

Peer Review of

Comprehensive Truck Management Program
Draft Economic Impact Analysis prepared by Beacon Economics
Dated March 6, 2009

Andrew M. Isaacs
Haas School of Business
University of California, Berkeley

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Introduction

This peer review was prepared at the request of the Port of Oakland (the "Port") in order to gain an independent evaluation of the Draft Economic Impact Analysis (the "Analysis") of the Port's Comprehensive Truck Management Program (the "CTMP") prepared by Beacon Economics and dated March 6, 2009. The Analysis was received from the Port for peer review on March 6, 2009.

The scope of work of this peer review is detailed in the Port's contract with the University of California dated February 26, 2009. The key elements of the scope of work as stated in the contract are:

1. Identify deficiencies and inconsistencies in data collection and analysis and review survey instruments and methods;
2. Identify opportunities to provide greater clarity with respect to conclusions and recommendations;
3. Assess whether the Analysis appropriately considers the business, labor, community and environmental context of the Port;
4. Assess whether the Analysis appropriately examines similar programs at other ports in California and elsewhere in the US given the similarities and differences of the Port of Oakland relative to other ports;
5. Examine the analysis for "red herrings" in terms of logic and cause-and-effect reasoning, and assess the Analysis for the overall reliability of its conclusions;
6. Recommend appropriate strategies to improve methodology and quality of analysis.

In general, this peer review does not attempt to correct typographical or grammatical errors, and is limited to the above elements of content, alignment of methodology with intent, clarity, and soundness of the conclusions drawn from the data.

General Observations

The Analysis is carefully prepared with generally clear explanation of the methodology used and the results obtained. The Analysis is generally thorough in terms of its surveys of direct stakeholders in the CTMP, although there were challenges in some cases drawing clear conclusions due to limits with the information obtained through the survey instruments.

The principal top-level concerns raised in this peer review are with regard to the following elements of the Analysis.

- a. Complexity and length of the survey instruments. In general, the survey instruments are much too long, and in some cases ask questions that are not clearly relevant to the needs of the Analysis. As a result, we are concerned that the quality of the responses may be impacted by the length and complexity of the questioning, and therefore may compromise the soundness of the conclusions drawn from the data. In addition, many of the most important questions in the instruments require the respondent to recall specific numerical or financial information that most individuals would find hard to recall accurately.
- b. Use of the survey instruments in drawing conclusions. While a large number of surveys were conducted as part of the Analysis, it is not clear how some of them inform the decision-making that is needed in evaluating the CTMP. As a result, there may be an over-supply of information that could make formulating conclusions more complex than it would otherwise be.
- c. Presentation of results. There is abundant useful data and analysis in the Analysis. However, much of the information is embedded in the text in a way that reduces the clarity of the Analysis and obscures the connection between the purpose in collecting the data, the analysis of those data, and the conclusions drawn. Further, some of the commentary in the Analysis is not always consistent with the data presented or contradicts commentary provided elsewhere in the Analysis.
- d. Drawing unique conclusions. Offering a single set of recommendations regarding the economic impact of the CTMP is inherently risky given the substantial uncertainty in the general economy at the present time. The on-going economic crisis implies that more of a “scenario planning” approach might make more sense in this case. Few experts are predicting a return to 2005-2006 business levels in the near future, and thus it makes sense to anticipate and prepare for a wider range of business scenarios and economic outcomes of the CTMP than the Analysis seems to incorporate.

- e. Matching the timeframe of impacts with the timeframe of costs. For some elements of the CTMP, the timeframe associated with implementation differs from the timeframe associated with impact. For example, air quality improvements that may take a few years to achieve through changes to truck emissions are anticipated to have a long-lasting impact on the environmental health of the surrounding community. Therefore, it is reasonable that the costs associated with those requirements should be paid off over a long period. Similarly, an employee requirement for drayage service providers should be considered for its own sake, not as a mechanism to drive the adoption of cleaner vehicles, since the employee requirement will presumably persist long after the truck fleet has been converted over to cleaner and more efficient engines and fuels.
- f. Safety and security. It was something of a surprise to see how little the subject of worker safety and Port security was discussed in the Analysis given its importance in the CTMP.
- g. Local community priorities. It was also a surprise to see that while considerable data were collected, there was only limited examination and discussion of the local community's central and persistent stake in the Port, including factors of public health, public safety issues related to drayage activity on public roads in neighborhoods adjacent to the Port, and nuisance factors stemming from Port activities.
- h. External factors. There are several factors beyond the control of the Port that may play a significant role in the overall economic future of the Port that could be considered more thoroughly in the Analysis. Notable among these factors are planned upgrades at other West Coast ports and the substantial upgrade of the Panama Canal, now underway, specifically designed to siphon business from the US West Coast ports, and expected to open for traffic in 2015.
- i. Priorities. While there are clearly competing interests affected by the CTMP, it seems reasonable that, for example, safety and security at the port should always be the paramount concern above other considerations, and should be treated as such in the recommendations found in the Analysis. Although it may not be possible to create a strict hierarchy of needs among the various interests, clearly long-term, community-wide benefits such as health, safety, security, environmental quality and the viability of the Port as a business should be considered in a special light. A lasting consensus among the parties will be more readily achieved where there is a reference set of common goals.

Specific Comments and Recommendations Section 1: Discussion and Analysis

1. General: The Analysis could benefit from an overall editorial review. That said, certain portions of the Analysis are very well prepared and as a result there are few comments to offer for those sections.
2. General: In addition to the CTMP, should other programs that the Port is implementing to achieve the goal of reduced health risks (as outlined in the Port's Maritime Air Quality Policy Statement and Maritime Air Quality Improvement Plan) be incorporated in the context of the economic impact of implementing the CTMP? What is the impact of the CTMP contribution to reduced risk as compared to other programs and initiatives? In addition, should other worker and community health and safety risk factors be addressed as context for the impact of the CTMP?
3. General: POLA/POLB have more IOOs and therefore consolidation of drayage providers at those ports may have a much bigger impact on reducing emissions there than at the Port of Oakland. Is there a comparison presented somewhere in this report? Such a comparison would help frame the expected impact at the Port of Oakland relative to the expected impact at POLA/POLB.
4. General: For each survey conducted, there should be a clear statement of goals and objectives such that readers can assess whether survey questions were developed correctly.
5. General: For the statistical analyses provided in the Analysis, is there a test for significance for the purpose of evaluating the reliability of the conclusions? If not, it may be difficult to draw statistically valid inferences from the data. Also, there should be a discussion of the type(s) of statistical analysis done and the confidence intervals used to determine significance or lack thereof.
6. General: What are the possible impacts to the Port of Oakland's CTMP as a result of the American Trucking Association's suit seeking injunction against POLA's concession program? See http://www.cunninghamreport.com/news_item.php?id=748 . The report, dated March 8, 2009, states that "*many stakeholders [agree] that the litigation will probably end up before the Supreme Court*". Should the Analysis incorporate some flexibility into its recommendations for the Port of Oakland given the uncertainty with the Southern California ports' truck programs?
7. Page 1, second bullet: Define "mean of truck drivers in the region" and why it is meaningful to compare that set with drivers servicing the Port.
8. Page 1, third bullet: Explain the origin of the greater wait time among IOOs relative to employee drivers. Is this related to differences in dispatch systems, IT available to the two different groups, or other sources?

9. Page 1, fourth bullet: Why is compliance with TWIC a serious challenge given the ease with which drivers are able to comply with TWIC and the widespread adoption of TWIC to date?
10. Page 2, second bullet: The CARB regulations will be adopted one way or the other, and in essence the problem becomes how to comply with the CARB regulations at the lowest possible cost. We recommend that the Analysis address this compliance - cost issue as the centerpiece of the CTMP that it seems to be.
11. Page 2, first bullet of Recommendations: This statement seems to be a *non-sequitur* as it is written, that is, it does not seem to follow from the preceding text. Please explain how inefficiencies will be reduced through the use of an employee-oriented drayage system.
12. Page 2, second bullet of Recommendations: Since increased costs in the logistics sector are always passed up the supply chain, please explain how it is possible for “industry [to] be held responsible for the costs directly”?
13. Page 2, third bullet of Recommendations: Please detail what “phased in” means: does this mean increased costs spread over time, or a shared cost model which is phased out over time, or that certain elements of the CTMP should be postponed for later adoption?
14. Page 2, last paragraph: The “poor economic conditions” of course are the context in which the data were collected, as pointed out; however, please explain the economic impact of the CTMP taking into account the current environment as well as likely economic scenarios going forward.
15. Page 9, last sentence: It would be helpful to normalize these data to other West Coast ports so as to separate regional trends in container flows at the Port from overall global economic trends.
16. Page 10: It would be helpful to add paragraph 2 from page 9 of Beacon’s study of the Southern California ports CTP (dated February 2008) to the first paragraph of the Air Quality section. This would expand the discussion of air pollutants to include particulate matter, ozone, NO_x, SO_x, and CO₂.
17. Page 11, paragraph 3: The Analysis discusses “potential cancer risk of about 27 in one million.” Is this in terms of excess cancers? For example, the US EPA and California EPA’s Department of Toxic Substances Control typically define acceptable risk as being less than 1 in a million excess cancer risks.
18. Page 11, paragraph 4: The Analysis states that “the Port has set forth a goal of reducing the health risk associated with maritime-related activities by 85 percent by the year 2020.” Please clarify that this is with respect to diesel particulate matter from all maritime-related sources.
19. Page 17, last paragraph: The 27 to 33% cost advantage of IOOs vis-à-vis employee drivers is a breathtaking difference in any business setting. It would be

helpful to understand in more detail the reasons why there is such a productivity gap between these groups so that the CTMP can preserve as much as possible of this competitiveness advantage for the Port and in doing so reinforce the business viability of the Port. (The term “productivity” is used here in the strict economic sense, meaning the amount of economic output per unit of input.)

20. Page 20, last paragraph: Why is there such a big discrepancy on health insurance reporting between what LMCs report that they offer and what employee drivers report they receive, and is that significant?
21. Page 24, first full paragraph: How is it that “with an average dray taking 6.4 hours, drivers are only able to complete an average of 2.3 turns each day”? Are they really working 14.75 hours per day?
22. Page 24, footnote: What happened between 2005 and 2008 to cause wait times to increase from 30 minutes to 2 hours outside gate + 1.6 hours inside gate? Is this true? It seems incredible - even if truckers overstated their wait times by 100 percent (making a 1.8 hour actual wait into a 3.6 hour reported wait), this is a tripling of wait time in 3 years. Why would drivers put up with this, and what factors contributed to this increase?
23. Page 26, third paragraph: Why would 17.5 percent of employees not know whether they would apply for a TWIC as compared to 7.0 percent of IOOs? Why the difference? Could it be a sampling artifact? The Analysis states in the last sentence of this paragraph that “this difference is still quite small”, however the difference is more than a factor of two. The difference might not be important, but it is not “small”.
24. Page 25: Even if all the drivers needed to transport the projected volumes of containers were available, could the Interstate and local road systems accommodate the traffic? How will improved efficiencies at the Port impact off-site traffic and the community?
25. Page 31, first sentence of first paragraph: The statement “smaller LMCs own and operate older trucks” is not supported by Table III-11. It appears that Class I LMCs own the highest percentage of pre-1994 trucks by far, and Class I and Class III LMCs own about the same percentages of 2003 and older trucks. Delete the first sentence since the following text better describes the situation.
26. Page 31, first paragraph: The data seem to imply that the mid-size (Class II) LMCs are currently best suited to meet the CARB regulations in the immediate future. However, it seems unlikely that many Class I carriers would abandon their businesses because of this particular environmental regulation, one of many that the industry has adapted to in the post-WWII era. It seems similarly unlikely that many of the smaller Class III LMCs would abandon what appears to be a good livelihood provided by their small enterprises. The present credit environment of low interest rates for leased assets secured by both the asset and

continuing cash flows is clearly a helpful factor in this regard. Please indicate the additional supporting evidence in the report for the statement that includes “discontinue providing drayage services”.

27. Page 33, second paragraph: “This general principle in financial markets” has been in place for many years; however, smaller drayage concerns, including IOOs, continue to dominate drayage services at the Port. Please explain why this time is different, and why IOOs might now be unable to qualify for leases that have been available through many previous economic cycles.
28. Page 34, last sentence of top paragraph: The 27 percent and 18 percent numbers both depend on the unlikely outcome that such a dramatic increase in cost will have no impact on any other aspect of the Port’s business, including overall shipping traffic. In the same sense that taxation affects behavior, please discuss the possible outcomes of such a dramatic increase in operating cost.
29. Page 34, first paragraph: Explain what “allowing the market to distribute the cost” means.
30. Page 45, last paragraph: It might be appropriate to insert a brief discussion of the lawsuit brought by the ATA against POLA here.
31. Page 47, first paragraph: Why would an employee relationship be the easiest to implement? Is this paragraph looking at the sponsorship model vs. the employee driver requirement only? The concession model might be easier and does not seem to be addressed anywhere on this page.
32. Page 51, first full paragraph: This paragraph makes a number of assertions. Please indicate which data in this report or elsewhere support the assertions.
33. Page 56: The table is helpful in organizing the thinking in the Analysis as to a ranking of benefits and cost for the three alternatives presented, but does not clearly flow from the text that immediately precedes and immediately follows the table. To the extent that the ranking in the table derives from conclusions drawn from data in the Analysis, it would be helpful to tie the rankings to those data. For example, it is not clear how the concession model earns its “3” for efficiency, at least where efficiency incorporates the cost of carrying out an activity.
34. Page 58-59: The six bullet points that span these two pages are given as “vital elements for improving the structure of Port drayage”, but read like a partial list of those elements when considering the full Analysis; certainly many other factors are raised in the Analysis. Therefore it may be problematic to draw conclusions from what may be a sub-set of the elements involved.
35. Page 59, last paragraph: Just because the proportion of drivers who are IOOs at the Port is lower than at the southern California ports does not mean the Port of Oakland is necessarily “better situated to absorb an employee driver requirement.” Please explain how this conclusion flows from the data.

36. Pages 77 and 82: The last sentence on page 77 suggests that longer workdays are performed by IOOs whereas page 82 indicates that “employee drivers work more hours per day and more hours per week.” Please review the Analysis document for internal inconsistencies.
37. Page 82, middle of first paragraph: The “small” difference in hours per day reported in the driver survey may not be that small (especially given that it translates to 4 hours per week). Please indicate whether a test for significance was used as well as the statistical test method employed. The confidence interval should also be indicated when using terms like “small”, “significant”, etc.
38. Page 83: As discussed below for the survey instruments, it is not clear whether truckers have can accurately recall all of the numbers being asked of them. If they have poor recall, then the data may be unreliable.
39. Page 84, last paragraph: Here the Analysis suggests that net earnings provided by IOOs are the “most reliable” yet on page 80 it is suggested that the net earnings reported by IOOs were possibly overstated because of tax considerations. Please check for internal consistency.
40. Page 89-90: The large discrepancy between the offering of a health benefit and the acceptance of that benefit is significant – further explanation should be offered.
41. Page 93 and 95: Please indicate the process used to generate the hypothetical annual costs. (Tables VI-21 and VI-25)
42. Page 96, paragraph 2: The estimated overhead of 17% seems inconsistent with the 18% used for IOOs and the 28% used for employees – please clarify.
43. Page 97, last paragraph: Please discuss the implication of the fact that half of the 320 motor carrier businesses contacted had gone out of business in the past 4 years. Is that inconsistent with the “fair amount of stability” cited on page 98, last paragraph?
44. Page 118, last paragraph: The discussion of how much inefficiency in drayage at the Port can be reduced varies here and later in the Analysis; here the Analysis seems to imply that much of the inefficiency can be eliminated.
45. Page 158, first sentence: This discussion of safety at the Port seems very brief considering the importance of this factor.
46. Page 182, second paragraph: This conclusion, that the “current drayage sector would be fully capable of handling a surge in demand between 25 and 40 percent” is quite profound in its implications for improved efficiency at the port, and could be emphasized earlier in the Analysis.
47. Page 252, last paragraph: Is the response rate of only 25% a typical rate relative to other similar surveys? What does that response rate mean for the validity of the sample?

48. Page 254, top: Please discuss whether approaching only those drivers who were awake at the time of the survey introduces bias into the sample. Similarly, by excluding languages other than the four used in the survey, were some groups unrepresented, and does this introduces bias into the sample?
49. Page 279, question 24: This is an extremely important question in the context of the CTMP – are there survey results or other data in “discussion” format or only in the “yes-no” form asked?
50. Page 290, question 20: See comment #47 above.

Specific Comments and Recommendations Section 2: Editing and Organization

51. General: Indicate whether costs are in current 2009 dollars.
52. General: Add a list of acronyms at the beginning of the report.
53. Page 11, first paragraph: Write 22,000 instead of “22 thousands”.
54. Page 11, first paragraph: The first occurrence of PM should be defined.
55. Page 14, first paragraph: The extent of the LIA has not been defined. Copy the LIA description from the footnote of Table VI-2 here to introduce the reader to the geography.
56. Page 14, second to the last paragraph: Insert “other” or “remaining” after “Generally, the ____” to clarify.
57. Page 14: How can all the percentages be 33.3% for all three classes of LMCs using both IOOs and employees? Also check the percentages given in the last column (all LMCs) for Class I and Class II. (Table III-1)
58. Page 16, second paragraph: Copy (or cut and paste) sentences 4 and 5 from page 21, first full paragraph, which define shuttle, short, regional, and long hauls.
59. Page 18: The numbers don’t add up to 100 percent. Where do others live? (Figure III-4)
60. Page 19: Define API. (Table III-4)
61. Page 21: What is the meaning of the “totals” at the bottom of the table? They look like averages, not totals or weighted totals. (Table III-6)
62. Page 24, footnote: Change the fourth word from “start” to “stark.”
63. Page 25, paragraph 1: Include reference citation for the first sentence.
64. Page 27, footnote: Cite reference.
65. Page 28, second bullet: Delete “thousand.”
66. Page 28, last paragraph: Write out the date.
67. Pages 27 – 30: The numbers in the body of the text and in the tables appear to be inconsistent.
68. Page 48, first paragraph, third sentence: Change “IOO drivers would” to IOO drivers might”.
69. Page 49, first paragraph: The last sentence does not seem to follow from the preceding text.
70. Page 52, footnote: Change 2994 to 1994.
71. Page 54, last paragraph: The “desired goals of the CTMP” should be reiterated here to help the reader in evaluating the recommended course of action.
72. Page 60: It may be useful to add a very brief set of bullets that summarize the recommendations.
73. Page 64: It might be useful to add a column showing the percentage of the total population sampled. For example, did the surveyors talk with 235 out of 1,000 or 235 out of 500 drivers? (Table VI-1).

74. Page 66, top paragraph: There is no Table 1. Please clarify.
75. Page 66, second from the last paragraph: Please clarify the last sentence “had headquarters located further *than what* from the Port”.
76. Page 68: Please clarify why numbers of drivers are calculated in some cases and directly counted in others.
77. Page 69, last paragraph: Please explain the 1.85 multiplier used in the last sentence.
78. Page 70: The second equation and the numbers in the following text seem inconsistent.
79. Page 71: Is “h” missing a phrase?
80. Page 76, first sentence: IOOs and employees report similar daily turns for both long and regional hauls.
81. Page 76, second sentence: The statement that there is more efficient dispatching of IOO drivers seems inconsistent with text elsewhere in the Analysis (e.g., the next sentence). Please clarify.
82. Page 76: Why discuss totals shown in Table VI-7? What is the meaning of these data?
83. Page 78: Please review use of significant figures throughout document. For example, is reporting drays per week to one decimal place appropriate?
84. Pages 79 and 80: It appears that mean and average are being used interchangeably throughout much of this document (e.g., last paragraph of page 79 and Table VI-10 on page 80). Is that true? If so, it might be good to make the Analysis consistent.
85. Page 84, second paragraph and Table VI-14: Please clarify how many hours per year were used to calculate annual wages.
86. Page 86: Multi-panel tables are difficult to understand without reading the text. Please add subheadings to clarify.
87. Page 87, third paragraph: Do result ties with Table VI-14?
88. Page 87, last paragraph: Difficult to tie this text with the table – please clarify.
89. Page 90: Are the percentages in the 33.3% column correct?
90. Page 99: Is there a sentence missing below the table? Seems incomplete.
91. Page 102, first sentence of last paragraph: Figure VI-2 shows the daily flow of full containers through the Port, not the monthly flow – please correct.
92. Page 103, first paragraph: The “omission” referred to has been normalized out by a 16.7% increase in counts; please discuss the rationale for this.
93. Page 111: Referring to the two bullets, what is the third choice?
94. Page 112, first paragraph: Cite the sources of the dollar figures.
95. Page 115, last paragraph: The two final sentences seem to contradict each other.

96. Page 116, third sentence: This assertion does not clearly follow from preceding text.
97. Pages 115-117: The same data seem to be re-stated several times.
98. Page 124, first paragraph: Is this conclusion consistent with discussion of the same topic elsewhere?
99. Page 125: What is the purpose of this graphic?
100. Page 183, second paragraph: The Analysis states, "It is highly likely that the bulk of these inefficiencies would be removed under 100 percent ownership." How does this follow from the above?
101. Page 183, second paragraph to the middle of page 184: It is hard to understand the intent of this text – please clarify.