage requirements for work in port drayage. The issue is the extent to which different options will result in more effective oversight on these issues.

11. **Insurance.** To what extent will each option ensure that the ports are being adequately covered for the liability arising from their role in the oversight of who can enter the ports and who can help acquire trucks that might be involved in an accident? What level of collision insurance should be carried on trucks funded by the Clean Truck Grant Program?

Most of the trucks acquired via the Clean Truck Grant Program could not have been bought by their registered owners without the assistance of the ports. Given recent horrific accidents, the ports have an interest in being protected from liability arising from their participation in the process. Meanwhile, the ports have an obvious interest in seeing collision insurance on the trucks that they have helped finance.

### **3. Implementation Issues**

There are Clean Truck Program implementation issues that will be discussed in evaluating the performance of Options A, B and C with respect to each of the 11 policy criteria. Again, these can be thought of as questions:

1. **Success.** In broad terms, will the option succeed on a given criteria?
2. **Timeliness.** Will there be relative differences in the length of time it will take each of the three options to show meaningful results under each of the policy criteria?
3. **Effectiveness.** Will there be differences in the relative effectiveness of each of the three options in achieving the intent of each of the policy criteria?
4. **LMC Costs.** With regards to each of the policy criteria, will there be differences in the extent that each of the three options will impact the fixed or variable costs of drayage firms?

5. **Average LMC Size.** With regards to each of the policy criteria, will there be differences in the impact that each of the three options will have on the number of trucks working under the auspices of the average LMC?
6. **LMC Participation.** Will there be differences in the classification of firms willing to participate in the market under each of the three options, in light of each of the policy criteria?
7. **Program Management.** Will there be differences in the ability of the policy criteria to be straightforwardly implemented and enforced under each of the three options?
8. **Maximize Return.** Under each of the three options, will there be differences in the return on investment of publicly raised funds, measured in terms of reaching the program's goals?
9. **Cooperation.** Under the various policy criteria, will there be differences among the three options in the willingness of major market participants to cooperate in achieving the program's goals?

#### **4. Common Elements: All Three Options**

Under all three forms of organization, there are common elements which the Clean Truck Program will require. That said, there may be differences in the effectiveness and side effects of the way in which they are met under Options A, B and C. Those elements include:

1. **Company Standards.** To receive a permit to operate at the ports, a firm must be a Licensed Motor Carrier (*LMC*) in good standing and in compliance with the requirements of a valid license/permit under a California (*CA*) Motor Carrier Permit issued by the CA Department of Motor Vehicles and/or a Federal Motor Carrier License (*U.S. DOT Number*) and Operating Authority (*MC Number*).
2. **Clean Truck Deadlines.** By January 1, 2012, all trucks operating under the auspices of a company must meet the Clean Truck Program standards as defined in the CAAP:
  - Trucks that meet the CA Air Resources Board's (*CARB*) 2007 and subsequent model year on-road Heavy-Duty Diesel Engine emissions standards.
  - Trucks manufactured in 1995/1996 or later retrofitted with *CARB* Verified Diesel Emission Control Strategy (*VDECS*) that achieve 85% or greater PM reduction (*Level 3*) or greater NOx reduction.
  - Liquefied natural gas (*LNG*)-fueled trucks.
  - Trucks that have been replaced via the Gateway Cities Truck Modernization Program.

To be allowed on to a port terminal's property, the trucks working under a company's auspices must either be retrofitted or replaced to meet the Clean Truck Program standards in accordance with the following progressive schedule:

- October 1, 2008, no drayage truck of model year 1988 or older can enter the ports.
- January 1, 2010, trucks must be powered by a 1994–2003 model year engine certified to CA or U.S. emission standards, and a level 3 VDECS which achieves a minimum 85% reduction in PM emissions and a minimum 25% reduction in NOx emissions, or a 2004 or newer model year engine certified to CA or U.S. emission standards.
- On January 1, 2012, trucks must be equipped with an engine that meets or exceeds 2007 model year CA or U.S. heavy-duty Diesel-Fueled On-Road emission standards.

Note: These are the outside deadlines. There is nothing barring the program from attaining the deadlines earlier than these dates and there are significant air quality benefits to the local communities from doing so.

3. **Truck Technology Equipment.** By October 1, 2008, the LMCs will be financially and programmatically responsible for the installation of RFIDs or port approved alternatives as well as AVLS on trucks operating under their auspices. If driver training is required as part of the technology plan, LMCs will be responsible for seeing that its drivers receive such instruction. If the ports later require additional technology and/or training as part of a port throughput technology plan, the LMCs will also be responsible for the costs and deadlines of the plan.
4. **Truck Lists.** Upon receiving a permit, an LMC must provide the ports with a comprehensive list of every heavy duty truck operating under its auspices, whether company or IOO owned, and certify that these trucks meet the Clean Truck Program model year requirements and keep records verifying these facts that are subject to inspection. The truck list is to be updated quarterly.
5. **Clean Air Maintenance.** Upon receiving a permit, an LMC will be responsible that emissions equipment on company trucks or IOO trucks (*if IOOs are allowed to operate under an LMC's auspices*) are maintained in conformance with manufacturer's specifications and keep records verifying this fact. The records would have to be available for inspection.
6. **Safety Maintenance & Inspections.** Upon receiving a permit, an LMC will be responsible for heavy duty truck maintenance and safety inspections and record keeping for them, as well as coordinating random truck inspections in conformance with the CHP BIT and DOT programs. Originals or copies of all records must be on file with the LMC. This applies to company trucks and IOO trucks (*if IOOs are allowed to operate under an LMC's auspices*).
7. **Parking.** Upon receiving a permit, an LMC must ensure that trucks operating under its auspices are parked in conformance with the ordinances of the cities and counties where they operate. It must also have available a yard where these trucks can be parked, maintained, inspected and repaired and submit the location to the ports. This applies to company trucks and IOO trucks (*if IOOs are allowed to operate under an LMC's auspices*).
8. **Drivers.** Upon receiving a permit, an LMC must provide the name, address and other identification information of any employee or IOO driving trucks under its auspices and update the list quarterly. The drivers must be fully qualified to operate the vehicles specified above and possess a valid California Drivers License for the appropriate class of vehicle. If an LMC chooses or is required to use employees, it must give a hiring preference to drivers with at least two years experience providing drayage to the ports.
9. **Driver Oversight.** LMCs will be responsible for ensuring that their employee drivers and/or IOOs have current licenses, physical examinations and have maintained their driving time logs. They must maintain records to this effect on their premises.
10. **TWIC.** LMC will be responsible for preliminary background checks on their drivers and ensure that their employee drivers and/or IOOs have qualified under DMV, DOT and TWIC requirements and maintain records verifying their eligibility on their premises.
11. **Workforce Development.** Upon receiving a permit, an LMC's must agree to work with Los Angeles and Long Beach based Workforce Development Programs to assist in the identification, training, and placement of workers affected by changes in the drayage sector.

12. **Clean Truck Grant Program: Third Party Institution.** The ports will contract with a third party institution that will be given responsibility for receiving and disbursing Clean Truck Grant Program funds, taking financial ownership of the trucks and administering grant program requirements. The ports will agree to assist the third party institution in enforcing the terms of its agreements with LMCs and registered truck owners whether company owned or IOO owned. The third party institution, such as Cascade Sierra, will be responsible for:

- Monitoring whether an LMC is conforming to agreed upon terms to allow either it, or IOOs operating under its auspices, to receive Clean Truck Grant funds. This will be reported to the LMC and the ports.
- Negotiate terms with the LMC that will allow its IOOs to be eligible for grant funds, if IOOs are allowed. This could include, but not be limited to liability protection for themselves and the ports, as well as terms that will help guarantee IOO income growth since that will be the source of loan repayments. Conformance to these terms will be reported to the LMC and the ports.
- Monitoring whether an LMC and/or IOOs operating under its auspices are current on payments for their share of financing for replacement trucks bought through the Clean Truck Grant Program. This will be reported to the LMC and the ports.
- Monitoring that company and/or IOO owned trucks replaced via financing from the Clean Truck Grant Program are used in port drayage in the Southern California Air Quality Management District (SCAQMD) for an agreed upon minimum percentage of their annual mileage. This will be reported to the LMC and the ports.
- Monitoring that a truck financed via the Clean Truck Grant Program is being maintained, inspected and repaired as required below (#14) or being used within the SCAQMD area the required percentage of miles (#17) or is violating parking requirements (#7). This will be reported to the LMCs and the ports.
- **Clean Truck Grant Program: Eligibility.** Monies will only be available to replace existing trucks. There will be no financing available to retrofit trucks as the technology does not perform as well as new trucks. To be eligible for assistance, a heavy duty "legacy" truck must be turned-in for replacement.

*Note: Legacy trucks are those in port drayage at the time the Clean Truck Program starts whether owned by an LMC or by an IOO working under the auspices of one or more LMCs.*

Exception: if fewer trucks than allotted are available for replacement from a model year at three months before the deadline for their retirement, non-legacy trucks of that model year historically used in the SCAQMD, may be retired instead.

- **Clean Truck Grant Program: Maintenance.** All required maintenance on emission control devices and all required safety and truck maintenance work on trucks funded via the Clean Truck Program must be performed by vendors or LMC employees certified by the third party institution to perform the work. Reports on this work shall be electronically uploaded by the vendors or LMCs to the third party institution. It will share these reports with the LMC under whose auspices the truck is working. The LMC will be ultimately responsible for ensuring that this work is completed and maintaining such records whether for its own trucks, or if allowed, IOOs working under its auspices. Failure to perform required maintenance would be a reason to bar a truck from the ports.

13. **Clean Truck Grant Program: Liability Insurance.** LMC will be responsible for maintaining liability insurance on vehicles operating under its auspices financed via the Clean Truck Grant Program funds whether company, or if allowed, IOO owned. A policy limit of \$5 million shall apply with the ports and third party institution or agents named as additional insureds.
14. **Clean Truck Grant Program: Collision Insurance.** The registered owners of trucks financed under the Clean Truck Grant Program shall have insurance in an amount equal to the value of the truck.
15. **Clean Truck Grant Program: Usage.** LMC will be responsible for having trucks financed under the Clean Truck Grant Program, whether company or if allowed, IOO owned, used in port drayage in SCAQMD for an agreed upon minimum percentage of their annual mileage.
16. **Clean Truck Grant Program: Enforcement.** Should the various terms of the Clean Truck Grant Program not be met, the following actions would occur:
  - If the registered owner of a truck financed by the Clean Truck Grant Program falls too far in arrears, the ports could bar its access of the truck through the gates and the third party institution could repossess the truck.
  - If required maintenance on emission control devices and all required safety and truck maintenance work on a truck financed by the Clean Truck Grant Program is not being done, the ports could bar a truck from entry through the gates until it has been done.
  - If a truck financed by the Clean Truck Grant Program is not being used in port drayage in the Southern California Air Quality Management District (*SCAQMD*) for an agreed upon minimum percentage of their annual mileage, the ports could bar its access through the gates and the third party institution would repossess the truck.
  - If IOOs are allowed, any LMC that has agreed to terms with the third party institution that make it possible for IOOs working under its auspices to be eligible for Clean Truck Grant Program that subsequently violates those terms, could have its access permit suspended by the ports. Note: To access the ports, the IOOs that own the trucks could work under the auspices of another LMC's permit.

## **5. Three Options**

### **Option A**

The following are the additional qualifications for Option A:

1. **Trucks.** An LMC must own, operate and control all heavy duty trucks used under its auspices by January 1, 2012. Until all trucks are company owned, LMC will be responsible for assisting the CHP and DOT in random checks on heavy duty trucks of IOOs operating under its auspices, including arranging appointments and providing a location for inspections.
2. **Drivers.** Drivers of the trucks operating under an LMC's auspices must be company employees by January 1, 2012.
3. **Grant Program.** Only eligible LMC owned trucks can be turned-in for replacement and receive assistance via the Clean Truck Grant Program. An LMC is responsible for staying current on payments for its share of truck replacement costs. An LMC will be responsible for maintaining collision insurance on company owned vehicles financed in part with Clean Truck Grant Program funds with an initial policy limit equal to the value of the truck.

## **Option B**

The following are the additional qualifications for Option B:

1. **Trucks.** LMC may own, operate and control the heavy duty trucks it uses in port drayage or it may have contractual relationships with IOOs who own and operate trucks used in port drayage under its auspices. LMC will be responsible for assisting the CHP and DOT in random checks on heavy duty trucks of IOOs operating under its auspices, including arranging appointments and providing a location for inspections. *For ease of comparison, only the IOO owned truck option will be considered.*
2. **Drivers.** Drivers of the trucks operating under an LMC's auspices can be company employees or IOOs or any combination thereof. *For ease of comparison, only the IOO option will be considered.*
3. **Grant Program.** Eligible LMC owned trucks as well as IOO owned trucks operating under its auspices can be turned in for replacement and get assistance via the Clean Truck Grant Program. LMC must stay current on payments for its share of truck replacement costs for company owned trucks. IOOs must stay current on their truck payments with both being monitored by the third party institution. *Again, for ease of comparison, only the IOO option will be considered.*
4. **Revenue Split.** As a result of its agreement with the LMCs, the third party institution has an interest in seeing incomes of IOOs are sufficient to ensure repayment of any loans or leases. For the IOOs operating under its auspices to be eligible for Clean Truck Grant Program assistance, an LMC could be required to provide records to the third party institution indicating the historic share of revenue from drayage work that payments to its IOO group have comprised. It could then be required to certify that any percentage increase in those revenues will lead to a commensurate percentage increase in the payments to its IOO group with adjustment allowed for extraordinary expenditures required by the Clean Truck Program. Any such contractual agreement would be subject to the enforcement provisions of the contract between the third party institution and the ports.

## **Option C**

The following are the additional qualifications for Option C:

1. **Trucks.** LMC may own, operate and control the heavy duty trucks it uses in port drayage or it may have contractual relationships allowing trucks owned by IOOs, *listed as involved in port drayage at the start of the Clean Truck Program*, to operate under its auspices. Until all trucks are company owned, the LMC will help DOT or CHP in arranging time and place for IOO's operating under its auspices to have truck inspections.
2. **Drivers.** Drivers of the trucks operating under an LMC's auspices can be company employees or IOO drivers that are on any LMC's original list of driver or any combination thereof. If a company wishes to expand and no IOO drivers from the original lists from all LMCs are available, it must hire new drivers as employees and own their trucks.
3. **Grant Program.** Same terms as Option B.
4. **Revenue Split.** Same terms as Option B.

## 6A. Assessment (5 Major Issues)

1. **Throughput.** To what extent will each option ensure that the ports are able to maintain and grow the volume of containers moving through them without any short term disruption?

### Description & Analysis

The issue of throughput is essentially one of the availability of truck capacity. The San Pedro Bay harbors have classified drayage truck operators based upon their frequency of port entry.<sup>13</sup> Of a total of 41,000 trucks doing so in 2005:<sup>14</sup>

- Frequent: More than 7.0 times a week - 7,000 trucks
- Semi-frequent: 3.5 but less than 7.0 times a week – 9,800 trucks
- Infrequent: Less than 3.5 times a week 24,200 trucks

The first two of these categories, or 16,800 trucks, handled roughly 80% of the port's truck borne throughput in 2005. That is roughly the number of trucks that must be kept in port drayage in the immediate future if throughput is to be uninterrupted.<sup>15</sup> It is the ability of Options A, B and C to meet this truck capacity issue that must be assessed:

**Option A.** This approach would have all trucks owned by the LMCs and driven by employees. Today, few LMCs are organized in this manner. To have sufficient trucks, the LMCs must:

- **Acquire legacy trucks from IOOs and turn them in for replacement vehicles**

A list of all trucks operating frequently and semi-frequently at the ports will be supplied to the ports at the beginning of the program. 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.<sup>16</sup> If pre-1996 trucks are assumed at \$11,500 and 1996-2006 trucks at \$32,200, the weighted average is \$18,539. For the 16,800 trucks, the LMCs would have to raise \$311 million over the course of the Clean Truck Program to buy them. This would be over and above the cost of replacement trucks.

- **Hire drivers to run the trucks**

Here, the issue that arises is the willingness of IOOs to become employees. A November 1, 2007 survey of 140 IOOs, randomly selected at the port gates at noon and 5 p.m., was conducted by the port's economic consultants using female interviewers.

<sup>13</sup> There is no "drayage industry" per se. LMCs have customers who may or may not need goods moved to or from the ports (*drays*). The LMCs may use employee drivers or IOOs to make these moves. IOOs have the option of refusing any potential work assignment from an LMC. Thus the frequency at which any IOO appears at the ports is a function of the customers of their LMCs and their willingness to accept that type of haul. The same is true of employee-drivers with the clear exception that they cannot refuse assigned hauls. It is not possible for an IOO or employee-driver to choose to go into port drayage. They can associate themselves with an LMC (*or in the case of IOOs with one or more LMCs*) and generally accept the type of moves needed by its customers. They end up being a frequent, semi-frequent or infrequent IOO to the degree that is the type of work assigned by their LMC.

<sup>14</sup> San Pedro Bay Ports Clean Air Action Plan Technical Report, November 2006, p. 57.

<sup>15</sup> A calculation of the number of frequent and semi-frequent trucks needed to maintain 2007 throughput concluded that the number of container moves at peak requirements was 37,000 per day. This would require 21,150 trucks. It would be 16,914 trucks at 1.75 turns each, if 20% of the cargo was moved by infrequent trucks.

<sup>16</sup> The existing tractor prices are averages developed from the offering prices of Freightliner tractors listed for sale [www.commericaltractortrader.com](http://www.commericaltractortrader.com).

The IOOs reported a median of 12.0 port visits a week, with only three in the “less than 3.5 times a week” or infrequent group. In summary, IOOs representing 52.2% of truck cargo throughput said “No” with 93% indicating they had an alternative employment strategy should that be required. Since each IOO represents one truck, a look at this survey is in order (*see Appendix A*):

**Question:** If you were paid an hourly rate of \$20 per hour and drove either a company truck or had your truck’s expenses completely covered, and were given employee benefits such as health insurance for yourself (*not your family*), paid vacations, sick leave, workers compensation insurance and state disability insurance? If this were the case, would you be willing to become an employee (that means giving up your status as an IOO):

<u>Raw Data</u>	<u>Uncertain Responses Allocated by Yes/No</u>
45 (32.1%) Yes	39.1% Yes
70 (50.0%) No	60.9% No
<u>25 (17.9%) Maybe/Uncertain</u>	
140 (100.0%) Total responses	

**Weighting Driver Responses by Frequency of Port Calls (throughput impact)**

<u>Raw Data</u>	<u>Uncertain Responses Allocated by Yes/No</u>
28.4% Yes	35.3% Yes
52.2% No	64.7% No
19.4% Maybe/Uncertain	

**Question.** The 70 “No” respondents were also asked, “Drivers who are not employees would not be allowed into the Ports. So my question is what else do you think you would do if you could not enter the port? Possibilities include:”

- 17% Become an “over the road” or “long haul” driver
- 19% Seek work from local LMCs who offer non-port drayage work. LMC Name?
- 30% Move to another location to drive there. Where?
- 27% Leave trucking for another occupation. Specifically? 6 identified firms, 13 didn’t
- 7% Don’t know

Since the completion of this survey, questions were raised about its accuracy. Change To Win recommended that Greenberg Quinlan Rosner conduct further research. In talks with that firm, it was found that they had surveyed a sample from 6,000 drivers who had indicated to Change To Win an interest in being employees. While the results of that sample have not been made available, Greenberg Quinlan Rosner indicated orally that they were similar to those cited above. California Cartage, the largest port drayage firm, also reported conducting a survey of their IOOs with the interviewer told to ask whether they would stay with the company if required to be employees. They indicated a similar result to those above.

The issue then arose as to the extent IOOs saying “No” fully understood their economic situation and how being employees would change it. Another random survey possibly using the e-Modal list is thus being negotiated with Greenberg Quinlan Ros-

ner in which IOO flexibility or inflexibility will be tested by giving them more information about being employees and seeing if their answers change.

Note: If the new survey shows an "education" program could change some IOOs attitudes to being employee-drivers, it must be implemented almost immediately since 2,100 IOO trucks will be banned on October 1, 2008. Loss of a major share of these drivers would compound the shortage from TWIC and the fact that even an extensive "education" program will not convince all skeptical IOOs to become employees.

This additional work will also seek to identify the extent to which large national firms would be willing to enter the local short-haul trucking market (*which is what the bulk of the drayage market is*) if a deficit of drivers appears. It will additionally test the conditions under which drivers working for an LMCs not essentially in port drayage would be willing to sever their current IOO or employee relationship and associate with a national LMC whose customers require more "drays" to and from the ports.

- **Overcome the potential loss of drivers due to TWIC**

A related throughput issue is the concern that 15% to 22% of existing frequent or semi-frequent IOOs will be removed from port drayage due to the TWIC process. This would occur for three reasons: non-status to work in the U.S.; felony convictions; unwillingness to apply. Of the 16,800 drivers in question, this would represent 2,520 to 3,696.<sup>17</sup> Here, the willingness of either TWIC eligible IOOs or employees driving for LMCs, that are not heavily involved in port drayage, to become employee-drivers with LMCs that are heavily involved in drayage is relevant.

Fundamentally, this would likely be an earnings issue with drayage LMCs competing with non-drayage LMCs to acquire the services of drivers willing to be employees and have a higher portion of their work involve moves to/from the ports.<sup>18</sup> It is part of the mechanism that should raise earnings in drayage (*see Appendix B*) The willingness of TWIC eligible infrequent IOOs and non-port workers to become frequent or semi-frequent employee-drivers is an issue that Greenberg Quinlan Rosner will be tasked to address.

Note: the LMC would still have to acquire legacy trucks to turn in to obtain the equipment for these employee-drivers. Here, the provision that a shortage of legacy trucks can be made up by other trucks that have been operating in the SCAQMD is relevant.

- **Drivers and trucks to accommodate port growth**

Assuming the forecasted increase in port activity from 2005-2012, as well as a rise in the share of throughput handled by on-dock rail, plus a 2% rise in trucking productivity, it was estimated that 20,200 trucks would be needed by 2012, an increase of 3,400 beyond those needed to replace TWIC losses.<sup>19</sup> To accommodate this growth, the LMCs would likely have to find this capacity from drivers working for LMCs largely outside of port drayage. Under this option, they would face two problems:

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<sup>17</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 29-32.

<sup>18</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 34-40.

<sup>19</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 45-46.

- There would be the earnings competition between drayage LMCs competing with non-drayage LMCs to acquire the services of workers willing to become frequent or semi-frequent employee-drivers.
- There would be the need to acquire trucks for these drivers to run without port assistance. At an average cost of \$50,000 for used 2007 vehicles, which would likely decline over time, they would need to fund \$170 million (*or less*) in vehicles without port assistance.
- **LMC's with infrequent drivers**

Another factor is the impact of the employee mandate on out-of-state firms who provide drayage services as well as Southern California firms that infrequently send trucks to pick up a load. There has been essentially no discussion or definition of how and to what extent this mandate would be a requirement for them. While there are an estimate 16,800 trucks that call on the ports more than 3.5 times a week, there is an estimated 24,000 additional trucks that call less than 3.5 times a week. If they are to be included, most would likely resort to "dray-offs" whereby their trucks would bring cargo near the ports and transfer it to LMCs that have permits to bring containers through the gates.

**Option B.** An LMC may own heavy duty trucks or it may have contractual relationships with IOOs who own and operate the trucks used in port drayage under its auspices. Today, almost all LMCs use IOOs. To have sufficient trucks:

- **Legacy trucks must be turned in for replacement vehicles**

A list of all trucks operating frequently and semi-frequently at the ports will be supplied to the ports at the beginning of the program. The LMC would not have to acquire legacy trucks for the IOOs in port drayage. This is the case since in this model, the IOOs themselves will be turning in the trucks for replacement under the Clean Truck Grant Program. There is thus no added cost for legacy truck acquisition.

- **Find drivers to run the trucks**

Since LMCs fundamentally use IOOs, the drivers come with their trucks.

- **Overcome the potential loss of IOOs due to TWIC**

As indicated, a related throughput issue is the concern that 15% to 22% of existing frequent or semi-frequent IOOs will be removed from port drayage due to the TWIC process, or 2,520 to 3,696. Here, the important issue is the willingness of TWIC eligible IOOs working for LMCs not heavily involved in port drayage to contract with firms that are. Fundamentally, this would be an earnings issue with drayage LMCs competing with non-drayage LMCs to acquire the services of these IOOs. It is part of the mechanism that should raise earnings in drayage (*Appendix B*). Here again, the provision allowing a shortage of legacy trucks to be made up by IOOs bringing other trucks that have been operating in the SCAQMD is relevant.

- **Drivers and trucks to accommodate port growth**

To accommodate port growth, it was calculated that there would be a need for 3,400 additional IOOs beyond those needed to replace TWIC losses. Under option B, the LMCs would face two problems:

- There would be the earnings competition between drayage LMCs competing with non-drayage LMCs to acquire the services of IOOs willing to work for them as frequent or semi-frequent IOOs.
- The new IOOs entering port service would need to be able to acquire at least used 2007 vehicles at an average cost of \$50,000 nearer to 2007 with the price declining over time. They would not have port assistance.

- **LMC's with infrequent drivers**

These firms could retain their existing form of organization.

**Option C.** An LMC may own its heavy duty trucks or have contractual relationships allowing trucks owned by IOOs, *listed as involved in port drayage at the start of the Clean Truck Program*, to operate under its auspices. As indicated, today almost all LMCs are organized using IOOs. To have sufficient trucks under Option C:

- **Legacy trucks must be turned in for replacement vehicles due to TWIC losses**

A list of all trucks operating frequently and semi-frequently at the ports will be supplied to the ports at the beginning of the program. The LMC would not have to acquire legacy trucks for the IOOs in port drayage regardless of whether those IOOs have historically worked for them or have previously worked through another LMC. This is the case since in this model, the IOOs themselves will be turning in the trucks for replacement under the Clean Truck Grant Program. There is no added cost for legacy truck acquisition with one exception.

As indicated, TWIC will likely result in the loss of 2,520 to 3,696 frequent or semi-frequent port drayage IOOs. To replace them, drayage LMCs in Option C would have to either convince TWIC eligible IOOs working for LMCs not heavily engaged in drayage to contract with them, or hire employee-drivers not currently working for LMCs involved in port drayage. In the second case, the LMCs would have to acquire legacy trucks that have been operating in the SCAQMD for the new employee-drivers to run. No cost estimate is possible as there is no way to estimate to what extent the IOO deficit can be made up with TWIC eligible infrequent IOOs. However, it is unlikely to be zero.

- **Find drivers to run the trucks**

As just stated, to replace the 2,520 to 3,696 frequent or semi-frequent IOOs lost to TWIC, drayage LMCs in Option C would have to either convince TWIC eligible IOOs working for LMCs not heavily engaged in drayage to contract with them, or hire employee-drivers not currently working for LMCs involved in port drayage.

- **Drivers and trucks to accommodate port growth**

To accommodate port growth, it was calculated that there would be a need for 3,400 additional drivers and trucks beyond those needed to replace TWIC losses. Under Option C, the LMCs would face two problems:

- There would be the earnings competition as drayage LMCs compete with non-drayage LMCs to acquire the services of workers willing to become frequent or semi-frequent employee-drivers. This is the case as expansion and TWIC are

unlikely to both be accommodated by infrequent IOOs switching to becoming frequent or semi-frequent IOOs.

- There would be the need to acquire trucks for these drivers to run without port assistance. They would need to fund \$170 million (*or less*) in used 2007 vehicles without port assistance.

- **LMC's with infrequent drivers**

The infrequent LMCs would have some IOOs on the list of those allowed to remain as IOOs. However, they would also have drivers who are not. At the point where they could not find IOOs on the list, they would be put in the position of having employee drivers, *if that provision is to apply to them*. Eventually, this would most likely resort to "dray-offs" whereby their trucks would bring cargo near the ports and transfer it to LMCs that have permits to go through the gates.

### Implementation

1. **Success.** Will throughput continue uninterrupted under each option?

- **Option A.** The attitudes of IOOs toward becoming employees raise questions about the possibility that throughput will be maintained and the ability of drayage firms to handle TWIC or port expansion. The key will be the degree that behavior of IOOs deviates from their expressed opinions. There is also the difficulties raised by the need of LMCs to raise the added \$311 million for truck acquisition without port assistance as well as the difficulty created by the need to raise \$170 million (*or less*) for used trucks to accommodate port growth. Further, there is the question of the status of LMCs that infrequently send trucks to the ports. If they are covered by the employee mandate, a high volume of "dray-offs" would result.
- **Option B.** The ability to handle TWIC appears to be an earnings issue with port drayage LMCs competing for IOOs with LMCs not fundamentally in port drayage. The ability to accommodate port growth will be inhibited by the need of IOOs to have at least used 2007 trucks costing \$50,000 nearer 2007 (*and less later*) with no financial assistance available from the ports.
- **Option C.** As long as there are sufficient IOOs to accommodate existing volume, TWIC and port growth, this is the existing system. However, it is unlikely that there will be IOOs to make up for both TWIC losses and port growth. To the extent that is true, the reluctance of IOOs to be employees will be a throughput issue. So also will be the need for an unknown amount to be raised for trucks to be acquired for employee-drivers under TWIC. There is also the difficulty created by the \$170 million (*or less*) the LMCs must raise for used 2007 trucks to accommodate port growth. Again, there is the question of the status of LMCs that infrequently send trucks to the ports. If they are covered by the employee mandate, eventually, a high volume of "dray-offs" would result.

2. **Timeliness.** Will throughput be impacted by delays in implementing an option?

- **Option A.** The need by LMCs to find drivers willing to be employee-drivers to replace IOOs leaving the sector as well as those lost by TWIC and needed for port expansion appears likely to significantly slow down this option's ability to accommodate growth. There might also be delays due to the need of LMCs to raise the extra

capital to buy trucks to be turned in for replacement with their prospect of doing so unknown. In particular, if the results of the driver surveys to date prove even 50% predictive of actual behavior, the ports face a driver loss of 3,500 to 4,000 IOOs not willing to be employee-drivers.

- **Option B.** LMCs will be able to keep IOOs that qualify under TWIC. There will be some delay while driver earnings increase to allow LMCs to recruit IOOs to replace those lost under TWIC and to accommodate port growth.
- **Option C.** LMCs will be able to keep IOOs that qualify under TWIC. There will be some delay as LMCs seek to find drivers willing to be employee-drivers to replace those lost by TWIC that are not filled by infrequent IOOs. There will also be a delay as LMCs seek to find IOOs or others willing to be employee-drivers to accommodate port growth.

3. **Effectiveness.** How well will throughput be managed under each option?

- **Option A.** An industry organized in this fashion is capable of accommodating port throughput. By 2012, given company control over their trucks and drivers, it could lead to larger local firms and the willingness of national carriers to acquire them and enter drayage. Effectiveness could be hampered by “dray offs” if LMCs that infrequently have trucks visiting the ports are included in the employee mandate.
- **Option B.** An industry organized in this fashion will accommodate port throughput. By 2012, the extra cost of operation will likely lead to larger local firms but the competitive environment may or may not be sufficiently attractive to induce national carriers to enter the local short haul market.
- **Option C.** An industry organized in this fashion will accommodate port throughput. By some time after 2012, given ultimate company control over their trucks and drivers, it could lead to larger local firms and the willingness of national carriers to acquire them and enter drayage. Effectiveness could be hampered by “dray offs” if LMCs that infrequently have trucks visiting the ports must have employee-drivers.

4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?

- **Option A.** LMCs must raise \$311 million to acquire trucks from their IOOs. LMCs would be required to pay state mandated benefits and would have less driver time available for driving from each employee due to mandated work breaks, pre-trip preparation, post trip clean-up and waiting time for minor maintenance during a given pay period. The difference over IOOs is a 59.5% increase in labor costs to accomplish the same work at the same underlying base pay (*see discussion page 31*).<sup>20</sup>
- **Option B.** LMCs would not have to raise funds to acquire trucks from their IOOs. The difference of using IOOs compared to employee-drivers would be 59.5% less in labor costs to accomplish the same work (*see discussion page 31*).
- **Option C.** LMCs would have to raise unknown amount of funds to acquire trucks to the extent that they cannot find IOOs from the initial list to accommodate TWIC. For that share of their workforce that would be employee-drivers, there would be a 59.5% increase in labor costs over using IOOs (*see also discussion page 31*).

<sup>20</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 66-70.

5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** The higher LMC costs incurred in this option due to the need to raise capital to buy trucks, the higher competitive rates to acquire drivers and the comparatively higher of labor costs of employees versus IOOs would result in industry consolidation by 2012 and larger remaining firms.
- **Option B.** The higher LMC costs incurred in this option due to the need to pay competitive rates to acquire IOOs, due to both TWIC and port growth, would result in some industry consolidation and larger firms. It would be less than in the other options as firms would have the lower labor cost compared to having employees and would not have to raise capital to acquire trucks to turn in for replacement vehicles.
- **Option C.** The higher LMC costs incurred by the requirement to acquire more trucks and have some employee-drivers in this option would result in some industry consolidation though over a longer period of time than with Option A.

6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?

- **Option A.** One on one interviews with over 50 LMCs conducted in the July and August 2007 found literally no desire to be in an industry with employees among the major existing LMCs. The smaller LMCs indicated that having employees along with increased insurance, required truck-borne technology and maintaining yards would likely force them out of business. Interviews with national LMCs found some interest in being in a market with employees. That willingness was conditioned upon market conditions that may exist by 2012 under this option, but not much sooner.
- **Option B.** The LMCs interviewed indicated a strong interest in remaining in the industry and using IOOs. Some smaller LMCs indicated that increased insurance, required truck-borne technology and maintaining yards might force them out of business. The willingness of national LMCs to consider the market was less strong under this condition as it would not yield the concentration they feel is needed by 2012.
- **Option C.** To the extent that this option requires employees and has the extra costs of providing trucks for them, it would not be the preference of existing LMCs. It would increase market concentration somewhat by 2012 but probably not enough to fill the needs of national companies.

7. **Program Management.** Will an option make it easier or harder to administer the program?

- **Option A.** Reducing the number of market participants and having companies own their trucks and employ their workers would ultimately make program management easier.
- **Option B.** A reduction among smaller market participants would ultimately make program management easier than today. However, the firms would have less control over their IOOs than they would if they owned trucks and had employee-drivers.
- **Option C.** This would be the most difficult option to administer given the likely confusion and difficulty of tracking at what point firms must change from IOOs to employees. Some reduction in market participants would alleviate part of that problem. However, the firms would still have IOOs over which they would have less control than in the part of the operations involving owned trucks and employees.

8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** If it can be implemented, there will be clean trucks under this option.
  - **Option B.** If it can be implemented, there will be clean trucks under this option.
  - **Option C.** If it can be implemented, there will be clean trucks under this option.
9. **Cooperation.** To what extent will groups be willing to cooperate in implementing the Clean Truck Program in light of the throughput issue?
- **Option A.** Environmental & labor groups have indicated that with the employee mandate, they will support the Clean Truck Program and encourage its implementation. The LMCs have concluded that it is not in their interest to assist the ports in implementing the Clean Truck Program if it includes the employee mandate and will seek to delay or stop it. As it is the LMCs which must manage throughput, their opposition is a difficulty.
  - **Option B.** Existing LMCs have concluded that it is in their interest to assist the ports in implementing the Clean Truck Program if there is no employee mandate. If this option is chosen, they will likely work closely with the ports to see that the program moves ahead. The environmental & labor groups have indicated that without the employee requirement, they will be opposed to the program and not support its implementation. As it is the LMCs that must manage throughput, their support is an advantage.
  - **Option C.** This option neither gives environmental and labor groups the employee mandate they seek nor does it avoid the employee mandate opposed by the LMCs. In that respect, it gives neither group what it seeks. On balance, it is likely to be viewed more favorably by the environmental and labor groups as ultimately there would be an employee mandate. For that reason, it would likely be opposed by the LMCs who would fight its implementation, though perhaps less vigorously.
2. **Clean Trucks.** To what extent will each option lead to meeting the clean truck requirements and deadlines passed by the two Boards of Harbor Commissioners?

**Description & Analysis**

Essentially, the issue of clean trucks is whether port drayage firms, using the funds to be made available by the ports via a third party institution, can obtain clean trucks in a timely manner. At the outside, this means that by January 1, 2012, all heavy duty trucks operating under an LMC's auspices must be 2007 or subsequent model years, or LNG fueled, or replaced by Gateway Cities Truck Modernization Program, or manufactured in 1995/1996-2006 and retrofitted with CARB VDECS. Ports funds will only be available for 2007 or new trucks but truck owners could retrofit 1995/1996-2006 trucks on their own. It is the ability of Options A, B and C to meet this clean truck deadline that must be assessed:

**Option A.** This approach would have all trucks owned by the LMCs. To have sufficient trucks, the LMCs must:

- **Acquire legacy trucks from IOOs and turn them in for replacement vehicles**  
As indicated earlier, a list of all trucks operating frequently and semi-frequently at the ports will be supplied to the ports at the beginning of the program. For purposes of

this analysis, it is again assumed that \$11,500 is the average price of pre-1996 tractors and \$32,200 is the average for subsequent models. For the 16,800 trucks, the LMCs would have to raise \$311 million to buy the legacy trucks to be turned in for replacement vehicles. This would be in addition to the cost of the new replacement trucks.<sup>21</sup>

- **Overcome the potential loss of trucks due to TWIC**

A related throughput issue is the concern that 15% to 22% of trucks used frequently or semi-frequently will be removed from port drayage if IOOs leave the sector due to the TWIC process. The LMC would have to make up for the shortage of legacy trucks by buying other trucks that have been operating in the SCAQMD and turning them in for replacement vehicles.

- **Staying current on truck payments**

LMCs must stay current on their truck payments to the third party institution. The institution's use of port grants, its non-profit status, its fleet purchasing power and negotiating strength with financial institutions, as well as depreciation allowances, will allow it to develop lease-to-own programs with reasonable payment levels. Note, the earlier analysis showed that with the higher fixed costs associated with this option, thinly capitalized LMCs would need immediate rate increases to provide the cash flow to stay in business. To the extent rate increases were delayed, it should be expected that many of the current LMCs would be forced out of business.<sup>22</sup>

- **Trucks to accommodate port growth**

To accommodate port growth, it was estimated that by 2012, the LMC would have to increase their fleet of port trucks by another 3,400 vehicles. At an average cost of \$50,000 for used 2007 vehicles, which would likely decline over time, they would need to fund \$170 million (*or less*) in vehicles without port assistance.

**Option B.** This approach would allow trucks to be owned by the LMCs or their IOOs. To have sufficient trucks, the LMCs must:

- **Acquire legacy trucks from IOOs and turn them in for replacement vehicles**

A list of all trucks operating frequently and semi-frequently at the ports will be supplied to the ports at the beginning of the program. The LMC would not have to acquire legacy trucks for the IOOs in port drayage since the IOOs will be turning in the trucks for replacement under the Clean Truck Grant Program. There is thus no added cost for legacy truck acquisition.

- **Overcome the potential loss of trucks due to TWIC**

LMCs would make up for losses by contracting with infrequent IOOs or non-port IOOs that have been operating in the SCAQMD to enter port drayage. As trucks would come with these drivers, there would be still be no additional expenditure to acquire legacy trucks to be turned in for new replacement vehicles.

- **Stay current on truck payments**

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<sup>21</sup> See p. 11

<sup>22</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 76-77.

IOOs must stay current on their truck payments to the third party institution. As indicated, that institution has a variety of devices to develop lease-to-own programs with reasonable payment levels.

- **Trucks to accommodate port growth**

To accommodate port growth, it was estimated that by 2012, the LMC would have to add sufficient IOOs to increase their capacity by 3,400 trucks. The new IOOs would have to buy trucks without port assistance that would cost them an average of \$50,000 for used 2007 vehicles, with that figure declining over time.

**Option C.** An LMC may own its heavy duty trucks or have contractual relationships allowing trucks owned by IOOs, *listed as involved in port drayage at the start of the Clean Truck Program*, to operate under its auspices. To have sufficient trucks under Option C:

- **Acquire legacy trucks from IOOs and turn them in for replacement vehicles**

A list of all trucks operating frequently and semi-frequently at the ports will be supplied to the ports at the beginning of the program. As long as sufficient IOOs exist, the LMC would not have to acquire legacy trucks for the IOOs in port drayage since the IOOs will be turning in the trucks for replacement under the Clean Truck Grant Program. There is thus no added cost for legacy truck acquisition.

- **Overcome the potential loss of trucks due to TWIC**

LMCs would make up for TWIC losses by paying infrequent IOOs or non-port IOOs that have been operating in the SCAQMD to enter port drayage. To the extent there were sufficient infrequent IOOs available, the trucks would come with these drivers and there would be no additional expenditure to acquire legacy trucks. However, if there are not, the LMC would have to make up for the shortage of legacy trucks by buying other trucks that have been operating in the SCAQMD and turning them in for replacement vehicles to be driven by employee-drivers.

- **Stay current on truck payments**

IOOs and LMCs must stay current on their truck payments to the third party institution. As indicated, that institution has a variety of devices to develop lease-to-own programs with reasonable payment levels.

- **Trucks to accommodate port growth**

To accommodate port growth, it was estimated that by 2012, the LMC would have to add sufficient trucks to increase their capacity by 3,400 trucks. At an average cost of \$50,000 for used 2007 vehicles, which would likely decline over time, they would need to fund \$170 million (*or less*) in vehicles without port assistance.

### Implementation

1. **Success.** Will trucks be cleaned up under each option?

- **Option A.** There is a difficulty due to the need by LMCs to raise an added \$311 million for legacy truck acquisition without port assistance to maintain throughput and TWIC replacement plus the need of \$170 million (*or less*) for trucks to accommodate port growth.

- **Option B.** There is no need to acquire legacy trucks as the IOOs will be turning in their existing trucks for replacements with or without TWIC. The ability to accommodate port growth will be inhibited by the need of IOOs to have at least used 2007 trucks at a cost of \$50,000 closer to 2007 and less closer to 2012.
- **Option C.** As long as there are “grandfathered” IOOs to accommodate existing volume and TWIC, there is no need for additional funds to acquire legacy trucks. However, it is possible that there will not be enough qualified IOOs to make up for TWIC losses. If that is true, the LMCs will need to raise an unknown amount for legacy trucks to be acquired to get replacement trucks for TWIC replacement employee-drivers. Also, there is the need to raise \$170 million (*or less*) for trucks to accommodate port growth.

2. **Timeliness.** Will clean trucks be acquired according to port deadlines under each option?

- **Option A.** The port environmental container fees will raise sufficient funds to clean up trucks *sooner rather than later*. The need by LMCs to raise the extra \$311 million to buy legacy trucks to be turned in for replacements, plus raise the \$170 million (*or less*) for port growth, may cause implementation to stay on the existing schedule or possibly slower.
- **Option B.** Port environmental container fees will raise sufficient funds to clean up trucks *sooner rather than later*. Existing IOOs can turn in legacy trucks for replacements in advance of the port schedule. The need for new IOOs to come with trucks costing \$50,000 (*or less*) to accommodate port growth will cause the program to have more difficulty closer to 2012.
- **Option C.** Port environmental container fees will raise sufficient funds to clean up trucks sooner rather than later. Existing IOOs can turn in legacy trucks for replacements in advance of the port schedule. The need by LMCs to raise an unknown amount for legacy trucks to be acquired to get replacement trucks for TWIC replacement employee-drivers, plus the need to raise \$170 million or less for trucks to accommodate port growth, may cause implementation to move on the existing schedule or possibly slower.

3. **Effectiveness.** How well will clean truck acquisition be managed under each option?

- **Option A.** In the near term, provided companies can find the funds for legacy trucks, the port deadlines will be met. Nearer to 2012, to the extent that national firms find an interest in entering a market organized in this manner, it may be easier for the \$170 million (*or less*) to be raised to accommodate port growth.
- **Option B.** In the near term, the port deadlines may well be exceeded as there is no barrier to IOOs acquiring new trucks early. To accommodate growth, it will be more difficult to get IOOs later in the program as they will need at least used 2007 trucks with costs of \$50,000 nearer to 2007 cost, less later. Also, the LMCs will not be able to directly influence whether IOOs stay current on their payments.
- **Option C.** In the near term, the port deadlines may well be exceeded as there is no barrier to IOOs acquiring new trucks early. However, LMCs will need to find funds for legacy trucks to provide replacement vehicles for some TWIC replacement employee-drivers. Later in the program, they will need \$170 million or less for used

2007 trucks for employee-drivers. This model will be unlikely to have national firms interested in the market by 2012.

4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?
  - **Option A.** LMCs must raise \$311 million to acquire trucks from their IOOs. Nearer to 2012, it might be easier to raise the \$170 million (*or less*) needed for port growth as national firms may be interested in the market. They will also need 59.5% more funds for employee-drivers than IOOs for the same workload (*discussion page 31*).
  - **Option B.** LMCs would not have to raise funds to acquire trucks from their IOOs. Nearer to 2012, they would have difficulty finding IOOs with used 2007 trucks costing \$50,000 (*or less*) to accommodate port growth.
  - **Option C.** LMCs would have to raise unknown amount of funds to acquire trucks to the extent that they cannot find IOOs from the initial list to accommodate TWIC losses. Nearer to 2012, they must raise the \$170 million (*or less*) needed for port growth with national firms not yet interested in the market.
5. **Average LMC Size.** What will happen to the size of LMCs under each option?
  - **Option A.** The higher LMC costs incurred in this option, due to the need to raise capital to buy trucks, would encourage industry consolidation by 2012. It might also encourage national firms to enter the market.
  - **Option B.** Since IOOs own the trucks under option B, the clean truck acquisition portion of the Clean Truck Program would do little to raise costs among LMCs and by itself would not impact industry consolidation and increased size.
  - **Option C.** The higher LMC costs incurred by the requirement to acquire more trucks for their employee-drivers in this option would result in some industry consolidation, particularly closer to 2012, but much less than in Option A.
6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?
  - **Option A.** See comments in Throughput #7. LMCs strongly prefer to avoid the employee model. National firms might be induced to enter the market closer to 2012. There is a short term risk of LMCs deciding to abandon port drayage.
  - **Option B.** Same comments in Throughput #7. LMCs strongly prefer the IOO model but smaller IOOs would not likely survive.
  - **Option C.** Same comments in Throughput #7. LMCs strongly prefer to avoid the employee model. National firms would not be induced to enter the market by 2012.
7. **Program Management.** Will an option make it easier or harder to administer the program?
  - **Option A.** Reducing the number of market participants and having companies buying trucks to own would ultimately make program management easier.
  - **Option B.** A reduction among smaller market participants would ultimately make program management easier than today. However, the firms would have less control over the ability of their IOOs to acquire trucks and stay current on them than if they owned the trucks themselves.

- **Option C.** This would be the most difficult option to administer given the likely confusion and difficulty of tracking when firms are required to change from IOOs to buying trucks for themselves. Some reduction in market participants would alleviate some of that problem. However, the firms would still have less control over the ability of their many IOOs to acquire trucks than buying trucks for themselves.
8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** There will be clean trucks under this option.
  - **Option B.** There will be clean trucks under this option.
  - **Option C.** There will be clean trucks under this option.
9. **Cooperation.** To what extent will groups be willing to cooperate in implementing the Clean Truck Program in light of the clean truck acquisition issue?
- **Option A.** See comments in Throughput #10. Environmental & labor groups favor this option. LMCs oppose it. As it is the LMCs that must buy the trucks, their opposition is a difficulty.
  - **Option B.** See comments in Throughput #10. Environmental & labor groups oppose this option. LMCs favor it. As it is the LMCs that must work with their IOOs that are acquiring the trucks, their support is an advantage.
  - **Option C.** See comments in Throughput #10. Neither environmental and labor groups nor LMCs get what they want, but this moves closer to the environmental and labor position. As the LMCs must both buy trucks and work with their IOOs that are acquiring them under this option, their opposition is a difficulty.

3. **Driver Supply.** To what extent will each option impact the port drayage driver supply?

**Description & Analysis**

Port throughput capacity is, in part, dependent upon the ability of LMCs working in port drayage to keep their own drivers and obtain other drivers from LMCs not essentially working with in port drayage. In part, this is a pay issue. However, it is also an issue of other factors influencing the supply and demand for port drayage drivers:

- There is a growing shortage of heavy truck drivers in the U.S. This could well lead to more of the drivers leaving LMCs specializing in port drayage to work with firms doing other forms of trucking.
- It has been estimated that TWIC will remove 2,500 to 3,700 of the drayage drivers currently working with LMCs serving the San Pedro Bay ports. Port expansion will require these firms to have an additional 3,400 drayage drivers. Together, that means 5,900 to 7,100 of the 20,200 drivers who will have to work for LMCs handling frequent and semi-frequent drayage moves with the ports by 2012 are not currently doing so. That represents 29% to 35% of the 2012 workforce that will have to be recruited from LMCs whose customers are primarily outside of port drayage.<sup>23</sup>

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<sup>23</sup> See p. 13.

- An added difficulty will be the need to replace any drivers who leave port drayage LMCs due to natural turnover in the sector. That turnover is roughly 11% per year.<sup>24</sup>
- Depending upon the option, there may also be the need to replace some share of IOOs who choose to leave LMCs specializing in port drayage because they do not wish to be employees.

The effect of Options A, B and C on the supply and demand of drivers working for LMCs specializing in drayage must be examined:

**Option A.** This approach would have all drivers become employees of LMCs and drive trucks owned by the LMCs. The issues this form of organization raises include:

- **Hire employee-drivers to move cargo**

As indicated earlier, the issue that arises for Option A is the willingness of IOOs to become employees with 50% of IOOs representing 52.2% of truck cargo throughput indicating "No" (*without allocating unknowns*) with 93% indicating they had an alternative employment strategy should that be required (*see Appendix A*). That general finding has apparently been reinforced by work done for Change To Win by Greenberg Quinlan Rosner and internally by California Cartage.

Two questions remain. One is the believability that 8,400 of the IOOs would leave port drayage LMCs if forced to become employees. Related is the question of how flexible or inflexible IOOs would be on the employee issue once presented with additional information that would allow them to better judge their own economic situations. Further polling is underway by Greenberg Quinlan Rosner to look at this issue. If their work shows a radical shift in opinion with more information, part of Option A must be a port sponsored information strategy designed to rapidly change this predisposition of the IOOs to not remain with port drayage firms if required to do so as employees.

The immediate issue faced by the ports is that 2,100 pre-1989 trucks owned largely by IOO drivers are to be banned October 1, 2008. Loss of any significant number of these drivers compounds the short-term issue of driver supply. If they are to be converted to employees, it requires: (1) a campaign to convince them, (2) negotiations with each to acquire their legacy trucks, (3) acquisition of financing by the LMCs to buy the trucks and (4) certification of their eligibility for a new truck grant. To avoid losses, these tasks must be accomplished by August or September if they are to have a replacement truck by October. If these drivers leave their port drayage LMCs and join non-port LMCs, it would be unlikely that they would return to a port drayage LMC in the future. Their loss would require port drayage LMCs to compete for drivers who are currently working with non-drayage LMC. That would appear to be primarily a pay issue.

In any case, the loss of even one-third the drivers predisposed to not become employees (2,800) would represent a 16.5% reduction in capacity that would have to be made up by people willing to leave LMCs not fundamentally involved in port drayage to become employee-drivers of LMCs that are. This would largely be an earnings issue with drayage LMCs competing with non-drayage LMCs to acquire the services of

<sup>24</sup> A Survey Of Drayage Drivers Serving The San Pedro Bay Ports, CGR Management for Gateway Cities Council of Governments, 2007

these workers. It is part of the mechanism that should raise earnings in drayage (*see Appendix B*).

- **Overcome the potential loss of drivers due to TWIC**

If 2,520 to 3,696 frequent and semi-frequent port drivers working for port drayage LMCs are lost due to TWIC, this may compound their need to obtain employee-drivers from non-drayage LMCs. This would not be true if those lost because of TWIC are the same people who have already indicated they would leave port drayage LMCs rather than become employee-drivers. It would be the case if the drivers lost due to TWIC are IOOs that indicated a willingness to be employees. Greenberg Quinlan Rosner is being asked to determine the extent to which TWIC will compound the need for drivers to be hired away from non-drayage LMCs.

- **Drivers to accommodate port growth**

If the forecasted increase in port activity from 2005-2012 leads to the need for an additional 3,400 employee-drivers, this will add further to the need for port drayage LMCs to compete to recruit people willing to become employee-drivers from non-drayage firms.

Meanwhile, the LMCs would face the need to supply these additional drivers with at least used 2007 clean trucks. These will cost about \$50,000 near 2007 and less later and cannot be financed with port assistance.

**Option B.** An LMC may use employees or have contractual relationships with IOOs who own and operate the trucks used in port drayage under its auspices. Today, almost all port drayage LMCs use IOOs. The issues this form of organization raises include:

- **Contract with IOOs to move cargo**

Almost all port drayage LMCs use IOOs to move freight for them. This relationship would not change. There is thus no need for the LMCs to replace them.

- **Overcome the potential loss of IOOs due to TWIC**

The loss of 2,520 to 3,696 IOOs providing frequent or semi-frequent drayage moves for port drayage LMCs would require their replacement by IOOs working for LMCs not fundamentally in port drayage. Essentially, this would be an earnings issue with drayage LMCs competing with non-drayage LMCs to acquire the services of these IOOs. This would be part of the market mechanism that should raise earnings in port drayage (*Appendix B*).

- **Drivers and trucks to accommodate port growth**

Port drayage LMCs will need to add 3,400 IOOs to accommodate port growth by 2012. Again, they will need to acquire the services of IOOs that have been working for LMCs not fundamentally in port drayage. This would largely be an earnings issue with drayage LMCs competing with non-drayage LMCs to acquire the services of these IOOs. This would also be part of the market mechanism that should raise earnings in port drayage.

The growth issue will be compounded by the need to find IOOs with clean trucks. Used 2007 trucks would cost about \$50,000 closer to 2007 and less closer to 2012.

**Option C.** An LMC may have employees or have contractual relationships with IOOs listed as involved in port drayage at the start of the Clean Truck Program. The issues this form of organization raises include:

- **Contract with IOOs or hire employee-drivers to move cargo**

As long as sufficient IOOs exist, the port drayage LMCs will use them to move cargo. In this case, there would be no need to contract with other IOOs to replace them. If there are insufficient IOOs from the initial list, the port drayage LMC would have to compete with non-drayage LMCs to hire away drivers willing to become port drayage employee-drivers. This would, essentially, be an earnings issue.

- **Overcome the potential loss of IOOs due to TWIC**

The loss of 2,520 to 3,696 IOOs providing frequent or semi-frequent drayage moves for port drayage LMCs would, first, require their replacement by IOOs that are on the port list, but working with LMCs not frequently involved in port drayage. If not enough are available, the LMCs would have to find drivers willing to leave non-port drayage LMCs and become employee drivers in drayage.

- **Drivers and trucks to accommodate port growth**

The need to add 3,400 IOOs to accommodate port growth by 2012 would again require port drayage IOOs on the initial list of IOOs. If there are insufficient IOOs on the list (*a likely result given the TWIC loss*), the port drayage LMC would have to compete with non-drayage LMCs to hire away drivers willing to become port drayage employee-drivers. They would also have to acquire clean trucks for them to drive.

The LMCs would face the additional need to supply these drivers with at least used 2007 clean trucks, which will cost \$50,000 near 2007 and less later that will not be financed with port assistance.

### Implementation

1. **Success.** How will each option impact the supply of port drayage drivers available to handle port throughout?

- **Option A.** The supply of existing drivers working with port drayage LMCs willing to become employee-drivers appears to be in question, given the high percentage indicating they would rather stay as IOOs with firms outside the sector. That attitude may shift with more information, but taking advantage of that possibility would require a port led campaign to convince the drivers. As indicated, time is essential with 2,100 IOOs having pre-1989 trucks scheduled to be banned October 1, 2008.

Short of a port led campaign, the port drayage LMCs would be forced to obtain employee-drivers by convincing drivers of non-drayage firms to join them. TWIC and port growth will compound their need to compete for employee-drivers currently working for non-drayage LMCs. In addition to hiring the workers, the LMCs will have to acquire trucks from them to be turned in for replacements. The LMCs that must execute this strategy have indicated a fundamental disagreement with it. Many of the large LMCs have indicated a willingness to quit doing port drayage work.

- **Option B.** Port drayage LMCs currently use IOOs to handle their cargo moves. Here, there would be no need to find new IOOs to replace them. TWIC would require the port drayage LMCs to compete to obtain IOOs currently working with non-

port drayage LMCs. Port growth would have the same result. However, in the last case, the IOOs must have used 2007 trucks at a cost of \$50,000 closer to 2007 and less closer to 2012.

- **Option C.** As long as there are sufficient IOOs to accommodate existing volume, TWIC and port growth, this is the existing system. However, it is unlikely that port drayage LMCs will find enough IOOs on the initial list to make up for both the TWIC losses and port growth. To the extent that is true, the potential reluctance of IOOs working with non-port drayage LMCs to become port employee-drivers would be a throughput issue. So also will be the unknown needed for trucks to be acquired for use by employee-drivers under TWIC. There is also the difficulty created by the \$170 million (*or less*) that port drayage LMCs must raise to provide trucks to their drivers to accommodate port growth.

2. **Timeliness.** Will throughput be impacted by delays in implementing an option?

- **Option A.** The need by port drayage LMCs to get drivers from non-drayage LMCs is heaviest under this option including the immediate need to replace some fraction of the 2,100 IOOs who have pre-1989 trucks to be banned on October 1<sup>st</sup>. They must get drivers willing to be employees to replace IOOs who refuse to do so. They must get employee-drivers to replace those lost due to TWIC, and they must find employee-drivers to handle port expansion. This burden will likely slow down this option's ability to accommodate throughput. There may also be delays due to the need of LMCs to raise the extra capital to buy trucks to turn-in for replacement. An important consideration is the apparent willingness of large existing LMCs to give up their port drayage business rather than have employees.
- **Option B.** Port drayage LMCs will be able to keep their existing IOOs until TWIC requires them to compete with non-port drayage LMCs for more drivers. There will be some delay while port driver earnings increase to allow this to occur. Port drayage LMCs must also compete for IOOs from non-port drayage LMCs to accommodate port growth. That means time will also be needed for incomes to adjust to make this possible.
- **Option C.** Port drayage LMCs will be able to keep their existing IOOs until TWIC requires them to compete for more drivers with LMCs not fundamentally involved in drayage. To the extent these are IOOs on the initial port list, they will not have to become employees. However, TWIC will likely cause a need to hire some employee-drivers. Finding them, as well as employee-drivers to accommodate port growth will likely slow down the LMCs ability to operate. There may also be delays due to the need of LMCs to raise the extra capital to buy trucks to turn-in for replacement.

3. **Effectiveness.** How well will throughput be managed under each option?

- **Option A.** An industry organized in this fashion will accommodate port throughput. By 2012, given company control over their drivers, it could lead to larger local firms and the willingness of national carriers to acquire them and enter drayage. However, the short term loss of some port drayage LMCs would represent a serious loss of institutional knowledge and capacity and would likely disrupt the pace of truck cargo flows.

- **Option B.** An industry organized in this fashion will accommodate port throughput. By 2012, the extra cost of operation will likely lead to larger local firms but not sufficiently large to induce national carriers to acquire them to enter drayage.
  - **Option C.** An industry organized in this fashion will accommodate port throughput. By some time after 2012, given ultimate company control over their drivers, it could lead to larger local firms and the willingness of national carriers to acquire them and enter drayage.
4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?
- **Option A.** Port drayage LMCs will have to pay enough to convince existing IOOs to convert to employee-drivers as well as convince drivers working for non-port drayage LMCs to do so. They need to overcome IOO resistance to being employees. The LMCs will see their costs rise due to the 59.5% extra cost of employee-drivers (*see discussion, page 31*). They will also have to purchase trucks to be turned in as replacement vehicles.
  - **Option B.** Port drayage LMCs could keep their existing IOOs. They would have to compete for the IOOs of non-drayage LMCs to deal with the issues of TWIC and port growth. This would raise their labor costs. However, they would not have to overcome resistance to a basic shift in their relationship to their IOOs.
  - **Option C.** Port drayage LMCs could keep their existing IOOs. They would have to compete for the IOOs of LMCs not fundamentally in drayage to deal with TWIC. If not enough IOOs from the initial list can be recruited, the port drayage LMCs would have to recruit drivers from non-drayage LMCs to become employees. Certainly, they would have to recruit drivers from non-drayage LMCs to become employees to handle port growth. Driver resistance to being employees would likely raise labor costs in the last two cases.
5. **Average LMC Size.** What will happen to the size of LMCs under each option?
- **Option A.** The higher port drayage LMC costs incurred in convincing IOOs to become employee-drivers, as well as the need to buy trucks to turn in as replacements, would likely lead to more industry consolidation by 2012 and larger remaining firms.
  - **Option B.** The higher port drayage LMC costs incurred in this option due to the need to pay competitive rates to acquire IOOs from non-drayage LMCs because of TWIC and port growth would result in some industry consolidation and larger firms. However, this would be less than in the other options.
  - **Option C.** The higher LMC costs incurred by the requirement to recruit some employee-drivers to deal with TWIC as well as employee-drivers to deal with port growth would result in some industry consolidation but less than in Option A.
6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?
- **Option A.** See comments in Throughput #7. LMCs strongly prefer to avoid the employee model. National firms might be induced to enter the market closer to 2012.
  - **Option B.** Same comments in Throughput #7. LMCs strongly prefer the IOO model but smaller IOOs would not likely survive.

- **Option C.** Same comments in Throughput #7. LMCs strongly prefer to avoid the employee model. National firms would not be induced to enter the market by 2012.
7. **Program Management.** Will an option make it easier or harder to administer the program?
- **Option A.** Reducing the number of market participants and having companies employing their workers would ultimately make program management easier. However, the short term loss of some of the largest port drayage LMCs would represent a serious loss of institutional knowledge and ability to manage the program.
  - **Option B.** A reduction among smaller market participants would ultimately make program management easier than today. However, the firms would have less control over the IOOs than employees.
  - **Option C.** This would be the most difficult option to administer given the likely confusion and difficulty of tracking when firms are required to change from using IOOs to hiring employee-drivers. Some reduction in market participants would alleviate part of that problem. However, LMCs would reach 2012 not being either IOO or employee-driver companies.
8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** There will be clean trucks under this option. However, the short term loss of some of the largest port drayage LMCs would represent a serious loss of institutional knowledge and likely slow port throughput despite the expenditure of funds.
  - **Option B.** There will be clean trucks under this option.
  - **Option C.** There will be clean trucks under this option.
9. **Cooperation.** To what extent will groups be willing to cooperate in implementing the Clean Truck Program in light of the driver supply issue?
- **Option A.** See comments in Throughput #10. Environmental & labor groups favor this option. LMCs oppose it. As it is the LMCs that must hire workers, their opposition is a difficulty.
  - **Option B.** See comments in Throughput #10. Environmental & labor groups oppose this option. LMCs favor it. As it is the LMCs that must arrange for IOOs, their support is an advantage.
  - **Option C.** See comments in Throughput #10. Neither environmental and labor groups nor LMCs get what they want, but this moves closer to the environmental and labor position. As the LMCs must both hire workers and arrange for IOOs, their opposition is a difficulty.
4. **Driver Pay.** To what extent will each option assist port drayage drivers to receive compensation on a par with other truck drivers in Southern California to enable sufficient driver supply for the sake of port cargo throughput?

**Description & Analysis**

Today, port drayage drivers are estimated to earn less income on an hourly basis than other segments of Southern California's heavy duty trucking industry. IOO hourly median earnings in 2007 were estimated at roughly \$12.00 per hour. The Census Bureau 2005 data, updated to 2007, indicated that IOO rate was \$18.09 in the Inland Empire and \$16.26 in Southern Califor-

nia's counties exclusive of Los Angeles. It was \$13.83 in Los Angeles County, likely held down by port drayage drivers. Meanwhile, 2007 median hourly rates for employed drivers varied from \$17.72 in Los Angeles County to \$19.33 in the Inland Empire.<sup>25</sup>

The gap between the hourly earnings of port drayage and other heavy duty truck drivers, be they IOOs or employees, is one that would threaten port throughput if it continued. This is true due to the difficulties cited in the Section 3:

- A U.S. shortage of heavy truck drivers and competition for drivers that could lead to more drivers leaving firms with customers who require port drayage.
- The need to replace 2,500 to 3,700 of the drivers working for port drayage firms who will be lost due to TWIC.
- The need to add 3,400 drivers to port drayage firms due to port growth.
- The need to replace drivers who leave port drayage firms due to the 11% natural turnover.
- The need to replace some share of IOOs that choose to leave LMCs providing port drayage because they do not wish to be employees.

Since the IOOs and employee-drivers working in firms whose customers are primarily outside of port drayage earn more than those with firms specializing more heavily in port drayage, the competition for drivers should raise the drayage incomes.

The effect of Options A, B and C in narrowing the earnings gap of drivers working for firms specializing and not specializing in drayage must be examined due to its impact on maintaining port throughput:

**Option A.** This approach would have all drivers become employees of LMCs and drive trucks owned by the LMCs. This option will impact driver incomes as follows:

- **Employee-drivers and benefits**

When a driver becomes an employee, the LMCs is required to pay state mandated benefits and comply with state work rules. If a worker averaged the same hourly rate as an IOO, the combination of state disability and unemployment insurance, mandated workers compensation insurance, employer paid social security taxes and a voluntary driver's health insurance policy, represents a 24.3% benefit package.

Also, if employee-drivers are paid hourly, they would receive time and half for overtime and be paid for undertaking tasks IOOs perform for free including: state mandated work breaks, pre-trip preparation, post trip clean-up and waiting time for minor maintenance during a given pay period. That accounts for 28.3% of their time. If they are paid by the load, they would not be covered by these rules.

Turning the logic around, LMCs would pay 24.3% more for benefits plus need an additional 28.3% more workers to accomplish the same amount of cargo movement. Together, LMC's would have a 59.5% increase in labor costs.<sup>26</sup>

<sup>25</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 32-34.

<sup>26</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 76-77.

- **Employee-drivers and earnings**

Hourly pay to drivers working for LMCs specializing in port drayage will go up as they are forced to compete for the drivers of LMCs that do not fundamentally work in port drayage. Whether it is Option A, B or C, the LMCs must deal with competition for their drivers as well as the need for drivers to replace those lost due to TWIC, as well as those needed due to port growth and the natural turnover of drivers. The unique challenge for option A will be the need to also deal with the loss of IOOs who do not wish to be employees and any reluctance of IOOs working for non-drayage firms to become employee-drivers. That added condition would mean that the LMCs would likely have to pay more per hour to obtain the same number of workers.

If employee-drivers are paid by the load, they could increase their pay by handling more cargo trips. If paid in that way, the degree to which their LMCs would have to pay more to convince them to leave non-drayage LMCs would likely be reduced.

- **Organized labor and increased incomes**

The fact that an LMC's drivers become employees does not mean they will be successfully organized. It does, however, open up that possibility. If it occurs, there is the likelihood that unionization would raise wages and/or benefits beyond those established by market forces. Here, an important consideration is that LMCs as a group are thinly financed and cannot fund increased labor costs without an immediate increase in their revenues to pay for them. As indicated earlier, even small delays in obtaining increased rates would logically result in many LMCs failing.<sup>27</sup>

On the other hand, during interviews, a significant share of the larger LMCs indicated an unwillingness to stay in port drayage if there was any prospect of having their companies organized.

**Option B.** An LMC may use employees or have contractual relationships with IOOs who own and operate the trucks used in port drayage under its auspices. Today, almost all LMCs use IOOs. This option will impact driver incomes as follows:

- **Employee-drivers and benefits**

As drivers would remain IOOs, they would continue their status as independent contractors. Their pay level would not include state mandated benefits or work rules. They would exchange these benefits for the ability to use Form C of the federal income tax which allows numerous deductions unavailable to employees. They also would retain the ability to refuse loads, determine their own working hours, and decide when and how long to take time off.

- **Employee-drivers and earnings**

Earnings of IOOs working for LMCs specializing in port drayage will go up as their LMCs are forced to compete for the IOOs of LMCs that do not fundamentally work in port drayage. Under Option B, that competition will occur as port drayage LMCs face the need for IOOs to replace those lost due to TWIC, plus add IOOs due to port growth, and find IOOs to replace their natural turnover. They would not have to overcome the unwillingness of some IOOs to become employees. The ability of

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<sup>27</sup> See bottom of page 20

LMCs to acquire drivers would thus be done at a somewhat lower equivalent hourly cost. IOOs would retain the opportunity they currently have to increase their earnings by handling more cargo trips.

- **Organized labor & increased incomes**

As IOOs are independent contractors, they are not eligible for union organization. To ensure that IOOs are able to make truck payments under the Clean Truck Grant Program, the third party institution could negotiate an agreement with the IOOs that any percentage increase in their revenues would lead to a commensurate percentage increase in the share of revenues going to their IOOs. Discussions with industry representatives indicated a willingness to do so.

**Option C.** LMCs may use employee-drivers or have contractual relationships allowing trucks owned by IOOs, *listed as involved in port drayage at the start of the Clean Truck Program*, to operate under its auspices. This option will impact driver incomes as follows:

- **Employee-drivers and benefits**

As long as LMCs can find IOOs from the initial list, their drivers would continue their status as independent contractors. Their pay level would not include state mandated benefits or work rules. They would exchange these benefits for the ability to use Form C of the federal income tax which allows numerous deductions unavailable to employees. They would also retain the ability to refuse loads, determine their own working hours, and when and how long to take time off.

As the need to find additional drivers grows, the LMCs would ultimately be required to hire employee-drivers. For this part of their capacity, mandated state benefits equivalent to 28.3% of labor costs would apply. If the employee-drivers work by the hour, so also would mandated work rules covering overtime and time off. If they instead work by the load, fewer work rules would apply but they would have access to greater income from handling more loads.

- **Employee-drivers and earnings**

Earnings of IOOs working for port drayage LMCs will go up as their LMCs are forced to compete for the IOOs of LMCs that do not fundamentally work in port drayage. Under option C, that competition would occur as port drayage LMCs face the need for IOOs to replace those lost due to TWIC, plus the need to add IOOs due to port growth, and find IOOs to replace their natural turnover.

LMC would not have to overcome the unwillingness of some IOOs to become employees until they could no longer find IOOs on the initial list of those eligible to work in the sector. At that point, the LMCs would face the challenge discussed in option A of the need to deal with the possible reluctance of some IOOs working for non-drayage firms to become employee-drivers. That added condition would mean that the LMCs would likely have to pay more per hour to obtain the same number of workers.

- **Organized labor**

By 2012, it is unlikely that the LMCs would have a sufficient number of employee-drivers for them to be organized. After that date, this would become more of a possibility as the ability of LMCs to fill their needs with "grandfathered" IOOs is reduced.

At that point, union organization would be a possibility with the likelihood it would raise wages and/or benefits beyond those established by market forces. Here, again, it is important to note that a large share of the LMCs have indicated an unwillingness to stay in port drayage if there was the prospect of having their companies organized.

### Implementation

1. **Success.** To what extent will each option assist port drayage drivers to receive compensation on a par with other short truck drivers in Southern California to enable sufficient driver supply for the sake of port cargo throughput?
  - **Option A.** Competition for drivers, between LMCs specializing in port drayage and those that do not, will force up pay. Employee-drivers will receive state mandated benefits amounting to 24.3% of their hourly rate. If they are paid hourly, they will be under overtime and state mandated work rules. If they are paid by the load, they can increase their incomes by handling more loads. Due to the reluctance of some IOOs to become employee-drivers, LMCs will likely have to pay more to get drivers. A limit may be their ability to pass along added payroll costs to their customers.
  - **Option B.** IOOs would fundamentally be paid as they are today except that TWIC, port growth and driver turnover will force port drayage LMCs to compete with non-drayage LMCs for IOOs. As incomes paid by the non-drayage LMCs are higher, this will cause earnings to increase. Also, potentially raising IOO incomes is the possibility of an agreement between the LMCs and the third party institution to match any percentage increases in their revenues with a percentage increase in the combined amount going to all of their IOOs. If that did not occur, any earnings gains would be up to market forces. Note: some IOOs make much more than what would be available to employee drivers. These drivers are unlikely candidates to become employees.
  - **Option C.** Initially, IOOs would fundamentally be paid as they are today except that TWIC, port growth and driver turnover will force port drayage LMCs to compete with non-drayage LMCs for IOOs. As incomes paid by the non-drayage LMCs are higher, this will cause earnings to increase. As port drayage LMCs can no longer find IOOs on the initial list, they would be required to convince drivers from non-drayage LMCs to join them as employee-drivers. The port drayage LMCs would likely have to pay somewhat more to overcome resistance to that relationship.
2. **Timeliness.** Will throughput be impacted by delays in implementing an option?
  - **Option A.** The possibility that larger LMCs would leave port drayage in the short term rather than risk an employee-driver mandate and unionization would represent a significant time barrier to implementing this option. When that difficulty is overcome, port drayage LMCs and the ports would face the hurdle of convincing IOOs to become employee-drivers. As that will not be 100% successful, it lengthens the time in which employee-drivers must be recruited from people working for non-drayage LMCs. This option also faces the challenge of the 2,100 drivers of the pre-1989 trucks due to be banned October 1, 2008. Here, an important consideration would be the possibility that larger port drayage LMCs would leave the business rather than risk an employee-driver mandate and unionization.
  - **Option B.** The IOOs working for existing port drayage LMCs would retain their existing status, so throughput would continue uninterrupted. There would be the time

needed to raise earnings to recruit IOOs from non-drayage LMCs to deal with TWIC and port growth.

- **Option C.** The IOOs working for existing port drayage LMCs would retain their existing status, so throughput would continue uninterrupted. There would be the time needed to raise earnings to recruit IOOs from LMCs not fundamentally involved in drayage to deal with TWIC. To the extent that there are insufficient IOOs on the port list from that source, the port drayage LMCs would have to compete with non-drayage LMCs to acquire employee-drivers. Here, an important consideration would be the medium term possibility that larger port drayage LMCs would leave the business rather than risk an ultimate employee-driver mandate and unionization.

3. **Effectiveness.** How well will throughput be managed under each option?

- **Option A.** An industry organized in this fashion could accommodate port throughput. However, the short term loss of some of the largest port drayage LMC would represent a serious loss of institutional knowledge and likely disrupt the pace of truck cargo flows. By 2012, given company control over their drivers, this option could lead to larger local firms and the willingness of national carriers to acquire them and enter drayage. Again, there is the potential loss of some of the largest port drayage LMCs and the negative impact that would have on port truck cargo flows.
- **Option B.** An industry organized in this fashion will accommodate port throughput. By 2012, the extra earnings of IOOs will likely lead to larger local firms but not sufficiently large to induce national carriers to acquire them to enter drayage. A key will be the relationship of the ports to the third party institution on issues ranging from IOOs in arrears on their payments, to trucks not being properly maintained, to LMCs not following through on contract provisions to have their share of funds going to IOOs go up equal at the same percentage rate as increases in their revenues.
- **Option C.** An industry organized in this fashion will accommodate port throughput. By some time after 2012, given ultimate company control over their trucks and drivers, it could lead to larger local firms and the willingness of national carriers to acquire them and enter drayage. However, there is the potential medium term loss of some of the largest port drayage LMCs and the negative impact that would have on port truck cargo flows.

4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?

- **Option A.** LMCs would be required to pay state mandated benefits and would have less driver time available from each employee due to mandated work breaks, pre-trip preparation, post trip clean-up and waiting time for minor maintenance during a given pay period. The difference over IOOs is a 59.5% increase in labor costs to accomplish the same work at the same underlying base pay. There would also be the cost of acquiring trucks to be turned in for replacements under this option.
- **Option B.** The difference of using IOOs compared to employee-drivers would be 59.5% lower labor costs to accomplish the same work. LMCs will also not have to raise the funds to acquire trucks from their IOOs to be turned in for replacements.
- **Option C.** The difference of using IOOs compared to employee-drivers would be 59.5% lower labor costs to accomplish the same work. LMCs will also not have to raise the funds to acquire trucks from their IOOs to be turned in for replacements.

These situations would prevail as long as there are IOOs from the initial list that can be used. Once that source is exhausted, the LMCs would have to hire employee-drivers. For that share of their operations, there would be a 59.5% increase in labor costs over using IOOs.

5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** The higher labor costs and company infrastructure to support an employee-driver workforce would reduce the number of competitors and increase the size of remaining firms. Closer to 2012, national LMCs may be willing to acquire some of these firms and enter the market.
- **Option B.** The higher LMC costs incurred to pay competitive rates to acquire IOOs due to TWIC and port growth would result in some industry consolidation and larger firms. It would be less than in the other options as firms would have the lower labor cost compared to having employee-drivers.
- **Option C.** The higher LMC costs incurred by the requirement to acquire more trucks and have some employee-drivers in this option would result in some industry consolidation but less than in Option A. National LMCs may consider acquisitions and entering the market under this option, but that would occur sometime after 2012.

6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?

- **Option A.** LMCs have expressed a willingness to leave port drayage rather than risk the employee-driver model and unionization. National firms might be induced to enter the market closer to 2012.
- **Option B.** Same comments in Throughput #7. LMCs strongly prefer the IOO model but smaller IOOs would not likely survive.
- **Option C.** Same comments in Throughput #7. LMCs strongly prefer to avoid the employee model. National firms would not be induced to enter the market by 2012.

7. **Program Management.** Will an option make it easier or harder to administer the program?

- **Option A.** The loss of institutional knowledge from larger LMCs abandoning port drayage would make it difficult to administer the program. That said, LMCs with employee-drivers have more control than LMCs with IOOs.
- **Option B.** A reduction among smaller market participants would ultimately make program management easier than today. That said, LMCs with IOOs have less control than LMCs with employee-drivers.
- **Option C.** This would be the most difficult option to administer given the likely confusion and difficulty of tracking when firms are required to change from IOOs to employee-drivers. Some reduction in market participants would alleviate some of that problem. Still, LMCs with many IOOs have less control than LMCs with all employee-drivers. In addition, there could be the medium term loss of larger LMCs not wishing to risk unionization.

8. **Maximize Return.** To what extent will an option maximize the port's financial effort?

- **Option A.** If this option leads to a loss of larger LMCs, the expenditure of funds by the ports would not gain maximum efficient use.

- **Option B.** There will be clean trucks under this option and continued availability of the existing infrastructure to continue throughput.
  - **Option C.** There will be clean trucks under this option.
9. **Cooperate.** To what extent will groups be willing to cooperate in implementing the Clean Truck Program in light of the driver pay issue?
- **Option A.** See comments in Throughput #10. Environmental & labor groups favor this option. LMCs oppose it. As it is the LMCs that must hire workers, their opposition is a difficulty.
  - **Option B.** See comments in Throughput #10. Environmental & labor groups oppose this option. LMCs favor it. As it is the LMCs that must arrange for IOOs, their support is an advantage.
  - **Option C.** See comments in Throughput #10. Neither environmental and labor groups nor LMCs get what they want, but this moves closer to the environmental and labor position. As the LMCs must both hire workers and arrange for IOOs, their opposition is a difficulty.
5. **Security (TWIC) & Driver Oversight.** To what extent will each option result in maximum compliance with national security requirements and ensure that truck drivers are meeting legal requirements to be driving their vehicles?

**Description & Analysis**

In December 2007, registration for the TWIC program is set to begin. All IOOs and employee-drivers will be required to complete a TSA security threat assessment and will be disqualified from obtaining a TWIC if the agencies find they have been convicted or incarcerated for certain crimes in a given time periods, lack legal presence and/or authorization to work in the United States, has a connection to terrorist activity, or has been determined to lack mental capacity.

It has taken the Department of Homeland Security a very long time to put together the TWIC process. There will be qualification rules that need explaining including topics like convictions, incarcerations and immigration status. There will be fees to be paid, forms to fill-out and documents to be assembled. Drivers will have to give fingerprints or other forms of physical identification. When the TWIC cards are issued, the rules for their use must be understood including the card-reading technology that will be installed and used by the drivers. The complexity of this process will require explanation, training of the drivers and efforts to minimize the loss of workers simply scared by the complexity of the process.

Meanwhile, there is a more general concern that there may be drivers working in port drayage who may not be meeting DMV and DOT licensing, physical examination and log book reporting requirements. Under the terms of their permits, LMCs would be required to provide oversight of these driver qualifications. Also, there is the worry that the Clean Truck Program may adversely affect some workers in the drayage industry. There is thus a desire to have the LMCs participate in efforts to ensure workers have access to workforce programs to retrain and place them.

Here, the issue is the extent to which there are differences in the ability of firms organized according to options A, B and C to assist in making the TWIC and driver oversight processes.

**Option A.** This approach would have all drivers become employees of LMCs. Under this option, the personnel and TWIC processes would be approached as follows:

- **Personnel Function**

Companies with employee-drivers will need personnel specialists. One of their functions would be to ensure that drivers are qualified under DMV and DOT rules to run the trucks owned by the LMCs. They will thus ensure that company employee-drivers have up-to-date licenses, physical examinations and log books, plus maintain documentation of these facts. Further, the personnel people must ensure that employee-drivers regularly update their qualifications. And, they would be responsible for the need of preliminary background checks on new drivers to ensure that they are qualified under DMV, DOT and TWIC rules. Another personnel function would be to refer workers who have lost their positions due to the Clean Truck Program to Workforce Investment Board efforts in Los Angeles or Long Beach.

- **TWIC Program Explanation to Drivers**

When TWIC first begins, the personnel people can be utilized to explain the TWIC program to the drivers so that they understand who is eligible and who is not under that program's complex rules. The personnel specialists can also teach the drivers about the process they will be going through so that those who do qualify are less apprehensive about how it works. That is particularly important given the large share of immigrants involved in port trucking.

- **TWIC Program Sign-up**

When the TWIC sign up process begins, the personnel people can work with their employee-drivers to help arrange for fees, filling-out of forms, compilation of documentation and fingerprinting or other physical identification.

- **TWIC Program Operation**

Once the program goes into effect and cards are issued, the personnel departments can help ensure cards reach the drivers and that they understand the rules on how they are to be used. In addition, the personnel departments can keep copies of documentation in case future questions arise about the eligibility of their drivers.

**Option B.** This approach would have most drivers remain as IOOs working under the auspices of an LMC. Under this option, the personnel and TWIC processes would occur as follows:

- **Personnel Function**

The requirements of the port permit will come into play for LMCs, even though they do not have employees. First, they will be responsible for ensuring that IOOs associated with them are maintaining their qualifications to drive heavy duty trucks under DMV and DOT rules. This means that the LMCs must know that their IOOs have current licenses, physical examinations and have maintained their driving time logs. The LMCs will be required to maintain documentation of these facts. Effectively, this requirements will mean that the LMCs, even those without employees, must have personnel specialist(s).

Second, the LMCs will be responsible for preliminary background checks on new IOOs to ensure that they meet DMV, DOT and TWIC requirements. This would be an additional function for their personnel specialist(s). Third, the LMCs will be made responsible for referring workers who might lose their positions due to the Clean

Truck Program to Workforce Investment Board programs run by Los Angeles or Long Beach.

- **TWIC Program Explanation to Drivers**

One function of personnel person(s) would be to explain the TWIC program to the IOOs working under the auspices of an LMC so that drivers understand who is eligible and who is not under the complex rules. They could also be used to teach the drivers about the process they will be going through so that those who do qualify are less apprehensive about how it will work. Again, this is important given the large share of immigrants involved in port trucking.

- **TWIC Program Sign-up**

When the sign up process begins, the personnel people working for an LMC can work with their IOOs to help arrange for fees, filling-out if forms, compilation of documentation and fingerprinting or other physical identification.

- **TWIC Program Operation**

Once the TWIC program goes into effect and cards are issued, the personnel people at the LMCs can help ensure cards reach their IOOs and can help their IOOs understand the rules of how they are to be used. In addition, the records departments of the LMCs can keep copies of TWIC documentation in case future questions arise about the eligibility of their drivers.

**Option C.** During the TWIC inauguration period, this approach would also have most drivers remain as IOOs working under the auspices of an LMC. Again, the same requirements of the port permit will come into play for LMCs, even though they will not yet have employees. As a result, they must have oversight of the IOOs eligibility to be driving heavy duty trucks under DMV, DOT and TWIC rules while maintaining records to these effects.

- **Program Explanation**

Same as in Option B.

- **Program Sign-up**

Same as in Option B.

- **Program Operation**

Same as in Option B.

**Implementation**

1. **Success.** To what extent will each option assist in the success of driver oversight and TWIC?

- **Option A.** The LMCs will be working with the administrators of the TWIC program while also maintaining personnel oversight of their own employee-drives with regards to DMV and DOT rules. For this reason, they should be able to exert a great deal of control over the success of driver oversight and the implementation of TWIC.
- **Option B.** While the LMC will have people designated to work with IOO oversight and record creation and maintenance, they will still be working with independent contractors and thus will not have as much direct control over the qualifications of their drivers under DMV and DOT rules or the success of the TWIC process.

- **Option C.** While the LMC will have people designated to work with IOO oversight and record creation and maintenance, they will still be working with independent contractors and thus will not have as much direct control over the qualifications of their drivers under DMV and DOT rules or the success of the TWIC process. Later, as they have employee-drivers, this situation will more closely resemble option A.
2. **Timeliness.** Will throughput be impacted by delays in implementing an option?
- **Option A.** As the LMCs will be overseeing the DMV and DOT qualifications of their own drivers as well as working with the TWIC program to sign-up their own employees, they should be able to exert a good deal of control over the speed at which these process are undertaken.
  - **Option B.** While the LMC will have people designated to work with IOO oversight and record maintenance, they will still be working with independent contractors and thus have less control over the willingness of the drivers to conform to requirements and time lines. However, there is significant individual motivation for IOOs to maintain their eligibility under DMV and DOT rules and to complete the TWIC process since without licenses, their earning ability will be limited.
  - **Option C.** See option B. As the LMCs acquire more employee-drivers, the situation will more appropriately resemble option A.
3. **Effectiveness.** How well will throughput be managed under each option's handling of employee qualifications and TWIC?
- **Option A.** As LMCs will be working with the qualifications of their own employee-drivers under DMV, DOT and TWIC requirements, they should be able to exert a great deal of control over the efficiency of the process.
  - **Option B.** While the LMCs will have personnel people designated to oversee the DMV, DOT and TWIC qualifications of their IOOs, they will still be working with independent contractors and thus have less control over the efficiency of driver conformance to requirements and time lines.
  - **Option C.** See option B. As the LMCs acquire more employee-drivers, the situation will more appropriately resemble option A.
4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?
- **Option A.** The LMC will need to hire personnel people to work with their employees to fulfill the requirement that their drivers are qualified to work under DMV, DOT and TWIC regulations. This will increase their costs of operation.
  - **Option B.** The port permits will require LMCs, including those using IOOs, to have oversight of the qualifications of their drivers under DMV and DOT rules as well as to help them fulfill TWIC qualifications. There would thus be an increase in cost to undertake these requirements.
  - **Option C.** The port permits will require LMCs, including those using IOOs, to have oversight of the qualifications of their drivers under DMV and DOT rules as well as to help them fulfill TWIC qualifications. There would thus be an increase in cost to undertake these requirements.
5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** The addition of one or a small number of people to perform the IOO oversight and record keeping functions will increase costs. Along with several other smaller functions, this will likely lead to some industry consolidation.
  - **Option B.** There will be the addition of one or a small number of people to perform the IOO oversight and record keeping functions. Along with several other smaller functions, this will likely lead to some industry consolidation.
  - **Option C.** See options A and B.
6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?
- **Option A.** No change, except added costs may force some LMCs to leave drayage.
  - **Option B.** Same as option A.
  - **Option C.** Same as option A.
7. **Program Management.** Will an option make it easier or harder to administer the program?
- **Option A.** As the LMCs will have personnel people working with employee drivers to ensure that they are qualified under DMV, DOT and TWIC rules, it should be straightforward for managers of the TWIC process to work with them in coordinating the sign-up and qualification process.
  - **Option B.** As the LMCs will have personnel people working with IOOs to ensure that they are qualified under DMV, DOT and TWIC rules, it should be efficient for managers of the TWIC process to work with them in coordinating the sign-up and qualification process. However, because the IOOs are independent, coordination with them will not be as straightforward.
  - **Option C.** As the LMCs will have personnel people working with IOOs to ensure that they are qualified under DMV, DOT and TWIC rules, it should be efficient for managers of the TWIC process to work with them in coordinating the sign-up and qualification process. However, because the IOOs are independent, coordination with them will not be as straightforward. Later, as more drivers become employees, the situation will be easier.
8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** There should be an efficient relationship.
  - **Option B.** There should be a close relationship but not as efficient due to the independent nature of the IOOs.
  - **Option C.** There should be a close relationship but not as efficient due to the independent nature of the IOOs.
9. **Cooperate.** To what extent will groups be willing to cooperate on the Clean Truck Program in light of the TWIC issue?
- **Option A.** 100%.
  - **Option B.** 100%.
  - **Option C.** 100%.

## 6B. Assessment (Other Issues)

6. Maintenance of Clean Truck Devices. To what extent will each option ensure that clean truck emissions control equipment is maintained according to manufacturer's specifications?

### Description & Analysis

As indicated in the discussion of the goals of the Clean Truck Program, it is not sufficient to simply clean-up the trucking fleet. For the program to succeed, the emissions equipment on the new trucks must be properly maintained over time so that the full benefit of the cleaner vehicles is realized. Here, the issue is the extent to which there are differences in the ability of firms organized according to options A, B and C to ensure that this occurs.

Option A. This approach would have all trucks owned directly by the LMCs. The following would be the manner in which the issue of emissions equipment maintenance would take place:

- **Control of Trucks**

Under this option, the trucking fleets would be directly controlled by the LMCs. They would be in a position to directly undertake clean air device maintenance for their fleets.

- **Clean Air Maintenance**

As the LMCs control the trucks, they will be able to directly ensure that either their staff or independent mechanics maintain clean air devices according to manufacturer's specifications.

- **Clean Air Maintenance Reporting**

The third party institution overseeing the Clean Truck Grant Program would certify the technical competence of the LMC or independent mechanics handling clean air device maintenance. Those individuals would be required to upload maintenance reports to the third party institution. It would be in a position to report to the LMCs and the ports that the devices are or are not being properly maintained.

- **Enforcement**

If the clean air devices are not being properly maintained, the ports could bar a vehicle from entry through the gates until it is.

Option B. This approach would have most trucks owned by IOOs working under the auspices of LMCs. The following would be the manner in which the issue of emissions equipment maintenance would take place:

- **Control of Trucks**

Under this option, the IOOs would directly control their trucks. Under their agreements with the third party institution, they would be required to keep emissions equipment maintained according to manufacturer's specifications. In addition, the permits under which LMCs operate would require them to ensure that their IOOs are fulfilling this maintenance obligation.

- **Clean Air Maintenance**

With IOOs owning the trucks, they will have to use either independent mechanics or mechanics employed by the LMCs under whose auspices they are operating to maintain the emissions equipment on their trucks.

- **Clean Air Maintenance Reporting**

The third party institution overseeing the Clean Truck Grant Program would certify the technical competence of the independent mechanics or LMC mechanics handling clean air device maintenance. Those individuals would be required to upload maintenance reports to the third party institution. It would then report to the LMCs and ports whether the devices are or are not being properly maintained properly.

- **Enforcement**

If the clean air devices are not being properly maintained, the ports could bar vehicles from entry through their gates until they are. This fact would strengthen the resolve and the power of the LMCs to ensure that their IOOs are properly maintaining the emissions control equipment on their trucks.

**Option C.** Under this option, most trucks would be under the control of IOOs “grandfathered” into the Clean Truck Program. To the extent LMCs cannot find IOOs on the initial list, the trucks driven by employee-drivers would have to be owned by the LMC. The following would be the manner in which the issue of emissions equipment maintenance would take place:

- **Control of Trucks**

Under this option, the IOOs would directly control most of the trucks. Under their agreements with the third party institution, they would be required to keep emissions equipment maintained according to manufacturer’s specifications. In addition, the permits allowing LMCs to operate within the ports would require them to ensure that their IOOs are fulfilling this obligation. For the smaller number of company owned trucks, the LMCs would have direct control and responsibility for clean air device maintenance.

- **Clean Air Maintenance**

The IOOs owning their trucks will have to use either independent mechanics or mechanics employed by their LMCs to maintain the emission equipments on their trucks. For company owned trucks, the same choices are available.

- **Clean Air Maintenance Reporting**

The third party institution overseeing the Clean Truck Grant Program would certify the technical competence of the independent mechanics or LMC staff mechanics handling clean air device maintenance. Those individuals would be required to upload maintenance reports to the third party institution. It would then send status reports to the LMCs and ports as to whether the devices are or are not being properly maintained.

- **Enforcement**

If the clean air devices are not be properly maintained, the ports could bar a vehicle from entry through the gates until they are. This fact would strengthen the resolve and the power of the LMCs to ensure that their IOOs are properly maintaining the emissions control equipment on their trucks.

### Implementation

1. **Success.** To what extent will each option assist in ensuring that emissions devices are being maintained in conformance with manufacturer's specifications?
  - **Option A.** As the LMC own the trucks, they can directly ensure that proper clean air device maintenance occurs. The third party institution will re-enforce the situation through its certification of the staff or independent mechanics handling the maintenance and the requirement that maintenance records be uploaded to them. The ports can assist by barring trucks that are not being properly maintained from entry through their gates until they are.
  - **Option B.** The fact IOOs own the trucks, puts the LMCs one step removed from directly ensuring that proper clean air device maintenance occurs. Their obligation to ensure that this takes place and the fact that the third party institution is certifying staff or independent mechanics handling the maintenance would strengthen the ability of the LMCs to do so. So would the fact that maintenance records must be uploaded by the mechanics to the third party institution which will share the records with the LMCs. The ports would strengthen the LMCs resolve by barring trucks that are not being properly maintained from entry until they are.
  - **Option C.** Most trucks will be owned by the IOOs, also putting the LMCs one step removed from directly ensuring that proper clean air device maintenance occurs. On these vehicles, the situation is the same as option B. On company-owned trucks, the control of emissions maintenance is direct and the situation is the same as option A.
2. **Timeliness.** Will there be delays in implementing emissions control maintenance that might slowdown the Clean Truck Program?
  - **Option A.** There is no reason throughput would be adversely impacted by a system that has the LMCs properly maintaining the emissions devices on their own trucks, with oversight by the third party institution and enforcement by the ports.
  - **Option B.** There is no reason throughput would be adversely impacted by a system that has the third party institution and the LMCs overseeing that the IOOs properly maintain the emissions devices on IOO owned trucks. The system is strengthened because information on emissions control maintenance must be uploaded by the mechanics to the third party institution which will share it with the LMCs and the ports.
  - **Option C.** For IOO trucks, there is no reason throughput would be adversely impacted by a system that has the third party institution and the LMCs overseeing that the IOOs properly maintain the emissions devices on IOO owned trucks. For these trucks, the situation is similar to option B. For company owned trucks, it is similar to option A.
3. **Effectiveness.** How well will emissions device maintenance be managed under each option?
  - **Option A.** LMC can directly manage the maintenance of emission devices on their trucks. Their need to do so is strengthened by the certification of mechanics and uploading of maintenance records to the third party institution. Enforcement by the ports in barring trucks not being correctly maintained is also important.
  - **Option B.** LMCs must work through their IOOs on the maintenance of emission devices. Their ability to do so is aided by the certification of mechanics and uploading

of maintenance records to the third party institution, with that information shared with the LMCs. Enforcement by the ports in barring trucks not being correctly maintained strengthens the resolve and ability of the LMCs to ensure that the IOOs are fulfilling this obligation.

- **Option C.** LMCs must work through their IOOs on the maintenance of emission devices. They can handle the issue directly on their own trucks. Their ability to oversee their LMCs is strengthened by the certification of mechanics and uploading of maintenance records to the third party institution, with that information shared with the LMCs. Enforcement by the ports in barring trucks not being correctly maintained is also important.

4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?

- **Option A.** There will be an increase in the cost of operation as mechanics specializing in maintaining emissions devices are either hired on staff or independent mechanics are paid.
- **Option B.** There will be some increase in the cost of operation as people are hired to oversee that IOOs are using mechanics specializing in maintaining emissions devices as required. Also, LMCs may elect to pay mechanics to provide this service to their IOOs.
- **Option C.** There will be some increase in the cost of operation as people are hired to oversee that IOOs are using mechanics specializing in maintaining emissions devices as required. Also, LMCs may elect to pay mechanics to provide this service to company owned trucks and could make that service available to their IOOs.

5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** Hiring one or more mechanics to ensure that emission control devices are being properly maintained or retaining independent mechanics to provide this service would cause some increase in costs and bring about some consolidation in the drayage business.
- **Option B.** Hiring one or more people to ensure that IOOs are having their emission control devices properly maintained, as well as possibly employing mechanics to provide this function, would cause some increase in costs and bring about some consolidation in the drayage business.
- **Option C.** Hiring one or more people to ensure that IOOs are having their emission control devices being properly maintained would cause some increase in costs and bring about some consolidation in the drayage business. The costs would be increased to the extent one or more mechanics were hired to ensure that that emission control devices are being properly maintained on company trucks, or independent mechanics are engaged to provide this service. The increase in costs would bring about some consolidation in the drayage business..

6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?

- **Option A.** The increase in costs will likely eliminate some LMCs from drayage.
- **Option B.** The smaller increase in costs would still likely eliminate some LMCs from drayage.

- **Option C.** The increase in costs will likely eliminate some LMCs from drayage.
7. **Program Management.** Will an option make it easier or harder to administer the program?
- **Option A.** It will be possible for the third party institution to ensure that mechanics working with emission control devices on their trucks are qualified, and accept uploads of maintenance reports from them. It will thus be a straightforward issue for them to oversee that LMCs are maintaining these devices. The ports also will receive this information and the RFIDs on the trucks can be used to identify and bar entry to trucks in violation of emissions control device maintenance obligations.
  - **Option B.** It will be possible for the third party institution to ensure that mechanics working with emission devices on IOO owned trucks are qualified, and accept uploads of maintenance reports from them. This will be reported to the LMCs whose permits require them to ensure that their IOOs are having this work done. This makes management of process one step less direct. The LMCs role will be strengthened by the fact that the ports will also receive this information and the RFIDs on the trucks can be used to identify and bar entry to vehicles in violation of emissions control device maintenance obligations.
  - **Option C.** On IOO owned trucks, the situation is the same as option B. On company owned trucks, it is the same as option A.
8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** The system can act efficiently.
  - **Option B.** The system can act slightly less efficiently but still accomplish the task.
  - **Option C.** The system can act slightly less efficiently but still accomplish the task.
9. **Cooperate.** To what extent will groups be willing to cooperate on the Clean Truck Program in light of the emission equipment maintenance issue?
- **Option A.** 100%.
  - **Option B.** 100%.
  - **Option C.** 100%.
7. **Required Truck Safety and Maintenance Check-Ups and Repairs.** To what extent will each option ensure that truck owners have their vehicles undergo regular check-ups and safety inspections plus have necessary repair work completed?

**Description & Analysis**

Given the intensity of truck operations near the harbors, port leaders have an interest in the safety of trucks used in the area. DOT is supposed to subject LMCs to audits of driver logs, insurance, safety and maintenance records. It only has the staff to cover 2% of U.S. carriers. CHP through its BIT program is supposed to review 90-day truck safety and maintenance check-up records of every IOO and LMC with trucks in a 25 month cycle. They are also supposed to physically check a sample of trucks. They only have staffing for half this work.

Given the holes in the oversight system, the ports will require that all safety and truck maintenance work on trucks funded via the Clean Truck Program must be performed by independent or LMC mechanics certified by the third party institution to perform the work.

These individuals will be required to electronically upload records of their maintenance work to the third party institution. It will share these reports with the LMCs under whose auspices the trucks are working. The LMCs will be responsible for ensuring that this work is completed and maintaining records for its own trucks, or any IOOs working under their auspices. Failure of the required safety and maintenance check-ups as well as repair work to be performed would be a reason to bar a truck from the ports until it is done.

These conditions should make the LMCs the point of contact for the CHP in its BIT work, rather than having the agency have to go to each IOO. That should increase the CHP's oversight range and efficiency.

**Option A.** This approach would have all trucks owned directly by the LMCs. The following would be the manner in which the issue of safety and maintenance check-ups and repairs would take place:

- **Control of Trucks**

Under this option, the trucking fleets would end up directly controlled by the LMCs. They would be in a position to directly undertake safety and maintenance check-ups and repairs on their fleets.

- **Clean Air Maintenance**

As the LMCs control the trucks, they will be able to directly ensure that either their staff mechanics or independent mechanics perform required inspections and repairs.

- **Clean Air Maintenance Reporting**

The third party institution overseeing the Clean Truck Grant Program would certify the technical competence of the LMC or independent mechanics handling the truck safety and maintenance check-ups and repairs. Those individuals would be required to upload maintenance reports of their work to the third party institution. It would be in a position to report to the LMCs and ports whether a truck is or is not being properly maintained.

- **Enforcement**

If trucks are not being properly subjected to safety and maintenance inspections and repairs, the ports could bar a vehicle from entry through the gates until it has.

**Option B.** This approach would have most trucks owned by IOOs working under the auspices of LMCs. The following would be the manner in which the issue of truck safety and maintenance inspections and repairs would take place:

- **Control of Trucks**

Under this option, the IOOs would directly control their trucks. Under their agreements with the third party institution, they would be required to have truck safety and maintenance inspections and repairs undertaken. In addition, the permits that LMCs have to operate at the ports would require them to ensure that their IOOs are fulfilling this obligation.

- **Clean Air Maintenance**

With IOOs owning the trucks, they will have to use either independent mechanics or mechanics employed by the LMC under whose auspices they are operating to undertake truck safety and maintenance inspections and repairs on their trucks.

- **Clean Air Maintenance Reporting**

The third party institution overseeing the Clean Truck Grant Program would certify the technical competence of the independent mechanics or LMC mechanics handling the truck safety and maintenance inspections and repairs. Those individuals would be required to upload maintenance reports to the third party institution. It would then be in a position to report to the LMCs and the ports whether truck safety and maintenance inspections and repairs are or are not being undertaken.

- **Enforcement**

If the truck safety and maintenance inspections and repairs are not being properly maintained, the ports could bar a vehicle from entry through the gates until it has.

**Option C.** Under this option, most trucks would be under the control of IOOs “grandfathered” into the Clean Truck Program. To the extent LMCs cannot find IOOs on the initial list, the trucks driven by employee-drivers would have to be owned by the LMCs. The following would be the manner that safety and maintenance check-ups and repairs would take place:

- **Control of Trucks**

Under this option, the IOOs would directly control most of the trucks. Under their agreements with the third party institution, they would be required to have truck safety and maintenance inspections and repairs undertaken. In addition, the port permits of the LMCs would require them to ensure that their IOOs are fulfilling this obligation. For the smaller number of company owned trucks, the LMCs would have direct responsibility for having safety and maintenance check-ups and repairs occur.

- **Clean Air Maintenance**

The IOOs will have to use either independent mechanics or mechanics employed by their LMCs to undertake safety and maintenance check-ups and repairs on their trucks. For company owned trucks, the same choices would be available.

- **Clean Air Maintenance Reporting**

The third party institution overseeing the Clean Truck Grant Program would certify the technical competence of the independent mechanics or LMC staff mechanics handling safety and maintenance check-ups and repairs. Those individuals would be required to upload maintenance reports to the third party institution. It would be in a position to report to the LMCs and ports whether safety and maintenance check-ups and repairs are or are not occurring.

- **Enforcement**

If the safety and maintenance check-ups and repairs are not being undertaken, the ports could bar a vehicle from entry through the gates until it has.

**Implementation**

1. **Success.** To what extent will each option ensure that truck safety and maintenance check-ups and repairs are being performed?

- **Option A.** As the LMCs own the trucks, they can directly ensure that truck safety and maintenance check-ups and repairs occur. The third party institution will re-enforce the situation through its certification of the staff or independent mechanics handling the maintenance and the fact that maintenance records must be uploaded to the institution. The ports would assist by barring trucks that are not being properly maintained from entry until this work has been performed.
  - **Option B.** The fact IOOs own the trucks, puts the LMCs one step removed from directly ensuring that truck safety and maintenance check-ups and repairs occur. Their obligation to ensure that this takes place and the fact that the third party institution is certifying staff or independent mechanics handling the maintenance would strengthen the ability of the LMCs to do so. So would the fact that maintenance records must be uploaded by the mechanics to the third party institution which will share the records with the LMCs. The LMCs resolve and ability to oversee the IOOs would be enhanced by the fact that the ports would bar entry of trucks that are not being properly maintained until this has been done.
  - **Option C.** Most trucks will be owned by the IOOs, also putting the LMCs one stepped removed from directly ensuring that proper clean air device maintenance occurs. For these vehicles, the situation is the same as option B. On company owned trucks, the situation is the same as in option A.
2. **Timeliness.** Will there be delays in implementing truck safety and maintenance check-ups and repairs that might slow down the Clean Truck Program?
- **Option A.** There is no reason throughput would be seriously impacted by a system in which the LMCs must have their truck subjected to regular safety and maintenance check-ups and repairs, with oversight by the third party institution and enforcement by the ports.
  - **Option B.** There is no reason throughput would be seriously impacted by a system that has the third party institution and the LMCs overseeing that the IOOs regularly have their trucks subjected to safety and maintenance check-ups and repairs. It is helpful that information must be uploaded by the mechanics to the third party institution which will share it with the LMCs and the ports. It is also helpful that all parties understand that the ports will bar entry to trucks that have not been properly checked and repaired.
  - **Option C.** For IOO owned trucks, the situation is the same as option B. For the few company owned trucks, it is the same as option A.
3. **Effectiveness.** How well will safety and maintenance check-ups and repairs be managed under each option?
- **Option A.** LMC can directly manage the safety and maintenance check-ups and repairs on their trucks. Their need to do so is strengthened by the certification of mechanics and uploading of maintenance records to the third party institution. Enforcement by the ports in barring trucks not being correctly maintained will ensure that this is done.
  - **Option B.** LMCs must work through their IOOs to ensure that safety and maintenance check-ups and repairs are occurring on IOO owned trucks. Their ability to do so is strengthened by the certification of mechanics and uploading of maintenance re-

cords to the third party institution, with that information shared with the LMCs. Enforcement by the ports in barring trucks not being correctly maintained provides the necessary incentives for the IOOs and LMCs to make the system work.

- **Option C.** LMCs must work through their IOOs to ensure safety and maintenance check-ups and repairs are occurring. They can handle the issue directly on their own trucks. In the first case, the situation is the same as option B. In the second, it is the same as option A.

4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?

- **Option A.** There will be some increase in the cost of operation as mechanics specializing in safety and maintenance check-ups and repairs are either hired on staff or independent mechanics are paid. For most LMCs, this would be a new function since they would now own trucks.
- **Option B.** There will be some increase in the cost of operation as people are hired to oversee that IOOs are using certified mechanics to undertake safety and maintenance check-ups and repairs as required. Also, LMCs may elect to hire a mechanic to provide these services to their IOOs.
- **Option C.** There will be some increase in the cost of operation as people are hired to oversee that IOOs are using certified mechanics for safety and maintenance check-ups and repairs as required. Also, LMCs would have to hire a mechanic to provide this service to company owned trucks and might possibly make that service available to their IOOs.

5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** Hiring one or more mechanics to ensure that safety and maintenance check-ups and repairs are being properly conducted, or retaining independent mechanics to provide this service, would cause some increase in costs and bring about some consolidation in the drayage business.
- **Option B.** Hiring one or more people to ensure that IOOs are having their safety and maintenance check-ups and repairs undertaken, would cause some small increase in costs and bring about some consolidation in the drayage business.
- **Option C.** Hiring one or more people to ensure that IOOs are having their safety and maintenance check-ups and repairs undertaken, would cause some increase in costs and bring about some consolidation in the drayage business. The costs would be increased to the extent one or more mechanics were hired to ensure that that emission control devices are being properly maintained on company trucks, or independent mechanics are engaged to provide this service. The increase in costs would bring about some consolidation in the drayage business.

6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?

- **Option A.** The increase in costs will likely eliminate some LMCs from drayage.
- **Option B.** The smaller increase in costs would still likely eliminate some LMCs from drayage.
- **Option C.** The increase in costs will likely eliminate some LMCs from drayage.

7. **Program Management.** Will an option make it easier or harder to administer the program?
- **Option A.** It would be possible for the third party institution to ensure that mechanics overseeing safety and maintenance check-ups and repairs on their trucks are qualified, and accept uploads of maintenance reports from them. This will make it straightforward for them to oversee that LMCs are maintaining these devices. The ports also will receive this information and have the power to bar trucks from their gates. The trucks would be identifiable through their RFIDs.
  - **Option B.** It would be possible for the third party institution to ensure that mechanics overseeing safety and maintenance check-ups and repairs on IOO owned trucks are qualified, and accept uploads of maintenance reports from them. This will be reported to the LMCs whose permits require them to ensure that their IOOs are having this work done. This makes the management of process one step less direct. The LMCs role will be strengthened by the fact that the ports will also receive this information and have the power to bar trucks from their gates and can readily identify them through their RFIDs.
  - **Option C.** On IOO owned trucks, the situation is the same as option B. On company owned trucks, it is the same as option A.
8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** The system can act efficiently.
  - **Option B.** The system can act slightly less efficiently but still accomplish the task.
  - **Option C.** The system can act slightly less efficiently but still accomplish the task.
9. **Cooperate.** To what extent will groups be willing to cooperate on the Clean Truck Program in light of the emission equipment maintenance issue?
- **Option A.** 100%.
  - **Option B.** 100%.
  - **Option C.** 100%.
8. **Technology Installation and Training.** To what extent will each option ensure that the trucking fleet has installed required technology and that drivers are trained in a manner that will allow the Clean Truck Program to be administered while assisting the ports with future efforts to increase efficiency and throughput?

**Description & Analysis**

To administer the Clean Truck Program, the trucks entering the port gates must be equipped with RFID and AVL devices. In addition, these and other technologies could be needed on port drayage trucks as part of a future port technology program designed to increase the speed and volume of port cargo throughput. It would be in the interest of the ports as well as LMCs and drivers to increase throughput since it will allow the ports to expand while also increasing the profits of the LMCs and the compensation of the drivers.

As part of the permit process for LMCs, if driver training is required as part of the technology plan, the LMCs will be responsible for seeing that drivers under its auspices receive such instruction. Training is important as the use of common software systems is often the key to the effectiveness of modern supply chain systems.

**Option A.** This approach would have all trucks owned directly by the LMCs. The following would be the way in which the truck borne technology training would be implemented:

- **Driver Training**

As the drivers would be employed by the LMCs, the firms would have direct control over any training the drivers are required to receive.

- **Enforcement**

Trucks will be required to have the technical devices on board to be allowed to enter the port gates. If, under a technology plan, the drivers working for an LMC are poorly trained, the ports could elect to refuse to allow them future entry into the harbors since they have been disruptive to throughput efficiency.

**Option B.** This approach would have most trucks owned by IOOs working under the auspices of LMCs. The following would be the manner in which a truck borne technology training would be implemented:

- **Driver Training**

The LMCs would be responsible for ensuring that IOOs operating under their auspices are trained in the use of any technology required by the ports as part of the Clean Truck Program or any port throughput plan.

- **Enforcement**

Trucks will be required to have the technical devices on board to be allowed to enter the port gates. If, under a technology plan, the drivers working for an LMC are poorly trained, the ports could elect to refuse to allow them future entry into the harbors since they have been disruptive to throughput efficiency.

**Option C.** Under this option, most trucks would be under the control of IOOs "grandfathered" into the Clean Truck Program. To the extent LMCs cannot find IOOs on the initial list, the trucks driven by employee-drivers would have to be owned by the LMCs. The following would be the manner in which truck borne technology training would be implemented:

- **Driver Training**

The LMCs would be responsible for ensuring that IOOs operating under their auspices are trained in the use of any technology required by the ports as part of the Clean Truck Program or any port throughput plan. The same would apply to their company drivers.

- **Enforcement**

Trucks will be required to have the technical devices on board to be allowed to enter the port gates. If, under a technology plan, the drivers working for an LMC are poorly trained, the ports could elect to refuse to allow them future entry into the harbors since they have been disruptive to throughput efficiency.

**Implementation**

1. **Success.** To what extent will each option ensure that the truck borne technology plan of the ports is implemented?

- **Option A.** As the LMCs own the trucks, they ensure the required devices are installed on their vehicles. If they are not installed, or not functioning, or their drivers are poorly trained and disruptive to throughput, the ports can bar their entry through the gates.
  - **Option B.** Though the IOOs own the trucks, the LMCs under whose auspices they are moving cargo would still be responsible for ensuring the required devices are on the trucks of their IOOs. The LMCs control over training would be less strong with IOOs than it would be with employees. For IOOs, the incentive for being well trained would come from the fact that the ports could bar a driver's entry through the gates if their lack of training was being disruptive to port throughput efficiency.
  - **Option C.** To the extent that the LMCs continue to use IOOs, their situation would be the same as option B. To the extent drivers from the initial list are not available and they must hire employee-drivers and own the trucks, it would be the same as in option A.
2. **Timeliness.** Will there be delays in implementing the truck borne technology plan of the ports that might slow down the Clean Truck Program?
- **Option A.** There is no reason throughput would be seriously impacted by a system in which the LMCs own their trucks and hire the drivers. They would be directly responsible for RFIDs and AVLS being on the trucks and the training of the drivers.
  - **Option B.** The IOOs owning the trucks, but the LMCs would responsible for ensuring RFIDs and AVLS are on the trucks. The requirement that the LMCs train independent drivers could make the training process less efficient and less thorough.
  - **Option C.** As most trucks will be IOO owned, the situation will be similar to option B. For the few company owned trucks, it would be the same as option A.
3. **Effectiveness.** How well will the truck borne technology plan of the ports be managed under each option?
- **Option A.** With LMCs owning the trucks and training their employee-drivers, the process should be very efficient and effective. They can ensure that the RFIDs and AVLS are on their vehicles. They would undertake the training of their drivers. The power of the ports to bar trucks would enforce discipline on the process.
  - **Option B.** Though the IOOs own the trucks and the LMCs are responsible ensuring RFIDs and AVLS are on them. Training should be effective, given the desire of the IOOs to continue entering the ports, and the need of the LMCs to have them able to do so.
  - **Option C.** Though in most cases, the IOOs would own the trucks, and the LMCs would be responsible ensuring RFIDs and AVLS are on them, the desire of the IOOs to continue entering the ports, and the need of the LMCs to have them able to do so, should ensure that the training process is effective. For the few company owned trucks and employee-drivers, the process would be straightforward.
4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?
- **Option A.** There will be some increase in the cost of operation as devices are purchased and installed on the trucks. Also, as the LMCs have employees, they would

have to have personnel departments. One of their functions would be to design and implement technology training.

- **Option B.** Even though the LMCs do not have employees, they would likely have to have someone overseeing IOOs from the standpoint of a wide variety of permit requirements, including the training required here.
- **Option C.** There will be some increase in the cost of operation as devices are purchased and installed on company trucks. Initially, even though the LMCs do not have employees, they would likely have to have someone overseeing IOOs from the standpoint of a wide variety of permit requirements, including the training required here. As the LMCs would increasingly be required to have employee-drivers, they would ultimately need personnel specialists who would undertake this function.

5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** There would be little impact on the costs of operation and thus on industry consolidation and LMC size.
- **Option B.** Same as option A.
- **Option C.** Same as option A.

6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?

- **Option A.** Little if any.
- **Option B.** . Little if any.
- **Option C.** . Little if any.

7. **Program Management.** Will an option make it easier or harder to administer the program?

- **Option A.** The fact that LMCs directly own the trucks and are responsible for the training of their employees would make it clear who was responsible for a truck and the performance of a driver. That would make administration of the program quite direct.
- **Option B.** The fact that IOOs own the trucks but LMCs are responsible for the training of the drivers could make it a little less clear who was responsible for the performance of a driver. That would make administration of the program a little more difficult. The fact some IOOs drive for more than one LMC would compound the difficulty.
- **Option C.** The fact that IOOs own most of the trucks, but LMCs are responsible for the training of those drivers, could make it a little less clear who was responsible for the performance of a driver. That would make administration of the program somewhat more difficult. For company owned vehicles and employee-drivers, the situation would be more straightforward. However, the fact that LMCs would have both would likely add to confusion.

8. **Maximize Return.** To what extent will an option maximize the port's financial effort?

- **Option A.** The system can act efficiently.
- **Option B.** The system can act slightly less efficiently but still accomplish the task.

- **Option C.** The system can act slightly less efficiently but still accomplish the task.
9. **Cooperate.** To what extent will groups be willing to cooperate on the Clean Truck Program in light of truck borne technology requirements?
- **Option A.** 100%.
  - **Option B.** 100%.
  - **Option C.** 100%.
9. **Parking and Parking Facilities.** To what extent will each option enhance compliance with local trucks parking ordinances and result in LMCs providing parking?

**Description & Analysis**

Local communities have expressed repeated concern over heavy duty trucks being parked illegally in their neighborhoods. There is considerable interest among port and other local officials that firms provide parking facilities for their trucks. As a result, upon receiving a permit, LMCs would be required to ensure that trucks operating under their auspices are parked in conformance with the ordinances of the cities and counties where they operate. The LMCs must also have a yard available where these trucks can be parked, maintained, inspected and repaired. The location must be submitted to the ports. This applies to company trucks and any IOO trucks allowed to operate under the auspices of the LMCs.

For those LMCs that currently have such facilities, the issue is relatively straightforward. For those that do not, the issue is one of cost. If they were to buy land near the ports, it was estimated that the one time purchase cost would be: \$26,385 per truck (*South Bay*); \$23,872 (*Mid-Cities/San Gabriel Valley*); \$17,346 (*Fontana*).<sup>28</sup> If they were to lease the site, using a 9% capitalization rate, the annual cost would be: \$2,375 per truck (*South Bay*); \$2,148 (*Mid-Cities/San Gabriel Valley*); \$1,561 (*Fontana*). Depending upon the size of the firm, these costs could be a difficult financial barrier for them:

<b>Exhibit 9-1 Yard Annual Lease Cost by Firm Size &amp; Location</b>				
Lease @ 9%		\$2,375	\$2,148	\$1,561
Firms Size	Average Trucks	South Bay	MidCity/San Gabriel	Fontana
0-10.	6	\$14,248	\$12,891	\$9,367
11-25	18	\$42,743	\$38,673	\$28,100
26-75	47	\$111,608	\$100,979	\$73,372
76-250	56	\$132,980	\$120,315	\$87,422
251 & Up	130	\$308,703	\$279,303	\$202,944

Enforcement would require creation of a system whereby jurisdictions would be able to report parking tickets to the third party institution handling the Clean Truck Program. It would, in turn, inform the ports of the need to enforce penalties using RFID numbers of offending vehicles.

**Option A.** This approach would have all truck owned directly by the LMCs. The following would be the manner in which truck parking requirements would be implemented:

- **Available yard for parking**

<sup>28</sup> San Pedro Bay Ports Clean Air Action Plan, Economic Analysis Proposed Clean Truck Program, p. 71.

Since the LMCs would directly own their trucks, they would be responsible for providing a location where their trucks could be parked in off-hours. For those that currently have such facilities, the issue is relatively straightforward. For those that do not, the issue would be the one-time purchase cost or annual lease costs.

- **Drivers conform to local parking ordinances**

Since the LMCs hire the drivers, they would be in a position to directly exert control over where they parked their vehicles during off-hours.

- **Enforcement**

It would be clear whether an LMC had a yard where their trucks can be parked in off-hours. An LMC whose drivers regularly receive parking tickets, as reported by jurisdictions to the third party institution, would be subject to sanctions by the ports up to and including barring their trucks from entering the ports.

**Option B.** This approach would have most trucks owned by IOOs working under the auspices of LMCs. The following would be the manner in which truck parking requirements would be implemented:

- **Available yard for parking**

While the IOOs own the trucks, the LMCs would be required to provide a location where they could be parked in off-hours. For LMCs that currently have such facilities, the issue is relatively straightforward. For those that do not, the issue would be the one-time purchase cost or annual lease costs.

- **Drivers conform to local parking ordinances**

Since the LMCs contract with IOOs to move containers for them, their influence over the drivers is indirect. Their ability to exert control over where the IOOs park their vehicles during off-hours would be the subject of agreements between the LMCs and the IOOs. They would have a facility available for them. However, many IOOs take their vehicles home with them.

- **Enforcement**

It would be clear whether an LMC had a yard where their IOOs could park their trucks in off-hours. However, as many take their trucks home with them, enforcement would be a matter of jurisdictions reporting illegal parking to the third party institution handling the Clean Truck Program. It would report this difficulty to the LMC and the ports using the RFID number. An IOO that regularly gets parking tickets could lose its ability to handle port drayage through its LMC. The ports could also bar a frequent offender from passing through the port gates.

**Option C.** Under this option, most trucks would be under the control of IOOs "grandfathered" into the Clean Truck Program. To the extent LMCs cannot find IOOs on the initial list, the trucks driven by employee-drivers would have to be owned by the LMCs. The following would be the manner in which truck parking requirements would be implemented:

- **Available yard for parking**

While most trucks would be owned by IOOs, some would be company-owned. In either case, the LMCs would be required to provide a location where these trucks could be parked in off-hours. For those that currently have such facilities, the issue is relatively straightforward. For those that do not, the issue would be the one-time purchase cost or annual lease costs.

- **Drivers conform to local parking ordinances**

For the large share of trucks that are IOO owned, the situation would be similar to option B with the LMCs exerting indirect control over their drivers. For the smaller share of trucks that are company owned, it would be similar to option A, with the LMCs exerting direct control over their drivers.

- **Enforcement**

For the large share of trucks that are IOO owned, the situation would be similar to option B, with the LMCs responding to reports from the third party institution that IOOs are regularly receiving parking tickets. The LMCs would be forced to take action to conform to their permits. The ports would also be in a position to bar the IOOs from entry. For the smaller share of trucks that are company owned, it would be similar to option A, with the ports relying on information from the third party institution and barring vehicles that are being regularly ticketed from entering the gates.

### Implementation

1. **Success.** To what extent will each option ensure that the truck parking requirements would be implemented?

- **Option A.** It will be straightforward to check that an LMC has a parking yard. As the LMCs own the trucks, it should be relatively easy for them to enforce parking requirements on their drivers. The ports can set up a system whereby parking tickets are reported to them by the third party institution and they could undertake appropriate sanctions against LMCs that have frequent violations.
- **Option B.** It will be straightforward to check that an LMC has a parking yard. As the IOOs own the trucks, the LMCs would have to rely on reports from the third party institution that IOOs are regularly receiving parking tickets. To defend their permits, they would be required to potentially suspend doing business with an offending IOO. The ports would be receiving the same information and could bar an IOO from entry.
- **Option C.** To the extent that the LMCs continue to use IOOs, their situation would be the same as option B. To the extent drivers from the initial list are not available and they must hire employee-drivers and own the trucks, it would be the same as in option A.

2. **Timeliness.** Will there be delays in implementing truck parking requirements that might slow down the Clean Truck Program?

- **Option A.** Four issues may arise. The first is the potential difficulty some LMCs will have in finding parking sites, given the intensity of industrial development near the ports. The second is the ability of some LMCs to afford to buy or lease yards. The third is the need to set up a reporting system between the third party institution and the jurisdictions potentially impacted by illegal truck parking. The fourth is the

time need to set up a smooth system via which that institution would parking tickets to the LMCs and the ports so they could take action against repeat offenders.

- **Option B.** See Option A.
- **Option C.** See Option A.

3. **Effectiveness.** How well will the truck parking requirements of the ports be managed under each option?

- **Option A.** With LMCs owning the trucks and hiring their employee-drivers, the process should be very effective. The power of the ports to bar trucks and penalize LMCs whose drivers repeatedly receive parking tickets would force discipline on the process.
- **Option B.** Though the IOOs own the trucks, and the LMCs are responsible for enforcing parking requirements on them, the process should be effective given the desire of the IOOs to continue entering the ports, the need of the LMCs to cease using offending IOOs to protect their permits, and the ability of the ports to bar offending IOOs from entry. This will likely be a more difficult job than with company owned trucks, since IOOs may work for more than one firm.
- **Option C.** To the extent that the LMCs continue to use IOOs, their situation would be the same as option B. To the extent drivers from the initial list are not available and they must hire employee-drivers and own the trucks, it would be the same as option A. In either case, the system would be effective in enforcing parking requirements.

4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?

- **Option A.** There may be an increase in the cost of operations as parking yards are purchased or leased. Also, as the LMCs have employees, they would have to have personnel departments whose functions, among others, would include disciplining drivers repeatedly receiving parking tickets.
- **Option B.** There may be an increase in the cost of operations as parking yards are purchased or leased for IOO parking. Also, even though the LMCs do not have employees, they would likely need someone overseeing IOOs from the standpoint of a wide variety of permit requirements including this one.
- **Option C.** There may be an increase in the cost of operations as parking yards are purchased or leased for IOO parking. Also, even though the LMCs have few employees, they would likely need someone overseeing IOOs from the standpoint of a wide variety of permit requirements, including this one. Ultimately, the LMCs would need personnel departments as their number of employee-drivers grows.

5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** There will be a reduction in the number of LMCs as some will not be able to afford the extra cost of buying or leasing a parking yard. The extra cost of having personnel people would have some impact on LMC costs and consolidation as well.
- **Option B.** Same as option A.
- **Option C.** Same as option A.

6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?
- **Option A.** Cost will force some LMCs out of the sector.
  - **Option B.** Cost will force some LMCs out of the sector.
  - **Option C.** Cost will force some LMCs out of the sector.
7. **Program Management.** Will an option make it easier or harder to administer the program?
- **Option A.** The ability to check whether a yard exists would be straightforward and could be made a responsibility of the third party institution. The fact that LMCs directly own the trucks and are responsible for the behavior of their employees would make it clear that they are responsible if drivers repeatedly receive parking tickets as reported by the third party institution. RFID numbers could be used to bar an LMCs trucks from entry.
  - **Option B.** The ability to check whether a yard exists would be straightforward and could be made a responsibility of the third party institution. The fact that IOOs own the trucks, but LMCs are responsible for whether IOOs operating under their auspices are repeatedly receiving tickets, makes that situation more complex for the third party institution. It would have to report violations to both the LMC and the ports. To defend its permit, the LMC would have to hold its IOOs responsible for repeated infractions including potentially ceasing to use them. The ports could use RFID numbers to bar an offending IOO from entry.
  - **Option C.** The situation is more confused in that the LMC would have a large number of IOOs for which it is responsible but a growing number of company-owned trucks and employee-drivers. To the extent there IOOs repeatedly receiving parking tickets, action would have to come from a combination of the LMCs and the ports. To the extent the parking violations are by company-drivers, the ports that would have to undertake enforcement against the LMC.
8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** The system can act efficiently.
  - **Option B.** The system can act slightly less efficiently but still accomplish the task.
  - **Option C.** The system can act slightly less efficiently but still accomplish the task.
9. **Cooperate.** To what extent will groups be willing to cooperate on the Clean Truck Program in light of the parking issue?
- **Option A.** 100%.
  - **Option B.** 100%.
  - **Option C.** 100%.
10. **Geographic Use of Trucks.** To what extent will each option ensure that the trucks financed via the Clean Truck Grant Program meet minimum usage requirements in port drayage?

### Description & Analysis

The purpose of the Clean Truck Grant Program is to assist the drayage industry in overcoming its lack of capital in acquiring clean trucks. It is thus reasonable for the ports to insist that trucks financed with their assistance meet minimum mileage percentage requirements for work in port drayage. The issue is the extent to which different options will result in more effective compliance on this issue.

Specifically, LMC will be responsible for having trucks financed under the Clean Truck Grant Program, whether company or IOO owned, used in port drayage in the SCAQMD for a minimum percentage of their annual mileage. The measurement of conformance with this requirement will be established using such parameters as total miles driven, geographic range of trips, and frequency of trips to the ports. The third party institution undertaking the Clean Truck Grant Program would be required to monitor this measure for each truck it finances. Information from the vehicles would have to be taken from the AVLS and RFIDs and uploaded to institution. It would report lack of compliance to the LMCs and the ports. Ultimately, the third party institution could be asked by the ports to repossess a truck.

**Option A.** This approach would have all trucks owned directly by the LMCs. Under it, the minimum port drayage usage by trucks financed through the Clean Truck Grant Program would be enforced as follows:

- **Usage Reporting**

Under the terms of their grants, the LMCs would be required to upload to the third party institution the total mileage, geographic range of use, frequency of port entry and other pertinent data of trucks financed via the Clean Truck Grant Program.

- **Enforcement**

Based upon the data received from LMCs, the third party institution would determine whether the trucks financed by the Clean Truck Grant Program are being used in port drayage the required share of the time. If not, this fact would be reported to the LMC and the ports. The third party institution could eventually determine that a truck is so far in violation that it needs to be repossessed.

**Option B.** This approach would have the trucks owned by IOOs working under the auspices of LMCs. Under it, the minimum port drayage usage by trucks financed through the Clean Truck Grant Program would be enforced as follows:

- **Usage Reporting**

In this model, the IOOs own the trucks. Their agreements with their LMCs would allow the downloading of usage data from the RFIDs and AVLS on their vehicles. For those IOO trucks financed via the Clean Truck Grant Program, the LMCs would need staff people capable of downloading total mileage, geographic range of use, frequency of port entry and other pertinent data from these trucks and uploading it to the third party institution.

- **Enforcement**

Based upon the data received from LMCs, the third party institution would determine whether the IOO owned trucks financed by the Clean Truck Grant Program are being used in port drayage for the required share of the time. If not, this would be reported

to the IOOs, the LMCs and the ports. The third party institution could eventually determine that an IOO's truck is so far in violation that it needs to be repossessed.

**Option C.** Under this option, most trucks would be under the control of IOOs "grandfathered" into the Clean Truck Program. To the extent LMCs cannot find IOOs on the initial list, the trucks driven by employee-drivers would have to be owned by the LMCs. Under this approach, the minimum port drayage usage by trucks financed through the Clean Truck Grant Program would be enforced as follows:

- **Usage Reporting**

To the extent, the IOOs own trucks financed by the Clean Truck Grant Program, their agreements with their LMCs would allow the downloading of usage data from the RFIDs and AVLS on their vehicles. The LMCs would need staff people capable of downloading total mileage, geographic range of use, frequency of port entry and other pertinent data from these trucks and uploading it to the third party institution. To the extent the LMC owns the trucks, it would upload the usage data on its own trucks to the third party institution.

- **Enforcement**

To the extent the third party institution receives data on the usage of IOO trucks financed via the Clean Truck Grant Program, the same enforcement mechanisms in option B would apply. To the extent data is about company owned trucks, the enforcement processes in option A apply. In either case, the third party institution would send appropriate warnings and could eventually decide that a truck that is so far out of compliance that it should be repossessed.

### Implementation

1. **Success.** To what extent will each option ensure that the truck drayage use requirements would be implemented?

- **Option A.** As the LMCs own the trucks, they can directly download data on truck usage from their vehicles and upload it to the third party institution. They will need staff able to do so. The third party institution would have rules to determine if a truck financed by the Clean Truck Grant Program is out of compliance. It could warn the LMC if this is occurring. The LMC would be under pressure to comply as it needs the use of the truck.
- **Option B.** As the IOOs own the trucks, their agreement with the LMC would allow the company to regularly download the information needed to determine if they are complying with the Clean Truck Grant Program. The LMC will need staff able to do this as well as to upload the information to the third party institution. The third party institution would have rules to determine if an IOO truck financed by the Clean Truck Grant Program is out of compliance. It could warn the LMC if an IOO's vehicle is not in compliance. The IOO would be under pressure to comply as it needs the use of the truck.
- **Option C.** To the extent that the LMCs use IOOs, the system is designed to ensure that IOOs comply with the port usage requirements as in option B. To the extent drivers from the initial list are not available and the LMCs must hire employee-

drivers and own the trucks, it is the LMCs that need to comply. In either case, the LMCs and/or IOOs would be under pressure to comply or lose their vehicles.

2. **Timeliness.** Will there be delays in implementing truck usage requirements that might slow down the Clean Truck Program?

- **Option A.** There should be no delay in implementing the program once usage parameters are set, the reporting systems between the LMCs and the third party institution are created and the LMCs have staff able to handle the software systems.
- **Option B.** There should be no delay in implementing the program once the usage parameters are determined, the reporting systems between the IOOs and the LMCs are designed as well as the reporting systems between the LMCs and the third party institution. Also, the LMCs must have staff able to manage the software systems, and the IOOs must agree to regularly allow the LMCs to download data from their trucks.
- **Option C.** To the extent the firm continues to use IOOs, option B would apply. To the extent the firm must own its own trucks and have employee-drivers, option A would apply. In both cases, the vehicle's usage would be reported to the third party institution and the truck's registered owner and the LMCs would be under pressure to ensure they are complying with port drayage use requirements.

3. **Effectiveness.** How well will the truck usage requirements be managed under each option?

- **Option A.** With LMCs owning the trucks, the process of downloading usage data and sending it on to the third party institution should be very efficient. The ability of the third party institution to warn an LMC about a vehicle being out of compliance, and its power to ultimately repossess a truck, provide enforcement discipline.
- **Option B.** With IOOs owning the trucks, the ability of the LMCs to download usage data and send it on to the third party institution should be relatively efficient. The extra step required is for IOOs to cooperate in having this done as per their agreements with the LMC under whose auspices they are working. Meanwhile, the ability of the third party institution to warn an LMC that an IOOs vehicle is moving out compliance, and the institution's power to ultimately repossess a truck, should provide enforcement discipline on the LMC and the IOO.
- **Option C.** To the extent that the LMCs continue to use IOOs, their situation would be the same as option B. To the extent drivers from the initial list are not available and they must hire employee-drivers and own the trucks, it would be the same as in option A. In either case, the system would should be effective in enforcing truck usage requirements.

4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?

- **Option A.** The LMCs will need to have staff members who can handle the downloading of data from their trucks and the uploading of it to the third policy institution. If a truck is moving out of compliance, these people will also need to coordinate with schedulers to ensure that trucks are kept in compliance.
- **Option B.** The LMCs will need to have staff members who can handle the downloading of data from the trucks of their IOOs and the uploading of these data to the third policy institution. If an IOO's truck is moving out of compliance, the staff members will need to coordinate with schedulers to ensure that trucks are being kept

in compliance. This will likely be a more difficult and costly job than with company-owned trucks, since IOOs may or may not want to take specific loads and they can work for more than one firm.

- **Option C.** To the extent that the LMCs continue to use IOOs, their situation would be the same as option B. To the extent drivers from the initial list are not available and they must hire employee-drivers and own the trucks, it would be the same as in option A. In either case, the system would likely be more difficult and thus costly in enforcing drayage usage requirements for IOOs than for their company owned trucks.

5. **Average LMC Size.** What will happen to the size of LMCs under each option?

- **Option A.** There will likely be the need for extra staff to handle the data systems for monitoring truck usage and for coordinating truck usage with schedulers to ensure compliance. This will increase the cost of operations for the LMCs. Combined with other similar small increases in costs, this could cause some industry consolidation.
- **Option B.** Same as option A except the costs will likely be greater due to the difficulty of coordinating truck usage among IOOs that may not always wish to undertake some loads and may work with more than one LMC. That would add to the pressures for consolidation.
- **Option C.** Same as option B.

6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?

- **Option A.** Cost will force some LMCs out of the sector.
- **Option B.** Cost may force more LMCs out of the sector.
- **Option C.** Cost will force more LMCs out of the sector.

7. **Program Management.** Will an option make it easier or harder to administer the program?

- **Option A.** The fact that LMCs directly own the trucks makes it relatively easy to obtain the data needed to track truck usage and report it to the third party institution. The third party institution would be dealing with a limited number of LMCs to inform them that trucks are moving out of compliance.
- **Option B.** The fact that IOOs own the trucks makes it one step more complicated to obtain the data needed to track truck usage since the LMCs must get it from the IOOs before reporting it to the third party institution. The third party institution would be working through a limited number of LMCs and using them to inform their IOOs that their trucks are moving out of compliance. However, it would have to deal with a large number of IOOs should it need to repossess vehicles. Meanwhile, the LMCs face a more difficult task in administering the program since they must track IOO trucks owned by drivers who can refuse loads and work with more than one firm.
- **Option C.** The difficulties are similar to option B for IOO owned trucks. The management issue for LMCs would be somewhat easier as part of their fleet would be company owned.

8. **Maximize Return.** To what extent will an option maximize the port's financial effort?

- **Option A.** The system can act efficiently.
- **Option B.** The system can act slightly less efficiently but still accomplish the task.

- **Option C.** The system can act slightly less efficiently but still accomplish the task.
9. **Cooperate.** To what extent will groups be willing to cooperate on the Clean Truck Program in light of truck usage requirements?
- **Option A.** 100%.
  - **Option B.** 100%.
  - **Option C.** 100%.

11. **Insurance.** To what extent will each option ensure that the ports are being adequately covered for any liability arising from their role in the oversight of what trucks can enter the ports and who can get help in acquiring? What level of collision insurance should be carried on trucks funded by the Clean Truck Grant Program?

**Description & Analysis**

Most of the trucks acquired via the Clean Truck Grant Program could not have been bought by their registered owners without the assistance of the ports. Given recent horrific accidents, the ports have an interest in being protected from liability arising from their participation in the process, as does the third party institution overseeing the program. A policy limit of \$5 million has been suggested as part of the Clean Truck Grant Program.<sup>29</sup> The contracts would require that the ports and third party institution be named as additional insureds. Meanwhile, another condition of the Clean Truck Grant Program would be for the borrowers to have collision insurance equal to the value of the trucks financed for them by the program.<sup>30</sup>

**Option A.** This approach would have all trucks owned directly by the LMCs. Under it, the insurance provisions on trucks financed through the Clean Truck Grant Program would be enforced as follows:

- **Insurance Requirements**

Under the terms of their Clean Truck Grant Program contracts, the LMCs would be required to have \$5 million in liability insurance with the ports and the third party institution named as additional insured. They would also be required to have collision insurance equal to the value of the vehicles acquired via the grants.

- **Enforcement**

If the LMCs failed to maintain this insurance, it would be a violation of their contracts for the trucks and the third party institution could repossess them.

**Option B.** For the IOOs operating under the auspices of an LMC to be eligible for Clean Truck Grant Program funds, the LMC must first agree to contract provisions with the third party institution. The third party institution's contract with the ports to administer the program has a provision under which the ports agree to assist it in enforcing its contracts for the program:

- **Insurance Requirements**

<sup>29</sup> The extra cost per truck for \$5 million policy as opposed to a \$1 million policy would be between \$1,800 and \$2,000 per tractor. The smaller the fleet, the more cost. For example, an LMC with 40 tractors probably will pay \$2,000 extra per truck or \$80,000 more per year for the larger policy. A fleet with 100 tractors would likely pay an extra \$1,800 per truck or \$180,000 more per year.

<sup>30</sup> Collision insurance runs at 2 1/2 % of the value subject to a \$1,000 deductible. For a year, physical damage insurance on a \$100,000 tractor would be \$2500. It would go down each year as the value of the tractor fell.

Under the terms of their Clean Truck Grant Program contracts with the third party institution, the LMCs would be required to have \$5 million in liability insurance to cover trucks financed by the program and driven by IOOs under their auspices. The ports and the third party institution would be named as additional insured. In addition, the IOOs would be required to have collision insurance equal to the value of the trucks acquired via the grants.

- **Enforcement**

If the LMCs failed to maintain this insurance, it would be a violation of their contracts with the third party institution. It could request that the ports help enforce this provision by barring IOO trucks that were to be covered by the LMC's policy from entry into the ports. The IOOs could still operate under the auspices of a different LMC that agreed to offer their liability coverage.

If the IOOs are not current on their collision insurance, the third party institution could repossess their vehicles.

**Option C.** Under this option, most trucks would be controlled by IOOs "grandfathered" into the Clean Truck Program. To the extent LMCs cannot find IOOs on the initial list, the trucks driven by employee-drivers would have to be owned by the LMCs. Under this approach, the insurance provisions on trucks financed through the Clean Truck Grant Program would be as follows:

- **Insurance Requirements**

Under the terms of their Clean Truck Grant Program contracts with the third party institution, the LMCs would be required to have \$5 million in liability insurance to cover trucks financed by the program and driven by IOOs under their auspices. They would be required to have the same insurance on any company trucks acquired via the program. The ports and the third party institution would be named as additional insured. In addition, the IOOs would be required to have collision insurance equal to the value of the trucks acquired via the grants. The LMCs would be required to have this insurance on vehicles it acquired under the program.

- **Enforcement**

If the LMCs failed to maintain this insurance, it would be a violation of their contracts with the third party institution. It could request that the ports help enforce this provision by barring trucks that were to be covered by the policies from entry into the ports. The IOOs could still operate under the auspices of a different LMC that agreed to offer their liability coverage. If this provision was violated for LMC owned trucks, the third party institution could repossess their trucks.

If the IOOs or the LMC are not current on their collision insurance, the third party institution could repossess their vehicles.

### Implementation

1. **Success.** To what extent will each option ensure truck insurance requirements are met?

- **Option A.** As the LMC would be the registered owner of the trucks being insured, it would be a straightforward policy transaction to fill the provisions of the agreement with the third party institution that is administering the Clean Truck Grant Program.

- **Option B.** In this case, the IOOs own the trucks and would need to have collision insurance to cover the value of the vehicles acquired under the Clean Truck Grant Program. The liability issue is more complex. Under the terms of the LMCs contract with the third party institution, it would be required to maintain liability policies covering IOO trucks operating under its auspices. If it failed to do so, the agreement between the third party institution and the ports would come into play with the ports having agreed to bar gate access to trucks in violation of Clean Truck Grant Program provisions negotiated by the third party institution. The IOOs could still operate under the auspices of a different LMC that agreed to offer their liability coverage.
  - **Option C.** Same as option B for IOO owned trucks. Same as option A for company owned trucks.
2. **Timeliness.** Will there be delays in implementing truck insurance requirements that might slow down the Clean Truck Program?
- **Option A.** There should be no delay in implementing the Clean Truck Program as the insurance provisions are directly between the third policy institution administering the grant program and the LMCs that are the registered owners of the trucks.
  - **Option B.** There may be some delay in implementing the Clean Truck Program as the insurance provisions involve contracts between the port and the third party institution administering the grant program as well as contracts between that institution and the LMCs under whose auspices IOOs are acquiring trucks.
  - **Option C.** To the extent the firm continues to use IOOs, option B would apply. To the extent the firm must own its own trucks and have employee-drivers, option A would apply.
3. **Effectiveness.** How well will truck insurance requirements be managed under each option?
- **Option A.** There should be no loss of effectiveness in implementing the Clean Truck Program as the insurance provisions are directly between the third policy institution administering the grant program and the LMCs that are the registered owners of the trucks.
  - **Option B.** There may be a loss of effectiveness in implementing the Clean Truck Program due to the insurance provisions involving both contracts between the ports and the third party institution administering the grant program as well as contracts between that institution and the LMCs under whose auspices IOOs are acquiring trucks.
  - **Option C.** To the extent the firm continues to use IOOs, option B would apply. To the extent the firm must own its own trucks and have employee-drivers, option A would apply.
4. **LMC Costs.** What will happen to the cost of operation of LMCs under each option?
- **Option A.** The insurance provisions will cause extra costs to LMCs for their collision and liability insurance.<sup>31</sup>
  - **Option B.** The insurance provisions will cause extra costs to LMCs for their liability insurance.

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<sup>31</sup> See footnote 29, page 65

- **Option C.** The insurance provisions will cause extra costs to LMCs for their liability insurance. If the LMCs are required to have company trucks, their costs would be higher due to their need to carry collision insurance.
5. **Average LMC Size.** What will happen to the size of LMCs under each option?
- **Option A.** The insurance provisions will likely cause some consolidation in the drayage sector due to the extra costs to LMCs of their required collision and liability insurance coverage.<sup>32</sup>
  - **Option B.** The insurance provisions will likely cause some consolidation in the drayage sector due to the extra costs to LMCs of their required liability insurance coverage.
  - **Option C.** The insurance provisions will likely cause some consolidation in the drayage sector due to the extra costs to LMCs of their required liability insurance coverage. If the LMCs are required to have company trucks, their costs would be higher due to their need to carry collision insurance.
6. **LMC Participation.** What will be the willingness of LMCs to stay in drayage?
- **Option A.** Extra liability and collision insurance costs will force some LMCs out of the sector.
  - **Option B.** Extra liability costs may force some LMCs out of the sector.
  - **Option C.** Extra liability costs will force some LMCs out of the sector. If company trucks are required, extra collision insurance costs may add to the difficulty.
7. **Program Management.** Will an option make it easier or harder to administer the program?
- **Option A.** The fact that LMCs directly own the trucks would make it straightforward for the third party institution to administer its insurance requirements under the contracts for the Clean Truck Grant Program.
  - **Option B.** The third party institution would have straightforward oversight of collision insurance contract provisions agreed to by IOOs that have acquired trucks via the Clean Truck Program Grant. Administration of liability insurance provisions would be more complex since they involve the two stage contract relationship between, first, the third party institution and the LMCs under whose auspices trucks have been acquired, and second, the contract with the third party institution and the ports. That agreement would have the ports bar gate access to trucks in violation of Clean Truck Grant Program provisions. The IOOs could still operate under the auspices of a different LMC that agreed to offer their liability coverage.
  - **Option C.** The insurance difficulties for LMCs would be similar to option B for IOO owned trucks. They would be the same as option A for trucks that the LMCs have acquired as company owned.
8. **Maximize Return.** To what extent will an option maximize the port's financial effort?
- **Option A.** The system can act efficiently.
  - **Option B.** The system would be somewhat cumbersome to administer.

<sup>32</sup> See footnote 30, page 65

- **Option C.** The system would be somewhat cumbersome to administer.
9. **Cooperate.** To what extent will groups be willing to cooperate on the Clean Truck Program in light of the truck insurance issue?
- **Option A.** 100%.
  - **Option B.** 100%.
  - **Option C.** 100%.

## APPENDIX A

### **Results of the Driver Preference Survey Conducted October 25 – November 1, 2007**

#### Summary

At the request of the two ports, a second random survey of 140 drivers was undertaken to more deeply probe the question of the willingness of IOOs to become employees. The data were gathered at the port gates during lunch time or at 5 PM. The results have very important implications for port throughput. This is the case due to the significant number of IOO drivers who indicate that they are unwilling to become employees and have specific ideas of what they would do if forced to make the change.

The raw (*unweighted*) results show 50% of the IOOs are not willing to become employees under the stated conditions. When the Maybe/Uncertain responses are allocated to yes and no, the raw responses indicate that 60% of the IOOs will not become employees

Significant is the result when the responses are weighted by the calling frequency reported in the survey. The weighted response indicates that 52.2% would not become employees and this grows to a 65% no; 35% yes split when the Maybe answers are allocated.

Respondents were also asked about their view of requiring employee drivers. 46% thought it was a bad or very bad idea.

#### Survey Methodology

This survey followed the protocols of the prior survey. Arrangements were made with terminal operators to be at the gates either during lunchtime or at 5 PM. Due to time constraints, the surveys were conducted at the Evergreen and CUT terminals only. Drivers were solicited to participate in the survey either in their trucks or at the lunch wagons. A \$10 incentive was offered for their participation. Bilingual (in Spanish) interviewers conducted the survey. The \$10 incentive was paid at the conclusion of the survey. **The survey participants were limited to Independent Owner Operators (IOOs);** no employee drivers were interviewed. The questionnaire that was used by the interviewers is at the end of the analysis of the results.

#### Survey Results

##### **1. Port Calling Frequency**

The average respondent indicated they called at the ports 14.4 times a week with a median response of 12 times per week. Only three respondents (*including one that did not answer this question*) called less than 3.5 times per week.

##### **2. Willingness to Become an Employee**

The unweighted (raw) responses to the question regarding willingness to become employees at a wage rate of \$20/hour plus the benefits as described were:

- 45 (32.1%) Yes
- 70 (50.0%) No
- 25 (17.9%) Maybe/Uncertain
- 140 (100.0%) Total responses

Allocating the Maybe/Uncertain responses in proportion to the yes/no responses yields the following:

39.1% Yes

60.9% No

The calling frequency from Question 1 allows the responses to be weighted to reflect the relative importance of each respondent to the ports' drayage. Thus a driver calling at the ports say 20 times per week would be weighted at 20, while one calling 3 times a week would be weighted at 3. This reflects that the more frequent caller's response is 20/3 or 6.67 times more important than the less frequent caller. Using weighted responses, the distribution of answers is:

28.4% Yes

52.2% No

19.4% Maybe/Uncertain

Again allocating the Maybe/Uncertain responses in proportion to the yes/nos yields the following:

35.3% Yes

64.7% No

For the 70 no respondents, i.e. unwilling to become an employee, interviewers ask "What would you do if you were unable to enter the ports?" Responses were semi-structured with an "Other" answer possible. The results were:

- 12 (17%) Become an over the road IOO
- 13 (19%) Seek non-drayage local driving work
- 21 (30%) Relocate, some identifying specific locations, e.g. TX, AZ
- 19 (27%) Leave trucking for another type of job
  - 6 identifying specific occupations or companies
  - 13 not identifying alternative
- 5 (7%) Don't Know or made no specific response.

### **3. Truck Retention**

The distribution of responses to the question of the respondent's willingness to sell their truck at its fair market value if they were employees was:

64 (46.4%) Yes

40 (29.0%) No

34 (24.6%) Maybe/Uncertain

138 Total responses

29 of the 34 Maybe/Uncertain respondents indicated they would need to know a specific price before deciding.

#### 4. Overall Reaction to Employee Concept

Reaction to the idea that port truckers might have to become employees was measured on a five-point scale. The possible responses to question "How do you feel about the idea that port truck drivers might have to be employees to drive into the ports?" were: "This is a very good idea, this is a good/OK idea, I don't know about this idea or other neutral responses, this is a bad idea and this is a very bad idea." Respondents were read the entire list of potential responses and ask to select one. There were 137 responses to this question as follows:

- 20 (14.6%) This is a very good idea
- 21 (15.3%) This is a good idea
- 33 (24.1%) I don't know/no opinion/neutral
- 30 (21.9%) This is a bad idea
- 33 (24.1%) This is a very bad idea

Adding the sub-categories together:

- 29.9% Total "good idea"
- 24.1% Neutral
- 46.0% Total "bad idea"

#### Survey Instrument

Are you an Independent Owner Operator who owns or leases your truck? \_\_\_\_\_

**If NO, discontinue interview.**

1. On average how many times per week do you come to either the POLA or POLB?  
(Total including both ports together) \_\_\_\_\_
2. What location do you go to most often? (location of container delivery from the Port or pick up to go to the Port) (geographical location, city) \_\_\_\_\_  
Locations vary. No "most common" destination \_\_\_\_\_
3. There are a lot of changes going on at the Ports. One of the options being considered is to restrict access to the Ports to drivers who are employees of a LMC (i.e. no IOOs would be allowed into the Ports).

IF you were paid an hourly rate of \$20 per hour and drove either a company truck or had your truck's expenses completely covered, and were given employee benefits such as health insurance for yourself (not your family), paid vacations, sick leave, workers compensation insurance and state disability insurance? If this were the case, would you be willing to become an employee (that means giving up your status as an IOO)

Yes                      No                      Maybe/ Uncertain

**IF NO to Q3.**

Under this option, drivers who are not employees would not be allowed into the Ports. So my question is what else do you think you would do if you could not enter the port? Possibilities include:

\_\_\_\_\_ Become an "over the road" or "long haul" driver

\_\_\_\_ Seek work from local LMCs who offer non-port drayage work. LMC Name?  
\_\_\_\_\_

\_\_\_\_ Move to another location to drive there. Where? \_\_\_\_\_

\_\_\_\_ Leave trucking for another occupation. Specifically? \_\_\_\_\_

\_\_\_\_ Other \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. If you were to become an employee, would you be willing to sell your truck for its fair market value to your LMC-employer?

Yes No Maybe/ Uncertain

**IF Maybe/Uncertain to Q4.**

What would cause you to make a yes or no decision to sell your truck?

\_\_\_\_ Need to know a specific price

\_\_\_\_ Need to know who I would work for

\_\_\_\_ Depends on whether I can get non-port trucking work

\_\_\_\_ Other \_\_\_\_\_

5. Having thought about these questions, how do you feel about the idea that port truck drivers might have to be employees to drive into the ports? Please answer based on the following: (Interviewer to read list)

\_\_\_\_ This is a very good idea

\_\_\_\_ This is a good/OK idea

\_\_\_\_ I don't know about this idea (Or other neutral answers)

\_\_\_\_ This is a bad idea

\_\_\_\_ This is a very bad idea

Why do you feel this way? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Thank you for your time.

## Appendix B

### Market Factors In Obtaining Needed Port Drayage Drivers

**Driver Need.** There are several reasons why LMCs heavily involved in port drayage will likely need to augment their supply of drivers from firms not primarily involved in the drayage business. Of their 16,800 drivers, these include estimated losses due to TWIC (*average of 2,500-3,700 range = 3,100*), the need for drivers to accommodate port growth (*3,400*), a year's worth of driver losses due to 11% normal turnover (*1,850*). The number of drivers that port drayage LMCs would have to attract from LMCs not heavily involved in port drayage would thus be 8,350.

**Potential Sources of Supply.** Largely, the drayage LMCs would look for drivers from two groups. First, there are employee drivers working in Southern California. In 2007, EDD estimated that number at 73,090 (*Exhibit A below*). Second, there are IOOs working in Southern California outside of port drayage companies. In 2005, the U.S. Census Bureau used U.S. Internal Revenue Service data to estimate that number at 37,194. However, this would have included the 16,800 in port drayage. Deducting them, the number of IOOs not at the ports would be 20,394 (*Exhibit B below*). Combined with the estimate of all drivers, the total supply of drivers not involved as IOOs with port drayage firms can be estimated at 93,484.

In effect, the port drayage LMCs would be looking to entice 8,350 drivers out of 93,484 working either as employees or IOOs of non-port drayage firms. **That would represent 8.9% of all drivers outside of port drayage or one of every 11.2 drivers.**

Historically, a third source of drivers has been available to the LMCs. This has been the large number of immigrants, largely from Mexico and Central America, who have entered the sector. However, that group has become problematic. In the past, they could become port drayage IOOs with an aging for about \$12,000 truck. Under the Clean Truck Program, they will be required to come with at least a used 2007 truck costing about \$50,000. That will represent a significant barrier for them. In addition, there is the intensive U.S. debates about restricting immigration, reducing illegal immigration and national security (*TWIC*).

<b>Exhibit A.-Median Employee Pay, Six So. California Counties Truck Drivers, Heavy or Tractor Trailer, 1<sup>st</sup> Qtr. 2007</b>					
County	Median Income	Hourly Rate	Employee Drivers	Driver Share	
Los Angeles	\$36,858	\$17.72	31,800	43.5%	
Orange	\$39,021	\$18.76	8,450	11.6%	
Ventura	\$37,752	\$18.15	3,000	4.1%	
San Diego	\$40,830	\$19.63	6,750	9.2%	
Inland Empire	\$40,206	\$19.33	23,090	31.6%	
So. Calif. (6-Counties)	<b>\$38,569</b>	<b>\$18.54</b>	<b>73,090</b>	<b>100.0%</b>	
IOOs - Dr. Monaco <sup>1</sup>	\$37,098	\$12.37			
IOOs - CGR <sup>1</sup>	\$29,000	\$11.60			

(1) IOO data for Monaco was for 2006. It was increased 1.5% for 2007 estimates.

Source: CA Employment Development Department Occupation Employment Survey, 2007; CGR Management Consultants; Kristen Monaco, Ph.D. CSU Long Beach

**Port Drayage IOO Pay.** When port drayage IOOs go to the market to acquire drayage drivers, they will encounter a problem. Currently, work at the ports, based upon the earnings and hours

of service attributable to IOOs, has IOOs earning from \$11.60 to \$12.37 per hour. These figures were calculated as follows:

- Dr. Kristen Monaco of California State University Long Beach surveyed drivers as they entered the port gates and found that 2006 median net pay was \$36,550.<sup>33</sup> She also found that pay had risen 1.5% per annum from 2003-2006. Applying that rate to her 2006 pay levels yielded a 2007 estimated median of \$37,098. Using that figure, and the fact that Dr. Monaco found that the IOOs she interviewed worked an average of 60 hours per week, 50 weeks a year, the median hourly pay was calculated at \$12.37.<sup>34</sup> As entrepreneurs, these drivers do not have paid vacation, employer paid social security, employer paid workers compensation insurance or health insurance.
- CGR Management Consultants interviewed drivers in early 2007 and partially verified their data with tax returns. They found a 2007 median income of \$29,000. The lower annual pay levels appear to be explained by the fact that the drivers cited an average workweek of 50 hours versus 60 hours for Dr. Monaco.<sup>35</sup> This difference may be accounted for by the fact that they were interviewed at LMC locations and may have been short haul drivers waiting to be sent for loads. Using the 50 hour workweek, CGR found the IOOs median hourly earnings of \$11.60. Again, as self-employed workers, they do not have paid vacation, employer paid social security, workers compensation or health insurance. Note: For drivers recording 35,000 or more miles, the CGR work found that 14.1% earned \$40,000 to \$75,000. For these IOOs, average compensation is \$16 to \$30 per hour.

When the port drayage LMCs that have been employing these IOOs go to the market for more drivers, they will have to compete with LMCs paying more than this. The burden will be a strong one, given that they will need to capture *one of every 11.2 such drivers*.

**Southern California Employee-Driver Pay.** As indicated, the largest number of heavy duty truck drivers (73,090) are working as employees. The best available data on their pay scales is from the California Employment Development Department (EDD) through its Occupational Employment Survey (OES). The relevant category is OES 533032: Truck Drivers Heavy or Tractor Trailer.

As a group, the median pay of heavy truck drivers in Southern California (*one-half above/one-half below*) was \$38,569 based upon a 40 hour workweek, 52 weeks a year (*Exhibit A*). By county, Los Angeles had the largest number of drivers (31,800; 43.5%) and the lowest median (\$36,858; \$17.72 per hour) pay. The Inland Empire had the second largest number of drivers (23,090; 31.6%) and the second highest median (\$40,206; \$19.33 per hour) pay, just under San Diego County (\$40,830; \$19.63 per hour).

**Non-Port Drayage IOO Pay.** A smaller potential source for new port drayage drivers would be IOOs located in Southern California that are not currently working with port drayage LMCs (20,394). Here, non-employer firms in NAICS code 484 (*truck transportation*) are the relevant companies (IOOs). Primarily, they were identified by the U.S. Census Bureau using Schedule

<sup>33</sup> Incentivizing Truck Retrofitting in Port Drayage: A Study of Drivers at the Ports of Los Angeles and Long Beach, Kristen Monaco, Ph.D., Department of Economics, California State University Long Beach, January 2007, p. 23.

<sup>34</sup> Monaco, p. 19.

<sup>35</sup> A Survey of Drayage Drivers Serving the San Pedro Ports, CGR Management Consultants LLC, March 26, 2007. Available at <http://www.gatewaycog.org/publications>, p. 24 at <http://www.gatewaycog.org/publications>.

“C” tax filings with the U.S. Internal Revenue Service.<sup>36</sup> According to the Census Bureau, there were 37,194 such IOOs in Southern California during 2005 (*Exhibit 19*).<sup>37</sup> Taking out the 16,800 working in port drayage, the net would be 20,394. Other than Los Angeles County, where most IOOs are likely involved in port drayage, the largest supply was the 11,174 IOOs in the Inland Empire (30.0%).

Exhibit B.-Estimated Hourly Rates, 2005 to 1 <sup>st</sup> Qtr. 2007							
Non-Employer Trucking Firms, Southern California							
Market	Firms	Total Revenue	Average Gross Revenue	Estimated Net Revenue	Estimate Hourly Rate 2005	Estimated Hourly Rate 1Q2007	2003-2005 Rate
Los Angeles County	22,897	\$1,857,664,000	\$81,131	\$31,409	\$12.56	\$13.83	8.00%
Orange County	2,497	\$228,418,000	\$91,477	\$35,414	\$14.17	\$15.27	6.17%
San Diego County	2,256	\$210,470,000	\$93,293	\$36,117	\$14.45	\$15.92	8.08%
Ventura County	626	\$59,727,000	\$95,411	\$36,937	\$14.77	\$16.25	7.91%
Inland Empire	11,174	\$1,194,530,000	\$106,903	\$41,386	\$16.55	\$18.09	7.37%
<b>Southern California</b>	<b>37,194</b>	<b>\$3,340,339,000</b>	<b>\$89,809</b>	<b>\$34,768</b>	<b>\$13.91</b>	<b>\$15.32</b>	<b>8.07%</b>
Port Drayage IOOs	16,800						
<b>Non-Drayage IOOs</b>	<b>20,394</b>						

Source: Non-employer Statistics, 2005 Transportation & Warehousing, NAICS 484 Truck Transportation, U.S. Census Bureau

The 2005 gross revenues for these IOOs averaged \$89,809. Using the 38.7% ratio of median gross income to median gross revenues for IOOs found by CGR in their 2007 study,<sup>38</sup> it is estimated that these IOOs had net revenues of \$34,768 in 2005. Assuming 50 hours per week for 50 weeks of work, the estimated hourly rate was \$13.91 in 2005. Based upon the rate of increase found in revenues found by the Census Bureau of 8.07%, the first quarter 2007 rate is an estimated \$15.32. Note, the rate in Los Angeles County (*\$13.83 in 2007*) was consistent with the findings of Monaco (*\$12.37 in 2006*). Also, note that the rate in the Inland Empire, where the second largest share of these IOOs was located, was estimated at \$18.09.

**Competition To Acquire Port Drayage Drivers.** For port drayage LMCs, to obtain an 8.2% share of non-port drayage drivers to make up for their losses, they will have to compete in the open market with non-drayage LMCs that are already paying more than they are. One source would be the Inland Empire. Here, they could try and convince IOOs to work with them. For instance, port drayage LMCs might offer to pay Inland Empire IOOs a net of \$5,000 more to work with them than their current LMC. That would seem like a sufficient incentive to overcome some of the resistance to commuting daily to the ports. Such a boost would require an average 2007 net income increase of 11% from \$45,233 (*50 hours a week, 50 weeks a year at \$15.32*) to \$50,208. This would represent an hourly net of **\$20.08**.

<sup>36</sup> Non-employer Statistics data originate from administrative records of the Internal Revenue Service (IRS). Data are primarily comprised of sole proprietorship businesses filing IRS Form 1040, Schedule C, although some of the data is derived from filers of partnership and corporation tax returns that report no paid employees. These data undergo complex processing, editing, and analytical review at the Census Bureau to distinguish non-employers from employers, correct and complete data item.

<sup>37</sup> Non-employer Statistics, 2005 transportation and warehousing Census Bureau, for Southern California's counties. <http://www.census.gov/epcd/nonemployer/>

<sup>38</sup> A Survey of Drayage Drivers Serving the San Pedro Ports, CGR Management Consultants LLC, March 26, 2007. Available at <http://www.gatewaycog.org/publications>, p. 24.

Another opportunity might be for port drayage LMCs to convince some of the employee-drivers in the Inland Empire to work for them. Here, they would be trying to tap a potential pool of some 23,090 drivers, many likely working for long haul trucking firms. Their current hourly compensation can be derived as follows:

- With the median at \$40,206, the hourly rate being paid to these drivers was \$19.33 per hour based upon the 40 hours a week, 52 weeks a year used by EDD (2080 hours). If a 2,000 hours of work a year is assumed (40 hours x 50 weeks) with 80 hours of paid vacation (40 hours x 2 weeks), vacation pay is worth \$0.74 per hour.
- In 2007, the employer paid social security tax at 7.65% represents \$1.48 per hour based upon the median pay of \$19.33.
- The employer must pay California SDI at 0.6%. For the median rate of \$19.33 per hour, that amounts to \$0.12 per hour. The combined unemployment insurance and WIB rate is 3.6% to a maximum of \$7,000 or an average of \$0.12 per hour for 2,080 hours a year.
- Using the same workers compensation insurance rate of \$8.63 per \$100 of payroll cited earlier, the benefit is worth \$1.67 per hour based upon the \$19.33 median pay.
- Allowing for the same medical insurance benefit discussed earlier with the employer paying \$4,014 for 89.1% of the cost of a PPO plan, the benefit would be worth \$1.93 per hour at 2,080 hours per year.

Combining the \$19.33 median hourly rate with vacation pay, employer's social security contribution, SDI, unemployment & WIB, workers compensation insurance and health benefits would mean that the average heavy duty employee truck driver in the Inland Empire is effectively earning median pay of **\$24.64** an hour. However, not all drivers earn the median. According to EDD, the bottom 25% of the Inland Empire's heavy truck drivers (5,773) earned an average of \$15.96 per hour. That would put the bottom 37.5% (8,656) earning an estimated \$17.65 per hour or less. Using calculations similar to those above, that rate would be worth **\$22.67** per hour to a worker including \$5.03 in benefits. That combined package should be sufficient to lure some of the 8,656 workers making *less than* that into port drayage from the inland region's general trucking industry with the pay equal to \$47,163 per year.

A third source might be Los Angeles County's 31,800 heavy truck employee-drivers. As indicated, by comparison to drivers in other Southern California counties, they make less money probably because many are already working in short haul trucking. Their hourly compensation can be derived as follows:

- With the median at \$36,858, the hourly rate being paid to these drivers was \$17.72 per hour based upon the 40 hours a week, 52 weeks a year used by EDD's in its calculations (2080 hours). This can be assumed to be 2000 hours of work (40 hours x 50 weeks) and 80 hours of paid vacation (40 hours x 2 weeks). Vacation pay is thus worth \$0.68 per hour.
- In 2007, employers must pay half of the social security tax for their employees or 7.65% on income up to \$92,000. That represents \$1.36 per hour based upon the median pay of \$17.72.
- Employers must pay California state disability insurance (SDI) and unemployment insurance including a workforce investment board rate. The SDI rate is 0.6%. For the

median rate of \$17.72 per hour, that amounts to \$0.11 per hour. The combined unemployment insurance and WIB rate is 3.6% to a maximum of \$7,000 or an average of \$0.12 per hour for 2,080 hours a year.

- Employers must also pay workers compensation insurance. 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.<sup>39</sup> That rate represents \$1.53 per hour based upon the \$17.72 median pay.
- 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*).<sup>40</sup> In addition, 75% use plans that require an employee to make a contribution.<sup>41</sup> To cover a single person, the 2007 PPO rate had an average cost of \$4,505 per year with the employees typically paying \$491 (10.97%) and employer paying \$4,014 (89.1%). This benefit would be worth \$1.93 per hour based on 2,080 hours per year.

Combining the \$17.72 median hourly rate with vacation pay, employer's social security contribution, SDI, unemployment & WIB, workers compensation insurance and health benefits would mean that the average heavy duty truck driver in Los Angeles County is effectively earning median pay of **\$22.76** an hour. Again, however, not all workers earn the median income. According to EDD, the bottom 25% of the Los Angeles County's heavy truck drivers (7,900) earn \$15.17 per hour or less. That would put the bottom 37.5% (11,925) earning an estimated \$16.45 per hour or less. Using calculations similar to those above, that rate would be worth **\$21.27** per hour to a worker including \$4.83 in benefits. That amount of hourly pay should be sufficient to lure some of the 11,925 employee drivers workers making *less than* that to become IOOs with port drayage LMCs. The full package would be \$44,246 in salary and benefits.

**Challenge.** The market challenge facing port drayage LMCs will thus be to compete with non-port drayage LMCs for their IOOs and employee drivers. They will need to move 8.9% of these drivers (8,350 of 93,484) if they are to replace their own IOOs lost due to TWIC and natural turnover, plus add the drivers need for port growth. That would represent a huge market shift and it cannot be done without competing for drivers on a basis of pay.

To move IOOs from the Inland Empire, the primary alternative source, they will have to pay the equivalent of \$20.08 per hour. To capture employee drivers from the Inland Empire, they will have to pay the equivalent of \$22.67 an hour. To capture employee drivers from Los Angeles County, they will have to pay the equivalent of \$21.27 per hour.

Like it or not, the customers of the port drayage LMCs will be forced to compensate them sufficiently to acquire these drivers. Otherwise, they will not be able to move their cargo.

Note: If the employee model goes into effect and just 33% of 8,200 IOOs who have stated a preference to leave drayage LMCs rather than be employees, actually do so, the port drayage

<sup>39</sup> California Workers' Compensation Rate Comparison, California Department of Insurance, 2007.

<sup>40</sup> 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.

<sup>41</sup> 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.

LMCs will need another 2,800 drivers. In that case, the total need for drivers would be 11,150. That would represent 11.9% of all heavy duty truck drivers not working for port drayage LMCs or one of every 8.4.



The Port of  
**LONG BEACH**

## News Release

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### **Commission Approves Cargo Fee to Fund Clean Trucks**

*Container charges to generate \$1.6 billion for fleet turnover, air quality improvements*

December 17, 2007

The Long Beach Board of Harbor Commissioners on Monday, December 17, 2007, approved a cargo fee that will generate about \$1.6 billion to help fund cleaner trucks and improve air quality.

The fee will help support the replacement of nearly 17,000 trucks in the short-haul (or "drayage") fleet that serves the ports. The Port will use the funds to ensure that the old, polluting trucks will be scrapped and taken out of circulation, rather than continuing to work outside the ports. The result will be an 80 percent reduction in air pollution from the drayage fleet in the next five years.

"Today's vote will help ensure that in a short time, only the cleanest trucks will operate at the ports," said Harbor Commission President Mario Cordero. "The next step will be to work with the trucking industry and other stakeholders to coordinate a smooth transition to a cleaner truck fleet."

In early 2008 the Port will consider additional clean trucks measures, including a possible incentive program for companies that invest in the 2007 compliant trucks ahead of schedule.

"This tariff is an important milestone for our community," said Long Beach Mayor Bob Foster. "It puts the costs for cleaner air where it belongs – on the price of goods sold. I congratulate the Port of Long Beach for taking this bold step for better air quality."

The fee will place a \$35 charge on every loaded twenty-foot equivalent (TEU) cargo container entering or leaving any terminal by short-haul (or "drayage") truck beginning June 1, 2008. The fee will not apply to containers entering or leaving the Port by train and will end when the fleet of drayage trucks meets Clean Air Action Plan (CAAP) requirements in about 2012.

The fees will be collected by the ports' shipping terminals, and the trucks will be monitored for compliance by radio frequency tracking devices or similar identification technologies. The Port

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News Release

Page -2-

of Los Angeles is scheduled to consider a similar fee December 20, which would apply the Clean Truck Fee to the entire San Pedro Bay.

In November the Long Beach and Los Angeles Boards of Harbor Commissioners approved a ban on old, dirty trucks that call at the ports. The Port requirement will result in an 80 percent reduction in air pollution from drayage trucks by 2012. The ban will be phased in, beginning October 1, 2008 with a ban on all trucks built before 1989. By January 1, 2010, only trucks built after 1993 will be allowed, and by January 1, 2012 all trucks must meet 2007 federal EPA standards.

While the ports do not own or operate the drayage trucks that serve port terminals, the Commission has decided that a progressive ban on dirty trucks, supported by the newly approved Clean Trucks Fee, will be the quickest way to cut air pollution and reduce public health risks posed by dirty diesel trucks.

All funds collected by the two ports would be used for the replacement of about 16,800 trucks by 2012 with clean diesel trucks, or trucks fueled by liquefied natural gas (LNG), or other approved technologies that can achieve the 2007 standard adopted in the CAAP.

The Commission acknowledged that the fee may result in minor additional costs to cargo owners and may ultimately increase the cost of goods shipped by container. However, commissioners said, the ports cannot continue to effectively move goods without reducing air pollution and public health risks.

Following final approval of the fee, the Long Beach and Los Angeles Boards of Harbor Commissioners will reconvene in early 2008 to consider a series of measures to establish a more specific framework for the implementation of the Clean Trucks Program.

Port staff will prepare recommendations on the following: A permit or license program; funding and financing options for truck retrofits or replacements; a plan for integration of the U.S. Transportation Worker Identification Credential (TWIC) program; an incentive program for companies that invest in 2007 compliant trucks; and a cargo fee to support port-related goods movement infrastructure. The fee would be separate from the Clean Truck Fee.

###



The Port of  
LONG BEACH

# San Pedro Bay Ports Clean Air Action Plan

For Immediate Release

December 20, 2007

## **PORT OF LOS ANGELES HARBOR COMMISSIONERS FOLLOW LONG BEACH COMMISSION VOTE AND APPROVE CLEAN TRUCKS FEE**

***Container charges will fund fleet turnover and reduce port  
related truck emissions by 80 percent over next 5 years***

The Los Angeles Harbor Commission today approved a measure that will place a \$35 charge on every loaded twenty foot equivalent (TEU) cargo container entering or leaving the Port of Los Angeles cargo terminals by short-haul (or "drayage") trucks beginning June 1, 2008. This follows the unanimous vote of support for The Clean Trucks Fee tariff approved Monday by the Port of Long Beach Harbor Commissioners.

The nation's two largest container ports will use the proceeds to fund a \$2 billion Clean Trucks Program -- \$1.6 billion generated by the Clean Trucks Fee and an additional \$400,000 million in anticipated grant funding from the state of California -- initiative that will replace or retrofit the existing fleet of trucks that serve the San Pedro Bay Ports over the next five years -- reducing port related truck emissions 80 percent.

The \$35 fee per loaded TEU ("twenty-foot equivalent unit" container) will be collected by the ports' shipping terminals. The fee would not apply to containers entering or leaving the Port by train. Trucks will be monitored for compliance by radio frequency tracking devices or similar identification technologies. All funds collected by the two ports would be used for the replacement of about 16,800 trucks by 2012 with clean diesel trucks, or trucks fueled by liquefied natural gas (LNG) or other approved

-more-

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Port of Long Beach • Environmental Planning  
925 Harbor Plaza • Long Beach • CA 90802 • 562-590-4160

The San Pedro Bay Ports Clean Air Action Plan was developed with the participation and cooperation of the staff of the US Environmental Protection Agency, California Air Resources Board and the South Coast Air Quality Management District.

CLEAN TRUCKS FEE APPROVED BY PORTS

December 19, 2007

Page -2-

technologies that can achieve the 2007 standard adopted in the ports' Clean Air Action Plan (CAAP). The fee tariff would end when the fleet of drayage trucks meet CAAP requirements, around 2012.

In November, the Long Beach and Los Angeles Boards of Harbor Commissioners approved a ban on old, dirty trucks that call at the ports. The ban will be phased in, beginning October 1, 2008 with a ban on all trucks built before 1989. By January 1, 2010, only trucks built after 1993 will be allowed, and by January 1, 2012 all trucks must meet 2007 federal EPA standards.

# # #

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## **QUOTES**

### **Los Angeles Mayor Antonio Villaraigosa**

"This container fee is the fundamental, first step to ensuring we have the momentum and money to make the most aggressive plan to green the Ports' fleet a reality. With the financial groundwork laid, it's now time to push forward on the rest."

### **Long Beach Mayor Bob Foster**

"This cargo fee takes the historic step of aligning the cost of goods movement and environmental protection with the price of goods. That's right where it should be. Our communities will no longer subsidize goods movement at the price of public health."

### **Los Angeles Councilwoman Janice Hahn**

"We have always known that a Clean Truck Program will take funding, this fee provides that. The question now is how that money will be spent so that we can truly clean up the trucks, while also providing the port with a steady and reliable trucking workforce. Clean trucks are great, but won't do us much good without a stable workforce to drive them."

### **Long Beach Vice Mayor Bonnie Lowenthal (and Chair of the Alameda Corridor Transportation Authority)**

"With agreement from both ports, our communities will finally have some relief from the air quality impacts that come from shipping low-cost goods across our region. I applaud both ports for taking this momentous step forward."

### **Los Angeles Harbor Commission President S. David Freeman**

"One giant step at a time we move ahead to achieve a revolutionary change in port drayage. Instead of dirty trucks, loose security and underpaid drivers, we are moving to cleaner air, tighter security and a well-paid, stable workforce."

### **Long Beach Harbor Commission President**

"These two ports are key economic engines, supporting thousands of jobs in Southern California. With this partnership, we can now move ahead and address other important aspects of the Clean Air Action Plan to further protect the environment and public health."

### **Port of Los Angeles Executive Director Geraldine Knatz, Ph.D.**

"This board action, coupled with the dirty trucks phase-out schedule both port boards approved last month, are proof-positive that Southern California's ports are following through with the landmark Clean Air Action Plan we developed and jointly approved last year. It's a good note to end the year on."

**MINUTES OF THE SPECIAL JOINT MEETING OF THE LOS ANGELES/LONG BEACH  
HARBOR COMMISSIONS OF THE  
LOS ANGELES BOARD OF HARBOR COMMISSIONERS  
MONDAY, JANUARY 14, 2008 AT 1:00 P.M.  
Semi-annual Board meeting of the San Pedro Bay ports.**

- 1. Adoption of Ports of Long Beach/Los Angeles Infrastructure Cargo Fee**
  - 1. Approve an amendment to Port of Los Angeles Tariff No. 4 entitled Permanent Order Amending Port of Los Angeles Tariff No. 4 by establishing the Port ICF (Transmittal 1), which assigns and collects a portion of the cost of intermodal transportation system projects in the Ports area.**
  - 2. Adopt an Order approving the amendment to the Tariff (Transmittal 2).**
  - 3. Approve the form of Ordinance (Transmittal 3).**
  - 4. Direct the Board Secretary to transmit to the Mayor and City Council for approval the Order and Ordinance approving and authorizing the amendment to Tariff No. 4, pursuant to City Charter Section 653(a).**
  - 5. Authorize the Board Secretary to execute the proposed permanent Board Order and Ordinance amending Tariff No. 4, and upon its publication, transmit the Order and Ordinance to the Chief Wharfinger for implementation of the tariff change, and to post the amended Tariff No. 4 to the port's website as regulated by the Federal Maritime Commission.**
  - 6. Direct staff to prepare the appropriate tariff amendments, for subsequent Board approval once federal and State funding levels have been established.**

**APPROVED BY THE LOS ANGELES  
BOARD OF HARBOR COMMISSIONERS  
AT ITS MEETING ON MARCH 6, 2008**

**Port of Los Angeles, Port of Long Beach, Board of Harbor Commissioners**

# CLEAN TRUCKS PROGRAM

Prepared by

Jon Haveman and Christopher Thornberg  
Founding Principals

*With funding from the William & Flora Hewlett Foundation*

February 2008

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## List of Acronyms

AVL	Automatic Vehicle Locator
CAAP	Clean Air Action Plan
CARB	California Air Resources Board
CTP	Clean Trucks Program
CTS	Carbon Trading Scheme
DPF	Diesel Particulate Filter
DPM	Diesel Particulate Matter
EPA	Environmental Protection Agency
ERP	Emission Reduction Plan
IOO	Independent Owner Operators
LMC	Licensed Motor Carrier
MATES III	Multiple Air Toxics Exposure Study III
PTR	Port Truck Rule
RFID	Radio Frequency Identification
SCAQMD	South Coast Air Quality Management District
TEU	Twenty-foot Equivalent Unit

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**EXECUTIVE SUMMARY**

Together, operations at the Ports of Los Angeles and Long Beach have been identified as the largest single source of diesel emissions in the greater Los Angeles area. The trucks providing drayage services to the ports have been found responsible for roughly two thirds of the particulate matter resulting from port activity. The Clean Truck Program (CTP) is one proposal for significantly reducing diesel emissions and hence the impact of port activity on the communities surrounding the ports and along primary goods movement corridors. The goal of the program is to reduce emissions from port trucking by 80 percent over the next five years.

This is a classic externality problem. Through their normal functioning, the operations at the ports are imposing an excessive cost on individuals that do not otherwise participate in the industry. The standard strategy to deal with such problems would be to impose some form of pollution tax on the trucks that service the port. Unfortunately, such a plan would have little chance of success given the highly decentralized nature of the industry.

The CTP instead works to reduce emissions through changes in the way the port drayage industry works. While there are a number of provisions in the plan, the two provisions that are most important are the following:

- 1) trucks servicing the ports must meet or exceed a particular emissions standard
- 2) drivers must be employed by a motor carrier licensed to provide drayage services to the ports

This report makes three important points. The first surrounds the overall benefits and costs of the program. In general the program clearly has positive value. The financial benefits of improved health for local residents are clearly much higher than the increase in the cost of drayage. Still, we believe that previous studies have overestimated the true increase in costs that will be seen due to a variety of efficiency factors not included. The second part compares the program to what we view as inferior alternatives. The final part discusses potential difficulties that the program might face that need to be addressed.

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## OVERALL BENEFITS AND COSTS OF THE CTP

The clean trucks program in effect centralizes the drayage sector in a relatively small number of organizations that operate many trucks each. Of the estimated 1,400 carriers arranging drayage services for the ports, many will not survive this consolidation as independent operators—instead they will be absorbed into this new mode of doing business. This consolidation will likely cause a substantial increase in the direct costs of transport. The costs that come with formal employment – workers compensation, unemployment insurance and the like - this will likely result in higher wages being paid to truckers. Purchasing and maintaining a set of new clean trucks will also increase the overhead of these entities.

- At the same time, this consolidation also holds the promise of encouraging a significant increase in the overall efficiency of the system. This includes, for example, less wait time at the ports to pickup and drop off containers, better matching of inbound and outbound loads, and other cost reductions that come from economies of scale.
- Other studies have estimated that the costs of drayage would increase by upwards of 80 percent. We believe these cost savings have the potential to offset most of this increase, leaving our estimate of the net increase in drayage rates to be between 20 and 25 percent.
- Additional benefits that come from consolidation of the LMC's would include better accountability. The port is going to face the problem of cheating on the clean truck policy. To prevent this problem the port will need to set up a set of guidelines and punishment procedures. Such a system will work much better in the context of consolidated LMCs. Accountability will be difficult under a situation where equipment is owned by a broad swath of truckers.

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- Finally, there is the issue of sustainability. Again common ownership of the capital at use—the clean trucks—is key. These trucks will eventually depreciate and have to be replaced. Equivalently new technology will be found to reduce emissions, or further cuts in emissions will be demanded by the local community. Through consolidation of motor carriers, the CTP helps to establish the capacity of the drayage sector to keep up with increasing emissions standards.

**POLICY EVALUATION**

The CTP is also compared to other potential solutions to the pollution problem. These solutions include a simple mandate at the ports that trucks meet emission standards accompanied by a heavy subsidy from the ports to facilitate the purchase of new clean trucks. A second alternative is a cap and trade system for emissions. These policies are compared on the basis of sustainability, ease of implementation and efficiency. Though it does not receive perfect marks and does not score the highest in any single category, the CTP receives good grades in each. The simple mandate scores very poorly in terms of sustainability and efficiency and the cap and trade system has significant issues with implementation. Overall, the CPT fares well relative to these alternatives.

**PITFALLS**

A significant reorganization of any industry is not without potential pitfalls. The CTP is subject to four, in particular.

- There is a risk of diverting substantial numbers of containers to other ports, significantly dampening growth at the San Pedro Bay ports. This risk, though real, is not significant given the very small contribution of drayage to the overall costs of moving containers. Indeed, estimates of the impact of even the worst case scenario of rate cost increases indicate the potential diversion of less than 1.5 percent of port throughput, much smaller than the annual growth of traffic at the port over the last decade.

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- There is a strong influence of unions at the ports and the potential for unionization among drivers once the CTP is in place. This could reduce potential efficiencies that would otherwise come from consolidation. In order for the potential efficiencies to be realized, there must be cooperation on the part of all actors.
- There is the potential for too much consolidation of the drayage sector. With consolidation comes market power. At its extreme, monopoly, there is again, the potential that the efficiency gains could be left unrealized. Any policy put into place must work to maintain competition among the LMCs.
- Last, there is the difficulty of implementing the clean truck program without leading to short-run but potentially significant disruptions in service. Were the program to be abruptly foisted upon the ports and the drayage sector, there is the potential for disruption. However, the program is likely to be phased in over the course of five years. This is more than ample time for these changes to be phased in and significant disruptions are not likely to result.

Clearly the current mode of operation at the port are not going to last—mitigating the pollution resulting from port activity is crucial to future growth. The Clean Truck Program is a valid policy prescription for significantly reducing the emissions from one element of port activity. Though complicated, and representing a significant alteration in the current functioning of the industry, it incorporates a set of changes that together significantly reduce emissions and have the potential to dramatically enhance efficiency.

Though significant pitfalls do present themselves, these pitfalls are no greater than those that might challenge other sustainable policy approaches. In this case, sustainability is closely linked to the collective interaction of the program's elements. Remove any of the plans primary components and the system will be unlikely to have as significant of an impact on the problem.

The primary obstacle to this plan is perhaps the fear that change will be painful. Economic agents have proven themselves time and again to be agile adaptors to change. Witness,

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The combined ports of Los Angeles and Long Beach therefore represent the largest single source of emissions in the South Coast Air Basin.<sup>7</sup> And while trucks only represent 10 percent of the emissions at the port, they account for 66 percent of DPM emissions resulting from all port-related activity (throughout California).<sup>8</sup> Around the San Pedro Bay Basin, heavy-duty diesel trucks only constituted 3 percent of California's on-road vehicle traffic in 2000 and only 5 percent of California total vehicle miles traveled, however they released 36 percent of total NO<sub>x</sub> (secondary diesel particulate matter) and 50 percent of diesel particulate matter.<sup>9</sup>

Figure 1.

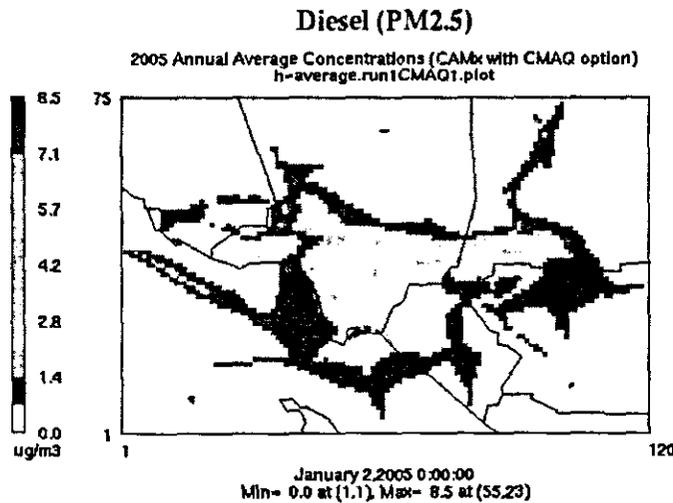
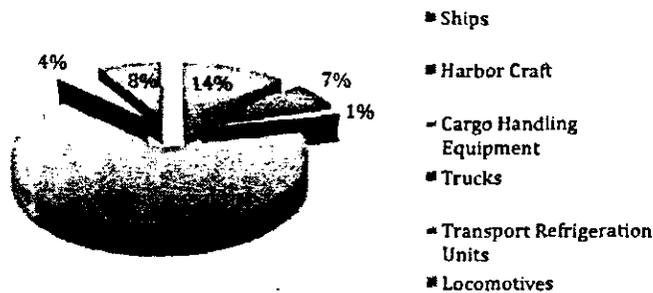


Figure 2.

### 2001 Statewide Emissions from Ports and Goods Movement



<sup>7</sup> South Coast Air Quality Management District, 2007 AQMP.

<sup>8</sup> California Air Resources Board Emission Reduction Plan for Ports (2006).

<sup>9</sup> California Air Resources Board Vehicle Emissions.

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drivers of the trucks servicing the ports, and that these trucks meet strict emissions and safety standards. There is little debate that improving the environmental impact of the trucking industry on the local community has a positive net value—the value of reducing the negative health impact of drayage is clearly much larger than the cost of the program. On the same note, the overall cost of drayage is very small relative to the overall value of the goods being carried (considerably less than 1 percent), and even a significant increase in costs would have a minimal impact on the overall cost of imported goods. Nevertheless, there is the fear that significantly raising the costs of moving goods through these ports could cause shippers to choose alternate routes for moving goods into the United States. As such there is interest in finding the least disruptive and lowest cost way of meeting the public mandate.

Given the significance of the changes required by the Clean Trucks Program, it is important to understand the economic effects and market sway of its implementation. We provide a synthesis of known facts regarding the drayage sector in Southern California and draw on current economic expertise to analyze and predict the likely results of implementing the CTP on drayage costs. We also analyze the efficacy of the CTP relative to several other potential policies for cleaning up the ports.

The report is organized as follows. We first provide an overview of the Clean Trucks Program. The next section presents an evaluation of the program's likely economic effects. To offer a broader understanding of the economic tradeoffs involved, we follow our economic assessment of the CTP with an evaluation of the program's merits relative to other policies that would also reduce emissions from drayage activity. We then discuss issues surrounding the transition path between the current configuration of the drayage industry and that proposed by the CTP. A final section provides a summary of our findings.

Our findings revolve around four different considerations: the importance of the dual nature of the CTP program in regards to the minimum standards for trucks and the need for consolidation among the carriers, how the CTP might affect the long-term economics and market structure of the drayage sector, how the CTP as a policy for emissions reductions stacks up against a pair of alternatives, and how a transition from the current

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does represent a reasonable compromise between these competing characteristics and fares well in this respect vis-à-vis the other two policies.

The transition from a regime of low and loosely monitored safety and emissions standards to one with tight controls on each, combined with an employment requirement, is a complicated matter. The difficulties associated with such a transition could potentially include significant supply disruptions and accompanying price spikes, as well as the dislocation of significant numbers of industry workers if the situation is not handled well. Yet these are challenges that must and can be met given the need for a clean truck program that is both effective and sustainable. The proposed phased-in implementation strategy, combined with efforts to facilitate job matching between dislocated workers and the remaining industry participants, can help to significantly ease the transition, keeping the ports running smoothly and reducing any potential disruptions to goods movement.

## **II. Clean Trucks Program - A Brief History**

### **The Current State of the Industry**

The loose organization and highly competitive configuration of the drayage sector is largely a product of deregulation measures over the past three decades. In hopes of stimulating productivity in the American economy, President Carter signed the Motor Carrier Act into effect in 1980. This effectively erased barriers to entry in the trucking industry and removed direct rules that had reduced price competition. However, interstate commerce was still highly regulated, prompting passage of the 1995 Interstate Commerce Commission Termination Act. As a result of these two acts the number of trucking companies increased over 27 times between 1975 and 2000 and prices fell rapidly. Deregulation created an estimated \$60 billion savings in national income, and reduced prices caused trucking's share of the freight market revenue to expand 80 percent.<sup>15</sup>

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<sup>15</sup> U.S. Department of Transportation, Freight Management Operations, "Regulation: From Economic Deregulation to Safety Regulation" (2005)  
([http://ops.fhwa.dot.gov/freight/theme\\_papers/final\\_thm8\\_v4.htm#\\_ftn1](http://ops.fhwa.dot.gov/freight/theme_papers/final_thm8_v4.htm#_ftn1))

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hazard problem of separating ownership from management as occurs when a driver operates a truck owned by someone else—the firm they are hired by. Firms have an incentive to overpay (or in economics literature, pay an efficiency wage) the worker (an 'efficiency wage') in order to give them something to lose if they should behave irresponsibly. Lastly there is the threat of unionization. Large firms are subject to a degree of capture by unions who, through collective bargaining, can raise wages above the market level. These issues can give the independent trucker a cost advantage if economies of scale do not dominate.

Deregulation in trucking ushered in a new era where the independent trucker dominated the industry. Yet over the past fifteen years there have been waves of consolidation as information technology has increased the economies of scale aspect of the industry. The labor cost advantages of the IOO have been slowly eroded over time. This is not obvious at the ports, however. Here the independent trucker is still the rule rather than the exception.

The ports represent one single location where there are many large loads that need to be delivered, each to a single location. Here the independent trucker can find guaranteed work as they can be as 'efficient' as a large trucking operation from a logistical standing. Because the only barriers to entry in the port drayage market are the purchase or lease of a truck, the acquisition of the relevant driving credentials, and a connection to one or more distributors, it is highly competitive. This is a benefit to shippers and consumers since it implies that drayage costs fall to low levels.

Unfortunately there are a number of distinct disadvantages to such powerful competition as well.

- It is not uncommon for drivers to take shortcuts to maintain their income, particularly among the IOOs. These shortcuts include inadequately maintaining their rigs (compromising both safety and emissions), driving in an unsafe manner (overloaded), or accepting a chassis from the terminal operator that is in a state of

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minutes. In her survey of drivers, Monaco finds a much larger number—2.2 hours of average waiting time.<sup>21</sup>

- A final issue that arises from the structure of competition as it currently stands is that the trucking fleet serving the two San Pedro ports is likely among the oldest in the nation.<sup>22</sup> Of the number of truck miles driven in providing drayage service to the ports, more than half are provided by trucks that are at least 10 years old (see figure 3).<sup>23</sup> This means that their emissions represent, at best, the standard prevailing in 1997. However, without proper maintenance, emissions rise significantly as the vehicle ages, so even a 1997 vintage vehicle is unlikely to perform at 1997 emissions standards. The reason for this is that the IOO's are far less likely to have the incentive or ability to invest in new equipment. Capital costs for small firms are higher, making the purchase of new trucks more expensive. Moreover large firms are hardly going to want to leave expensive new trucks idling for hours on end at the ports. They would much rather use it in a capacity where the cost of capital can be spread out over more productive activities.

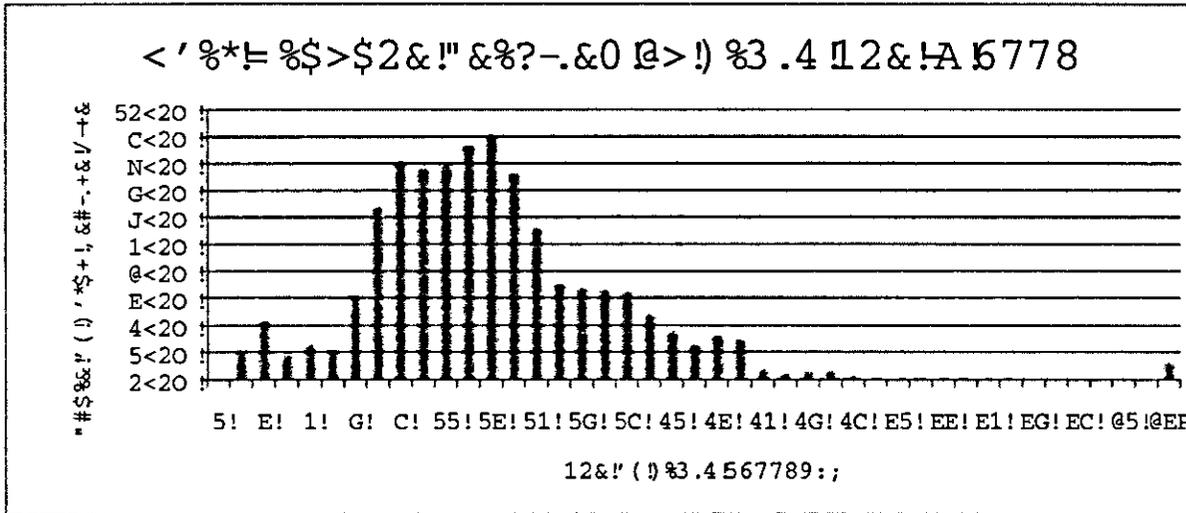


Figure 3.

<sup>21</sup> Waiting time is calculated as 48% of total trip time, the median of which falls at 4.6 hours.

<sup>22</sup> Monaco (2007) finds a preference among drivers to buy used trucks. In her survey she finds the model year 1996 as the industry median; on average drivers bought their trucks used and 7 years old. The mean price for these trucks was \$24,177 (unadjusted), and the most common financing option for the trucks was a high interest rate loan (with a median interest rate of 14 percent), though many had paid that off. Among those still paying for their trucks, the mean monthly payment was \$892—less than half the monthly cost of lease payments.

<sup>23</sup> The long-haul trucking sector generally turns its fleet over every 48 months.

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With all these problems, it is hardly surprising that the trucking fleet that services the port represents one of the larger environmental challenges in the region.

Here is the fundamental quandry: Information technology has had an enormous impact on the logistics industry. In many ways the IOO's should be pushed out of the port business as the ability to coordinate trips through the port should have allowed consolidated operators a cost advantage, particularly in this time of high fuel costs. Yet they are not able to capitalize on such economies because of the competition at the ports — caused in large part by the preponderance of independent truckers — a vicious cycle that has become self perpetuating. Large firms are unable to leverage their economies of scale to offset their higher labor costs because of the intense competition between IOOs, allowing small firms to be competitive even without the investments necessary to exploit economies of scale. In short, operations at the port have become mired in an inefficient way of doing business. The ports themselves do not directly incur most of the costs of these inefficiencies—but the local community does.

### The CTP

In November 2006, the ports of Los Angeles and Long Beach approved the Clean Air Action Plan (CAAP) in hopes of reducing port emissions. In theory, the CAAP will realize a reduction in pollution of at least 45 percent in five years.<sup>24</sup> A significant component of the proposal is the CTP, a combination of regulatory measures aimed at cleaning up the drayage industry. In addition to reducing pollution, however, the CTP would in its current form restructure both trucking operations and the relationship between port terminals and trucks.

For the purposes of this report, two general elements of the CTP are particularly relevant. These elements include:

- 1) Demonstrated compliance with specific emissions and safety standards for all trucks. All drivers are required to be properly insured.

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<sup>24</sup> "The Road to Shared Prosperity: The Regional Economic Benefits of the San Pedro Bay Ports' Clean Trucks Program."

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- **Accountability:** As noted independent truckers have a real economic interest in dodging the rules regarding environmental and safety standards. After all, the cost of these standards accrue to the driver while the benefits are spread out over the local population. The ability for the ports to maintain the programs relies on them being able to effectively identify those breaking the rules and meting out sufficient punishments in order to dissuade others from taking the same shortcuts. This process will be much easier with a reduced number of owners, each with a larger fleet. Monitoring fewer owners is simply cheaper, and the fact that getting caught cheating with one truck may idle many, substantially reduces the incentive to cheat.
- **Sustainability:** All trucks will need substantial upkeep during their operating life to maintain standards and will eventually need to be replaced. Larger firms have substantial economies of scale in maintaining their equipment and have lower capital costs, making continued reinvestment in their stock more affordable. Larger firms will also coordinate the use of capital better (see below), further reducing the cost of capital to the firms. Lastly, firms will have a longer investment horizon than an IOO for no other reason than the discount rate for an individual is higher than it is for a firm. The net result is that the plan is likely to be more sustainable with the basic restrictions on ownership. Otherwise the stock of new clean trucks is likely to depreciate rapidly, leaving the ports with little choice but to again subsidize fleet turnover in 5 years time.

It seems clear that the consolidation of truck ownership would significantly reduce the ports' cost of running the program, and improve its overall success at reducing emissions. Yet consolidation is also one of the most controversial parts of the plan because of the employment provisions that are likely to raise wages. It has been viewed by many as simply a back door method of unionizing the trucking industry that operates out of the port. Still, the Teamster Union has pushed hard to implement the full version of the program.

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In any case these fears are largely overblown if a consolidation plan is run properly, as we discuss below.

### **III. ECONOMIC IMPLICATIONS OF THE CTP**

#### **IMPLEMENTING THE CLEAN TRUCKS PROGRAM**

The Clean Trucks Program imposes a new set of constraints on the functioning of the drayage industry. As noted, two constraints in particular would have a significant impact on trucking operations, the requirement that trucks meet minimum and strict emissions standards and the requirement that drayage companies acquire a license from the port. Under the terms of this license, they must employ their drivers and take responsibility for the maintenance of the trucks. Both of these requirements raise costs.

For the industry to acquire trucks that meet the emissions standards of 2007 or later will be an obvious challenge. The cost of a new diesel tractor is approximately \$100,000, depending on the truck specifications. Leasing a new truck generally costs \$2,000 per month and \$0.06 per mile (which often includes maintenance). It is fairly clear that independent truckers have little desire and less financial ability to make such a large investment. Initially, the ports will clearly need to subsidize the upgrading of equipment, particularly for independent truckers.

In a survey of driver preference for subsidization schemes, Monaco (2007) finds the strongest support for a grant-based program among drivers. However, the response for the grant-based program was also the most polarized, possibly due to the caveat of signing a contract for five years' work with the port in return for the grant. The next most popular option was a subsidized interest rate loan that only tied drivers to two years' work at the port. However, given the truckers' reluctance to enter into a contractual obligation with the port in return for financial aid for a new truck, they may be inclined to work for an LMC who, through economies of scale, could afford lease payments for new trucks.

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In short, consolidation may be a byproduct of the technology upgrade and as such may not need to be specifically written into the rules. Per se, the ports may not be able to avoid the issue of higher labor costs that come along with consolidation. Nevertheless, functionally putting these rules into place will ease the process of integrating the program into the day-to-day operations at the port.

In one of the most significant changes in the functioning of the drayage industry, the new LMCs will have an intensified incentive to use drivers and trucks more efficiently. This is intensified by the higher cost of capital wrapped up in newer, more expensive trucks.<sup>26</sup> Although drayage companies do currently have incentives to use drivers and trucks efficiently—more efficiency means more containers moved and more profits—maximizing the efficiency of the drivers and trucks requires an investment in time and equipment. Given the very competitive nature of the industry, the payoff to making these investments is not currently high enough. Perhaps only through consolidation of the industry will these investments be profitable.

This increased incentive has a variety of implications for the ports' drayage sector, not the least of which may be the need for far fewer trucks. There are at least five ways in which these new incentives could manifest themselves if given a chance:

- 1) Increased matching of inbound and outbound loads.
- 2) Increased pressure on terminal operators to reduce wait times.
- 3) Higher safety standards, both in maintenance and operation.
- 4) More slip-seating (trucks driven more than one shift by more than one driver).
- 5) Better use of off-peak pickup and drop-off opportunities.

Each of these changes is derived from one of two complementary and new sets of interests:

- 1) Maximizing the return on a truck.

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<sup>26</sup> The airlines represent the extreme example of this force—with millions of dollars of capital wrapped up in each plane the airlines have an incentive to maximize the value of that capital by running it as much as possible in the course of a day or week. On the other end of the spectrum a carpenter does not feel the need to use a \$3 hammer 24 hours per day and may well leave it untouched for days at a time.

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- 3) The amount of congestion on the roads between the port and the container's destination.
- 4) The likelihood of the truck being involved in an accident or delayed by mechanical failure.

Points 1 through 3 are each related to minimizing average turn times. Avoiding congestion by driving at night and in the middle of the day can reduce turn times. Though this is not entirely at the discretion of the LMCs, they will likely pay more attention to the time at which containers are traveling between the ports and their ultimate destination. In so doing, they can reduce wait times at the ports and travel times between the ports and container destinations.

There are thought to be some 1,400 different entities currently coordinating activities between the terminal operators and the IOOs. This large number of dispatchers is possible only because all that is required to enter the business is (1) a telephone, (2) knowledge of who to call at the port (a terminal operator), and (3) the phone number of a truck driver. These are remarkably low barriers to entry. And as a result even if a smart entrepreneur wanted to create a more efficient way of providing drayage services to the ports, they would be unable to capitalize on their organizational advantages due to the overall mass of unorganized operators that create long lines and waiting times.

At the moment the only pressure exerted on terminal operators to quicken turn times is from the shippers themselves. As terminal efficiency is still wanting, this pressure is clearly not sufficient. The Clean Trucks Program should improve efficiency by providing more leverage from fewer dispatchers. With the requirements that are necessary to participate in the market as an LMC there will likely be far fewer "dispatchers" than are currently in operation. This will create a balance of competitive forces between the port operators and drayage firms—to the benefit of shippers and the local community.

Under the CTP, each LMC will be larger on average than is currently the case. In order to maximize their profits, the LMCs will serve efficient terminals first. LMCs will seek business from terminals with quick turn times, servicing slow terminals only when there is excess

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capacity in their fleet. In order for the terminal operators to attract the necessary drayage trucks, they will either have to find an LMC that is willing to let their truck sit idle for an extended period of time, or they will have to offer higher drayage rates. This could happen explicitly through negotiations with the LMCs or implicitly as the market would make it necessary for less efficient terminals to pay more. This market mechanism will therefore serve to encourage efficiency at the terminals above and beyond the current configuration.<sup>28</sup>

The dispatcher currently has little reason to be concerned if the truck, having dropped off a container at a warehouse, returns empty, with a single or a set of chassis, with an empty container, or with a container for export. The large number of bobtail trucks entering and exiting the port gates demonstrates the low level of attention to coordinating activity. The current lack of incentive to maximize the value of either the truck's time or the driver's time stems from the dispatcher's easy access to both; the dispatcher neither pays for repairs owing to empty miles driven nor pays for the cost of driving the truck back empty.

Under the Clean Trucks Program, the incentives would change. Because the LMC will be responsible for maintenance and fuel, they will want each mile driven to count. Depending on the compensation structure for the drivers, they will also want each minute behind the wheel to count. As a result, LMCs will likely take greater care in matching loads. If one of its trucks is headed for the Inland Empire, the LMC will invest time and money in finding a return load for the truck. In this way, it will maximize profits and return on investment.

This same profit motive will enhance the safety of the vehicles. In particular, a truck sitting by the side of a road with a flat tire is not making the LMC any money. It also seems likely that an LMC with a bad record of accidents will suffer in terms of having its license renewed.

Realistically these changes will take some time to come about. One might wish that the CTP also contained more direct incentives to help move the process forward. For example

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<sup>28</sup> Indeed, Monaco and Grobar (2004) found in their terminal survey a relationship between a large motor carrier and a terminal that was dramatically more efficient than common drayage operations.

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the ports could be required to create a centralized drayage order system to facilitate the more efficient use of truck and worker time by reducing wait times. Fees could be assessed in such a way as to promote backhauling—for example assessing a special bobtail fee. Port operators might be asked to operate in a way that would facilitate the flow of trucks—for example staggering break periods to prevent the complete shut down of operations during the course of a normal business day. Of course these ideas raise their own set of legal issues.

### LONG-TERM PRICING IMPLICATIONS

The primary long-term concern regarding the Clean Truck Program is the impact that it will have on drayage rates. Low drayage rates are important for allowing traffic through the ports to continue to grow, while significant increases have the potential to divert containers to alternative ports. At the same time, however, current drayage rates are artificially low because of the lax standards that are applied to drayage vehicles.

There are competing influences on drayage rates that arise from the CTP. The most obvious effects include the increased LMC costs that arise from the provisions discussed above. First, employing drivers is clearly more costly than making use of independent contractors.<sup>29</sup> Also, additional costs arise from the need to obtain a license from the port and the requirement that LMCs be responsible for the maintenance of their trucks, as well as provide space for parking the trucks. At the same time, there is significant scope for improving the efficiency of drayage operations. These efficiency improvements will serve to offset the increase in costs, mitigating the increase in drayage rates.

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<sup>29</sup> There has been a case made that that wages will have to rise to maintain or increase the number of drivers. In particular, surveys suggest that the pool of drivers may be substantially diminished because of this requirement. Husing (2007). From our perspective the specter of a labor shortage caused by a labor shortage is largely inconceivable. It would seem silly to imagine that a driver would turn down higher wages and insurance due to some base desire to be self employed. Also, there are roughly 60,000 people employed directly in the trucking industry in the greater Los Angeles area, not to mention the number of drivers employed in other industries from retail to wholesale to manufacturing. There is an enormous pool to draw from. Finally, truck driving is a relatively low skilled occupation. The only requirement is a special license that can be obtained by anyone able to pass a basic test with the DMV. Given the plentiful supply of unskilled workers in the region, attracting new drivers should seem easy.

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In what follows, we present results from a model of drayage pricing that will illustrate the impact of the CTP on drayage rates. Examples of the rates paid to IOOs are presented in Table 1.

**TABLE 1: EXAMPLE DRAYAGE RATES: IOO COMPENSATION**

Destination	Fee	Distance (Miles)
Carson	\$90	9
Commerce	\$125	40
Ontario	\$165	52
Riverside	\$176	60
Bakersfield	\$310	136
Fresno	\$420	245
Sacramento	\$710	409

These rates clearly vary by distance. Indeed, taken collectively, they can be broken down into a fixed portion and a variable portion. That is, a set amount per round trip, the fixed portion, and a per mile charge, the variable portion. In fact, a fixed portion in the amount of \$89 and a variable portion of \$1.50 per mile very closely approximates a set of rates for more than 178 destinations.<sup>30</sup> Whether this two-part tariff is intentional or merely the result of market forces is unknown to the authors. Regardless, this turns out to be a very useful framework for modeling drayage rates.

Understanding the implications of the CTP for drayage rates depends on the influence of its various pieces on these fixed and variable costs. In this section, we present the results of a variety of simulation exercises that help to inform the discussion of the effects on drayage rates and hence on the diversion of container traffic away from the San Pedro Bay ports.

<sup>30</sup> These portions were estimated using simple linear regression analysis. The regression results and standard errors are: Pay = 88.98 (.999) + 1.5038(.013) \* distance. This simple regression explains 99 percent of the variability in rates.

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The first step in implementing our model is to rationalize the payment schedule. The current schedule appears to compensate drivers by accounting for wages in the fixed part of the schedule and fuel and other associated maintenance costs in the variable portion. The fixed portion of the schedule is approximately equal to what the driver would earn if his or her time were paid by the hour for a 4.6 hour turn plus about \$30. We interpret this \$30 to represent driver compensation for inefficiencies in the system. The remainder of the schedule, the variable part, is roughly equal to our estimated fuel and maintenance costs.

Given that part of the driver's time is spent waiting and part is spent driving, his or her time should be compensated both through the fixed and the variable part of the schedule. Because drivers will be employees and the LMCs are more concerned with time, we believe that this type of rationalization would occur under the CTP. Using the estimates of the wage rate from Monaco, and our own estimates of fuel and maintenance costs, we can determine a rate schedule that more appropriately charges shippers for the distance over which their container is to be hauled. The old and new rates are presented in Table 2.

**TABLE 2: AVERAGE DRAYAGE RATES**

Distance (miles, one way)	Average Current Charges	Average Rationalized Charges	Percentage Change
0-50	191	171	-10.4
50-100	390	296	3.1
100-150	457	429	10.1
150+	758	907	15.6
All Distances	346	373	7.6

On average, rates would increase 7.6 percent. The averages presented in this table are simple averages across destinations and are not weighted by the actual number of containers hauled each distance. Given that most containers are hauled a relatively short distance, were we to weight these averages by the number of containers, we would find that the overall average amount charged per container, and overall drayage charges,

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would fall. There is clearly a bias in the current rates toward longer routes. As drivers have been compensated according to the average distance of a trip, which is less than 30 miles, longer-distance hauls are being implicitly subsidized under the current rate structure.

With this new rationalized fee structure in hand, we can turn to an evaluation of cost increases and efficiency enhancements and their overall impact on drayage rates. In what follows, we evaluate seven changes to the drayage structure and the impact that each change will have on drayage rates. We also include an eighth scenario in which the efficiency gains fully offset the cost increases. The changes include:

- 1) an increase in wages from \$12 per hour to \$20 per hour
- 2) an increase in total motor carrier costs sufficient to raise rates by 80 percent over their current level (Husing 2007)
- 3) an increase in fuel economy from 5.5 miles per gallon to 8 miles per gallon
- 4) a 20 percent reduction in the cost of fuel resulting from wholesale rather than retail purchasing
- 5) a reduction in wait time per turn from 2.6 hours to 1.5 hours
- 6) a reduction in matching inefficiency by one-third
- 7) an increase in speed traveled by 1 mile per hour
- 8) a scenario that eliminates the rate increases, bringing rates down to the level experienced under the rationalized case by using
  - a. an increase in speed traveled by 3 miles per hour
  - b. a reduction in wait time per turn to 1 hour
  - c. a 50 percent reduction in matching inefficiencies
  - d. a savings of 25 percent on fuel purchases

The associated changes in costs are illustrated in Table 3.

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Second, we hypothesize that LMCs will find it economical to purchase diesel fuel wholesale, rather than retail. With the need for parking lots and maintenance facilities, it is plausible that some will opt to install diesel fuel tanks from which to fill the tanks for their trucks. We suggest that this could lead to more than a 20 percent reduction in fuel costs. Evidence on the ratio of on-highway diesel prices and wholesale prices indicate that the ratio of the two fluctuates somewhat but that wholesale prices are often between 25 percent and 35 percent less than retail prices. We believe that we are being conservative when we suggest that purchasing diesel wholesale will lead to a 20 percent reduction in fuel costs and a further reduction in drayage rates of 6 percentage points to 60.4 percent of current rates.

Third, we hypothesize that increases in efficiency at terminals could result in a drop in wait times per turn of just over one hour, from 2.6 hours to 1.5 hours. Through the adoption of technology, the better use of appointment systems, and the greater use of off-hours pickup and drop-off, it seems plausible that significant reductions in wait times could be experienced. Our scenario results in just under a 23.5 percentage point drop in cost increases because of this factor, leaving drayage rates 37 percent higher than they are currently. This reduction is primarily a result of better use of the driver's time, leading to a significant reduction in the fixed portion of the drayage rate.

Fourth, we suggest that the CTP will lead to a better matching of outbound container deliveries and inbound container flows. There is potentially enormous inefficiency if matching is not incorporated into the flow of containers. From our model, we estimate that the matching cost is on the order of 1.2 extra miles traveled for every 2 miles a container is drayed. This indicates that a significant amount of matching is already occurring, but that there remain significant inefficiencies in the system. In our results above, we assume that one-third of these extra miles are eliminated through better matching. Although far from maximally efficient, leaving 0.8 miles of extra driving per container delivery, this remains a significant improvement. With this assumption, we find that increases in drayage rates would fall to just 23 percent of current rates.

Finally, we believe that under the CTP, more use would be made of the off-peak hours for container pickup and drop-off. Not only would this reduce average wait times but it would

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also potentially increase the speed with which the trucks deliver containers. Here, we have simulated the results of a 1 mile per hour increase in the speed with which trucks travel. In our model, an increase in speed lowers primarily the cost of labor. In principle, it would also lower fuel costs, but we have not incorporated lower fuel costs into this portion of the model. Simulations indicate that for each one mile per hour faster that the trucks travel, there is a reduction in drayage rates of 1.4 percent.

In addition to analyzing these individual changes, we explore a scenario in which the efficiency gains fully offset the cost increases that result from the CTP. Although we are skeptical that this level of efficiency will be achieved, the results are not out of the question. There are an infinite number of combinations of the efficiency improvements discussed above that could eliminate the increases in costs. For brevity, we present the results from only what we think to be the most plausible. This scenario increases truck speeds to 3 miles per hour above current levels, reduces wait time to one hour, further reduces inefficiencies in matching to 50 percent of their current levels, and increases the savings on fuel purchases to 25 percent.

The LMCs have the incentive to seek out and exploit these efficiency gains to an extent that the current system does not provide. Once the drivers are employees and the LMCs own or are legally responsible for the trucks, the incentive to maximize their utilization will be much stronger. By employing routing or scheduling software, something that is not common today, drivers will be able to accomplish the same number of container movements in less time while putting fewer miles on the trucks. By cooperatively pursuing technology solutions to the long waits at terminals, they will be able to encourage the terminal operators to enhance the efficiency with which they dispatch containers. We believe that our evaluation of the potential efficiency gains in this section is conservative. At the same time, we find it hard to believe and do not intend to imply that the CTP will result in a reduction in drayage rates. We merely report that no net increase in drayage rates is within the realm of possibility. The implications of this exercise are the following:

- 1) Over the long term, the CTP will enhance efficiency of goods movement.

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- 2) There need not be a significant increase in drayage rates because of the incentives to eliminate current inefficiencies.
- 3) The changes in drayage rates favor shorter distance trips.

**THE LIMITS OF CONSOLIDATION**

As noted, the consolidation of truck ownership is essential for the successful implementation of the CTP. However, there are potential problems that might result from this consolidation. In particular, the potential exists for LMCs to obtain significant market power. The smaller the resulting numbers of LMCs, the more likely it is that they will be able to exert influence over the terminal operators. The number of LMCs in the market will largely be a function of the licensing fee. The higher the licensing fee and the annual truck fee, the smaller the number of market participants. If the number of LMCs is too small, less than 10 for example, each carrier could possess a degree of market power and drayage rates will start to exceed costs. At the extremes, a monopolist in the drayage industry will have the ability to dramatically increase rates. Further, extreme consolidation of the industry would also provide much leverage to the unions, and increase their ability to absorb rents and potentially curtail industry efficiency.

Consolidation doesn't necessarily lead to such problems, nor will the unionization of drivers necessarily cause the massive problems in the drayage industry as in past times. The regulatory environment that existed in the logistics industry in past years and caused such inefficiencies was rooted in two features—the prevention of price competition by trucking firms and the effective barrier to entry into the industry. While consolidation may be an important feature of the CTP program, as long as the various firms are allowed to compete on the basis of price and entry into the drayage industry is effectively open as long as an LMC can pay the basic service fees and meet a minimum fleet requirements (in terms of emissions and size of the fleet), there is no reason that competition cannot still be a salient feature of the industry. Indeed shippers may ultimately benefit as larger firms may be able to offer a wider range of secondary services to their clients.

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Even in the absence of market power, however, it is likely that a heavily consolidated drayage sector will be able to effect efficiency improvements. In the current configuration, there is little incentive for terminal operators to respond to calls for shorter wait times, because there is little room for prices to decline in response. Following the implementation of the CTP, however, it has been demonstrated that costs could increase by as much as 80 percent. Given the inefficiencies that exist, and the greater room for price response to efficiency enhancements, even a large group of large LMCs should be able to make compelling arguments to terminal operators that efficiency improvements will pay off for all players involved.

#### **IV. EXPLORING POLICY ALTERNATIVES**

In order to evaluate the merits of the Clean Trucks Program objectively, it is useful to weigh it against the most realistic policy alternatives. Many approaches can achieve the goal of reducing pollution, but the ripple effects following implementation must be predicted, analyzed, and assessed to inform decision-making. We believe the two most reasonable policies for this exercise are (1) a strict barrier to entry policy, in which ports mandate all trucks entering the gates meet desired emissions levels and financially assist the transition, and (2) a cap and trade system. In this section we will first describe these two measures and then compare them with the CTP in light of the three most significant metrics of success: sustainability, efficiency, and ease of implementation.

#### **STRICT BARRIERS**

In essence, the 'strict barrier' option requires the emissions reductions of the CTP with no demands on the drayage industry's structure. It is embodied by the California Air Resources Board's (CARB) Port Truck Rule (PTR), containing two phases. The first requires all drayage trucks to install a diesel particulate filter (DPF) and meet 1994 or later emissions standards by 2009. The second phase, in 2013, raises this barrier to 2007 or later emissions standards. Its enforcement mechanism would be a decal scheme similar to the CTP, whereby ports only allow access to trucks displaying the decal, and motor carriers

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would be fined for dispatching noncompliant trucks. Currently 30 percent of the miles traveled per year by drayage trucks are undertaken with truck models from pre-1994.<sup>33</sup> A significant number of trucks will therefore have to be removed from the drayage fleet very quickly.

In order to smooth the shock of transition, grants would be made available for the truck upgrades. Inevitably these would be raised from some combination of public funds, the ports, and other sources. Husing estimates the cost to be \$1.1 billion. In contrast with the CTP, the PTR's regulated area extends beyond the ports of Los Angeles and Long Beach to include the rest of California, the idea being both to reduce pollution throughout California and limit container diversion in the face of locally rising drayage costs. It is a 'big push' measure that attempts to solve the pollution problem quickly, while introducing none of the CTP's industry restructuring provisions.

#### **CARBON TRADING SCHEME**

A second alternative to the CTP is for the ports to enact a Carbon Trading Scheme (CTS). Though controversial in Southern California after the failure of the RECLAIM program, there are merits to such a mechanism. If its design followed the learned experiences of past and current carbon markets, it could potentially constitute the most sustainable and efficient of these three alternatives. Its initial construction would cap emissions at any level of efficiency desired, in this case the maximum benefit conferred by the CTP. Credits for the emissions would then be auctioned off for a certain amount of carbon-per-credit each year.

If the program incorporated the structural reformation of the drayage industry in the CTP, the credits would only be available to firms who employ their drivers. Similarly, all truckers entering the ports would have to be certified members of an LMC participant to the program. Over time, demand for the credits would fall as older trucks are replaced with newer models. Thus, each year the base credit price at auction would have to be increased accordingly. The drawback to this program, however, is the degree of coordination and oversight necessary for enforcement.

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<sup>33</sup> CARB Spreadsheet.

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**COMPARISON**

Each program has the flexibility to reduce emissions as far as technology will allow; therefore, we do not draw a comparison on the grounds of pollution. Rather, it is the structural impact to the port economy in terms of physical, financial, and human capital that most clearly differentiates these policies. We will examine and compare the sustainability, efficiency, and ease of implementation of these policies.

Sustainability is judged here as the capacity of a policy to continue to achieve its goals over the long term without requiring additional attention. Ideally, once the policy is in place, market forces will be set in motion sufficient to continue generating pollution reductions without significant turbulence. Unwelcome turbulence could take the form of temporary price spikes or an insufficient supply of trucking services, or, more likely, both.

From an efficiency perspective, the most desirable policy will achieve the stated goals at the lowest cost possible. This requires that the parameters of the program encourage the market participants to seek out solutions to the problem that perhaps go beyond the exact specifications of the program.

Finally, ease of implementation is judged by the monitoring or administrative component of the program. Even a perfect program will require basic infrastructure to monitor the extent to which market participants are adhering to the program's parameters. The ease with which monitoring can be carried out is crucial in judging each program.

**SUSTAINABILITY**

The carbon trading plan is the policy with the strongest capacity to function long-term. It is highly flexible and provides a significant incentive for market participants to minimize their emissions, while not binding itself to specific requirements regarding the emissions of trucks. This is useful as it permits the system to function in perpetuity without revision, allowing market forces to coordinate inefficiencies. Temporary shortages can therefore be met by bringing trucks and drivers into the ports who might otherwise be providing their

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and over time, fewer and fewer of these trucks would continue to meet emissions standards.

If the strict barrier policy were enacted, we would expect periodic reductions in supply and the need for heavy continued subsidization of the industry on a regular basis to prevent price spikes and supply disruptions each time standards increase. Market failures would erupt around truck maintenance, the source of financing, and the ability of the industry to retain an adequate number of drivers.

### **EFFICIENCY**

Each of the measures aims to reduce pollution to the greatest degree possible while allowing trade to continue flowing smoothly. But, of the three, the cap and trade system is easily the most efficient policy. It incorporates the benefits of market freedom through a flexible pricing mechanism, thereby attacking the pollution problem directly. For example, the CTP and strict barrier policies impose uniform costs on the industry, promoting drivers to use more efficient trucks, while the CTS would impose direct costs, pushing drivers to use their trucks efficiently. They are free to choose how to best reduce emissions, but they will pay for every bit of carbon emitted regardless of their choice.

The CTP is not necessarily as efficient as a carbon market could be, but the program is promising nevertheless. The chaotic nature of the industry in its current form harbors many inefficiencies. As it stands, there is a surprising lack of accountability surrounding goods movement. Drivers' backgrounds are unknown, as are the routes they follow. It is not even known how many drivers service the port, or how many brokers coordinate them. Without a buffer like LMCs between truckers and ports, implementation of measures like the Transportation Security Agency's 'Transportation Worker Identity Credential' (TWIC) would be very difficult.

Another efficiency-enhancing aspect of the CTP is operational coordination. Goodchild (forthcoming) estimates that the average time for truckers at terminals is about 50 minutes, and that only 18.7 percent of trips in which goods are transported from the port elsewhere are matched by exports brought from elsewhere to the port. LMC firms will

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quickly act toward combining import trips with exports and demand the information necessary for doing so.<sup>35</sup> Similarly, the mandated installation of an Automatic Vehicle Locator (AVL) and Radio Frequency Identification (RFID) in each truck promises feedback and LMC oversight of truck routes and automatic recognition at the port gate. Should a bottleneck arise at port gates as a result of slow terminal adaptation to these technological improvements, terminal operators are more likely to hear from LMCs than from truck drivers in the current IOO status.

The strict barrier option is, again, the weakest of the three. Such a measure would yield little effect on the structural inefficiencies of the current practice, for example on idling, route planning, and container traffic coordination. Worse, it releases truckers from any incentive toward maintaining their trucks. Thus the ports will inevitably find it necessary to repeat grant programs to buoy the industry. And while some of the money will have to evolve out of the shipping industry itself, a significant proportion of the billion dollars needed would inevitably have to be raised from the public sector.

This is a classic example of a negative externality. Because the San Pedro Bay ports are the biggest trade portals in the United States, Americans around the country will benefit from San Pedro Bay port activity, while the public funds supporting truck financing would likely come from local and state government. Thus, the cost of industry change is not reflected in the final price of goods, but rather in the tax rates for the communities of Los Angeles and Long Beach. Moreover, the costs of healthcare necessitated from living in the communities surrounding the ports are a form of subsidy paid by communities surrounding the ports for the transportation of goods into the American economy. Meanwhile, shippers can market their products across the country at a cost that discounts that impact of pollution on the San Pedro Bay region. Thus, the port financing approach to emissions reduction is neither financially sustainable nor structured in a manner to distribute its cost equitably.

#### EASE OF IMPLEMENTATION

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<sup>35</sup> The internet-based 'Virtual Container Yard' is an internet-based means of doing so (ICF International, 2008).

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A policy's ease of implementation is the final criterion ports should take into account. In this case, the strict barrier policy ranks highest. In principle, it is the simplest of the programs to administer. Aside from the likely need to periodically subsidize the purchase of new vehicles, a task which imposes an enormous administrative burden, the policy simply requires that any truck servicing the ports display a sticker certifying that it meets the required emissions standard. Ports could easily unload the monitoring of such standards to independent organizations with expertise in checking emissions.

Here again, the Clean Trucks Program ranks second, as there are continued licensing efforts that must be maintained in perpetuity, in addition to the monitoring required of the strict barrier. Following licensing, verification of the employment relationships between drivers and LMCs is necessary. Where there are economic agents acting rationally, there will be those playing fast and loose with the regulations in an effort to gain a competitive edge. The need to monitor both the emissions characteristics of the vehicles, the employment relationship of the drivers, and other performance criterion on the part of the LMCs imposes some fairly strong administrative requirements on the CTP.

The carbon trading scheme loses the lion's share of its promise in view of its implementation burden. The difficulty of implementation arises from the need to match a truck's emissions with the permits purchased. The notion behind this program is that each driver or motor carrier will purchase permits allowing the release of certain quantities of pollution. Enforcing this arrangement means accounting for the emissions released by each truck and matching them to a permit. One could imagine a system that measures emissions at the exhaust pipe or that measures the intake of fuel. Verification of the quantity of emissions is extremely complex. Monitoring diesel input is a possibility, but this input must then be reconciled with the other characteristics of the vehicle. Ensuring that all emissions are accounted for and reported requires a significant administrative effort. It is also the case that a system of auctioning off the permits on a periodic basis is necessary, requiring another layer of administrative activity.

When we compare these policies, it becomes clear that the Clean Trucks Program is not necessarily the most efficient or sustainable program, nor is it the easiest policy to

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implement. Rather, it finds the comfortable middle ground in all categories. Each of the three policies requires some accompanying infrastructure. A simple mandate is clearly the easiest to implement, but the Clean Trucks Program is not far behind. A cap and trade system is clearly the most cumbersome. The CTP is at a disadvantage to a simple mandate because of the accompanying employment and other performance requirements that must be verified for an LMC to keep its license.

**V. TRANSITION**

The Clean Trucks Program brings about fundamental changes in the port drayage industry. This document has been primarily concerned with the long-term effects of the Clean Trucks Program. In the short run, however, there is the difficult task of transforming the industry.

The transition from a regime of low and loosely monitored safety and emissions standards to one with tight controls on each, combined with an employment requirement, is a complicated matter. The difficulties associated with such a transition include significant supply disruptions (with accompanying price spikes) and the dislocation of significant numbers of industry workers. The dislocation of workers in the drayage industry is inevitable. Some drivers have indicated that they will not work as employees of motor carriers, and some motor carriers will be forced out of the market. A phased-in implementation strategy, such as has been proposed, combined with efforts to facilitate job matching between dislocated workers and the remaining industry participants, can help to significantly smooth the transition. As all of the fundamental pieces of the program are in place, save for the clean trucks, a significant subsidization of the fleet turnover and significant pricing flexibility on the part of LMCs and terminal operators will be crucial to a smooth transition.

The possible supply disruptions during this transition could be severe unless financial assistance is made available and the transition is phased in gradually. Supply disruptions could result from either the emissions standards requirements or from the employment provision.

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The first major potential for supply disruption is in the need to upgrade or replace a significant portion of the fleet. In the first year of transition, trucks representing just over 13 percent of the mileage driven by drayage vehicles in 2007 will be banned from the port. This problem is made more serious in the second year when fully one-fifth of all truck miles must be replaced.

**TABLE 4: FLEET REMOVAL BY TRANSITION YEAR UNDER CTP**

Year of Transition	Truck Models Affected	% of Current Fleet Miles (2007) <sup>36</sup>
2008	Pre-1989	13.1%
2009	1989-2003	19.7%
2010	1994-1995	17.0%
2011	1996-2003	45.6%
2012	2004-2006	4.61%

Even though the need to upgrade and replace a portion of the fleet certainly brings with it the potential for supply disruptions, this will not likely be the case. The ports have put in place a container fee that will provide significant funding for retiring old vehicles and purchasing new ones. Although some critics have speculated that the fee will not generate sufficient funds quickly enough to stave off a shortage, this problem can be addressed through revenue bonding. With a sure source of revenues, floating such bonds will not be difficult. Bonds can be floated to the extent that they are necessary for subsidizing this first round of fleet retirements. The fee can then remain in place until the bonds are retired. Following the initial turnover of the fleet, the remaining LMCs will incorporate the need to maintain, upgrade, and replace their fleet into their pricing decisions.

At first glance, the disruptions resulting from the changes in the employment relationship seem easier to manage than the disruptions resulting from the new emissions standards.

<sup>36</sup> Based on VMT, source: CARB.

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The saving grace of the Clean Trucks Program is the five years over which LMCs are required to achieve 100 percent employment of their drivers. This allows drivers interested in higher wages, steady employment, regular hours, and employment insurance to opt in right away, while permitting those drivers not interested in being employees to continue serving the ports for a number of years. This buffer period provides more than ample time for the remaining LMCs to attract and train new drivers.

An additional concern stemming from the transition is the dislocation of individuals currently employed in the drayage sector who may find that they are put out of work because of the CTP. These workers come from three different groups. First, some drivers will not be inclined to work as employees to an LMC. Survey results suggest that this may be a nontrivial proportion of the trucking population. As the overall demand for drivers will only increase, these drivers will be unemployed by the program purely because of their own employment preferences and because they have better options available.

A second group of drivers will become detached from the sector because the particular motor carrier employing them will choose to leave the market. There is clearly scope for assistance in terms of matching these drivers with carriers that intend to remain under the CTP.

A third group is the so-called back office workers at defunct motor carriers. There is no way of knowing in advance what proportion of the motor carriers that stop servicing the ports will go out of business. Instead, they may find alternatives that keep them in business, keeping in their employ much of their back office staff. Clearly some significant number of carriers will shutter their doors, leaving their back office staff unemployed. Here there is a clear role for providing a job matching service. For each of the carriers that go out of business, there is a carrier that is picking up market share. These remaining carriers will be in need of enhanced back office staff. However, the number of back office staff per driver declines with the size of the motor carrier, so it is unlikely that all of these workers will find gainful employment at another carrier. Here, some form of assistance in directing them toward the available resources for unemployed workers is clearly in order. These are individuals who have been displaced in pursuit of a greater good. Providing them with

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some measure of assistance is an important contribution to the transition of the industry to the CTP.

Finally, there are local businesses that have formed to service the drayage industry. Small repair shops, and perhaps gasoline stations, will experience significant declines in activity. Unfortunately, these businesses are likely spread throughout the greater Los Angeles region and into the Inland Empire. Some will no doubt latch on with an LMC and continue to provide services much as before, but others will surely lose their livelihood. Regrettably, other than setting aside a significant pool of resources to aid these individuals through the transition, there is relatively little than can be done.

## VI. CONCLUSION

This report discusses the Clean Trucks Program proposed to reduce emissions from port drayage activity resulting from container movements at the San Pedro Bay ports in Los Angeles. Of primary concern are the short-term transition challenges and the long-term sustainability of the program at drayage rates that do not result in a severe diversion of container flows to alternative ports of entry and exit.

Over the long term, the CTP is a very effective means of reducing emissions from port drayage. It is more effective than the alternatives, such as a port-subsidized emission standard, in that it also has positive efficiency properties. That is, along with mandating cleaner trucks, the CTP will generate incentives that permit these cleaner trucks to be used more efficiently. Although the implementation of this program brings with it additional costs that have the potential to increase drayage rates, the results presented in this report indicate that there may well be accompanying cost savings with the potential to fully offset the increase in costs.

The cost savings of the Clean Trucks Program results from the new employment relationship and the obligation of the Licensed Motor Carriers to take ownership or control of the trucks. This relationship strengthens the vested interest of motor carriers in the efficient use of both drivers and trucks. The competitive nature of the current industry is such that the investment in infrastructure necessary to raise efficiency does not pay off.

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Under the CTP, the benefits will accrue directly to the LMC, rather than be shared with the truckers, making these investments more likely. Further, the consolidation of the industry will increase the pressure on terminal operators to invest in efficiency-enhancing equipment at the ports.

If a policy is implemented that merely mandates cleaner trucks, but does not tie the truck and driver more closely to the motor carrier, these efficiency gains will be left on the table.

With regard to the transition period, the CTP does represent a major overhaul of the industry. If implemented abruptly, it has the potential to result in significant supply disruption at the ports. These may result from either a shortage of clean trucks or a shortage of drivers. With the five-year phase-in period, and the heavy subsidization of new trucks that is being proposed, it is unlikely that such a disruption would occur. Maintaining an adequate supply of trucks will not be difficult in the first year of the program, as it only phases out trucks accounting for 13 percent of the drayage miles traveled. In the second year, a more significant proportion of the current fleet is at risk. Given that new trucks can be leased for \$2,000 per month, and that the ports have secured a means of funding the fleet turnover, the supply of trucks should not be a problem. It has been argued that the Truck Impact Fee will raise revenues too slowly to turn the fleet over as quickly as is mandated by the CPT. This may be true if the ports had to rely on the stream of revenue as it is generated, but this is a near-perfect case for the use of revenue bonds. With a guaranteed steady stream of containers through the ports, the revenue source is solid enough to make revenue bonds feasible.

The difficulty with the transition therefore likely comes from issues surrounding the employment provisions in the CTP. If these provisions were implemented suddenly, there could be a substantial supply disruption. However, with the five-year phase-in period, there is ample time for the LMCs to replace the fraction of the current force of drivers who are not interested in steady work, higher wages, regular hours, and health insurance. It is also the case that the program is being proposed at a time when there is a relatively large supply of potential drivers. Given the state of the local economy, and in particular the declines in the construction and manufacturing sectors, the pool of labor from which the

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LMCs have to choose is currently abnormally large. Both the construction and the manufacturing sectors in the Los Angeles-Long Beach-Glendale metropolitan statistical area have shed between 5,000 and 6,000 jobs. Port drayage would be a plausible destination for many of these unemployed workers.

The bottom line is that although the Clean Trucks Program may not be the perfect mechanism for bringing about emissions reductions, it represents a happy medium between policies that are easy to implement but difficult to sustain and policies that are easy to sustain but difficult to implement. It is also the case that without each of its major provisions the Clean Trucks Program is likely to lack long-term sustainability and unlikely to achieve its considerable potential.

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