Development of the Air Quality Action Plan For the I-710 Corridor

PRELIMINARY REPORT

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Executive Summary

I-710 Corridor Expansion Project
Plans to expand the capacity of the Interstate 710 Freeway (I-710) from the ports (Ocean Blvd.) to SR-60 freeway began in 2001. A consortium of agencies made up of the Los Angeles County Metropolitan Transportation Authority (LAMTA), Caltrans, the Southern California Association of Governments (SCAG) and the Gateway Cities Council of Governments (GCCOG) embarked on a study to better understand the options and costs associated with widening the freeway.

Evolution of the Air Quality Action Plan
As part of the study, the agencies obtained feedback from the communities in the I-710 corridor and determined that the main concerns about expanding the freeway were around issues of air quality in the region. Community members were concerned that the expansion would have negative impacts on air quality due to the likely increased use of the freeway by buses, trucks and other goods movement vehicles. In order to address these concerns, the GCCOG constructed a system for stakeholder involvement and encouraged input into the process from community members (known as Tier 1 and Tier 2 committee members), environmental groups and elected officials. The GCCOG was asked by stakeholders in the 710 Corridor planning process to prepare an Air Quality Action Plan (AQAP) to address the air quality concerns associated with expanding the freeway.

Purpose of this Document
In October 2006, the GCCOG retained the services of Gladstein, Neandross & Associates to assist with the development of the first phase of an AQAP. This document is the first step in preparing that document. Chapters I and II of this report give a background explanation of the I-710 Corridor expansion project, as well as a description of the communities’ involvement with the project. Chapter III provides a summary of meetings with the GCCOG and stakeholders, including elected officials, community members and the environmental community. Chapter IV is a review of air quality improvement measures that have been proposed and/or approved since November 2004, as well as a review of the status of recommendations presented in the Tier 2 report. In Chapter V, this report outlines the recommended content of the AQAP, proposes the steps that need to be taken to launch the document, and projects some possible costs for the preparation of the plan. In addition, in response to the interests of key environmental stakeholders, Chapter V presents a list of their recommendations for early actions that I-710 stakeholders can take to improve air quality while the full AQAP is being developed.

Recommendations
It is the recommendation of the GCCOG that the Project Committee approve the proposed scope of work for the development of the AQAP and permit the staff to pursue funding for the project from other agencies. GCCOG also recommends that it work with air quality agencies to establish additional air quality monitoring stations in the I-710 Corridor as soon as possible, as well as a protocol for regular public reports on air...
pollution. The AQAP will include several components, including the development of a list of near term air quality measures that would have impact in the 710 Corridor communities whose effectiveness could be enhanced through local action and regional cooperation. In addition, the GCCOG recommends that the AQAP include a health risk assessment that projects the benefits of full implementation of all of the air quality measures discussed herein. Finally, GCCOG recommends that the Project Committee take action on the early action items that are proposed by representatives of the environmental community and request that GCCOG work with local communities to implement the selected recommendations.
I. Introduction

In October 2006, the Gateway Cities Council of Governments (GCCOG) retained the services of Gladstein, Neandross & Associates to assist with the development of the first phase of an Air Quality Action Plan (AQAP). This plan emerged from a process which began several years earlier to develop a proposal to expand the capacity of the Long Beach Freeway, also know as Interstate 710 (I-710) from the ports (Ocean Blvd.) to SR-60 freeway. That process resulted in the development of a “Locally Preferred Strategy” (LPS) based on the input and recommendations of community groups along the freeway and a regional community advisory committee.

The two most pressing issues of community concern were the threat of property condemnation and air quality. Once the LPS was developed, and it became clear that modifications to the freeway could take place while leaving residences and businesses intact, the number one remaining issue was air quality and health. As understanding of the deleterious health impacts of diesel particulate matter has grown over the past decade, communities have become increasingly concerned about their exposure to the exhaust from buses, trains, construction equipment and trucks. Recent studies by the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) have documented the hazards of living near transportation corridors, particularly those that are heavily traveled by diesel trucks. This and other information has raised issues in communities regarding proposals to expand the capacity of major transportation and goods movement corridors.

The Gateway Cities Council of Governments was asked by stakeholders in the 710 Corridor planning process to prepare an Air Quality Action Plan (AQAP) to address the concerns outlined above. This document is the first step in preparing the I-710 Corridor AQAP. Although not the AQAP, this report outlines the content of the AQAP, proposes the steps that need to be taken to launch the document, and projects some possible costs for the preparation of the plan. This report will review the status of the measures recommended by community representatives in the I-710 Corridor planning process, as well as many other air quality improvement measures that have been proposed and/or approved since the approval of the LPS in November 2004. In addition, in response to the interests of key environmental stakeholders, this report presents a list of their recommendations for early actions that I-710 stakeholders can take to improve air quality while the full AQAP is being developed.

A. Background on the 710 Corridor

Interstate 710 (I-710) runs almost directly north south in between the City of Long Beach and Alhambra, just east of El Sereno and just north of I-10. I-710 is the primary truck route for goods movement serving San Pedro Bay Ports (SPBPs) in general and the Port of Long Beach in particular. It is one of the most heavily traveled freeways in Southern California, and one of the primary transportation corridors for the movement of cargo in the state of California.
Various segments of the I-710 Freeway were built over a twenty-one year period, in between 1954 and 1975. Since that time, however, the only significant addition to the freeway has been the interchange with the Century Freeway (I-105), which was completed in 1993.

Since the completion of the I-710, the San Pedro Bay Ports of Long Beach and Los Angeles have grown to become the largest container ports in the United States. Together, the two separately administered ports are the 5th busiest in the world. In 2006 the ports processed 15,760,218 TEU (Twenty-foot Equivalent Units), which is approximately 8.756 million containers. Together, the San Pedro Bay Ports are estimated to process 40 percent of the containerized trade into the United States, with an economic value of well over $300 billion. By the year 2020, the number of containers processed by the San Pedro Bay Ports is projected to more than double today’s figures.

The two ports are the primary source of trucks on the I-710 Freeway. The Port of Long Beach covers 3,200 acres in southwestern Long Beach, processed 7,290,365 Twenty-Foot Equivalent Units (TEU) in 2006. It is second only to the Port of Los Angeles in container traffic, which covers 4,200 acres and handled 8,469,853 TEU in 2006. Since the majority of containers measure 40 feet, the estimate for the number of individual containers handled by the San Pedro Bay Ports in 2006 is approximately 8.756 million.\(^1\)

As the San Pedro Bay Ports have grown, the number of trucks that carry containers to and from the marine terminals has dramatically increased. About 24.1 percent of the container traffic managed by the Ports is handled by on-dock rail, leaving about 6.65

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\(^1\) The rule of thumb is to divide the number of TEU by a factor of 1.8 to estimate the number of containers that have been processed.
million truck moves annually to and from the ports. Assuming that trucks visit the marine terminals equally every working day (Monday thru Saturday), the average number of containers moved by trucks is 21,300 every day (except Sunday). Coupled with bulk cargo and other port activity, the result is tens of thousands of truck moves every day, a majority of which end up on the I-710 Corridor.

Exacerbating the air quality impact of port trucking is the fact that the nature of the port drayage economy results in a port trucking fleet that tends to be populated by the oldest and dirtiest in the state’s heavy-duty vehicle inventory. Port truckers are paid by the trip and not by the hour. Because of the limited number of trips that a trucker can take in a day, and the pay scale that limits the income that the average trucker can generate, many port truckers can only afford to operate a used truck, often one that is with its third or greater owner. Since most of the major advancements in controlling emissions from diesel engines have occurred over the last ten to fifteen years, the result is that trucks that are older than Model Year 1994 emit significantly greater pollutants than newer trucks. Truck survey data collected by the San Pedro Bay Ports indicate that the average age of port trucks is slightly older than the state average of MY 1994. Thus, today’s port trucks tend to be higher polluters than the average truck on the road.

B. Overview of the I-710 Corridor Process

In March 2001, a consortium of public agencies initiated a study of the 710 Corridor. The purpose of the I-710 Major Corridor Study was to investigate the feasibility of various options for improving the 710 Corridor between Route 60 and the City of Long Beach. Virtually every option was on the table, including widening the freeway, building HOV lanes, creating dedicated truck lanes, elevating a portion of the freeway, rebuilding one or more of the interchanges with other key transportation corridors, modifying exits and entrances, or making modifications to major arterial streets that intersect the I-710. The Study was managed by the Oversight Policy Committee (OPC). The Study was undertaken by the LAMTA, Caltrans, the Southern California Association of Governments and the GCCOG.

The OPC was advised by two bodies. The first is a Technical Advisory Committee (TAC) which consists of staff members from the same agencies represented on the OPC (each of the cities, the county, the two ports, MTA, Caltrans and SCAG) as well as staff from the California Highway Patrol, Federal Highway Administration and South Coast Air Quality Management District. The TAC was formed at the beginning of the I-710 Corridor study process in order to provide policy makers with the appropriate technical support needed to weigh the numerous options and scenarios that they would be evaluating.

The second advisory body to the OPC was the Community Advisory Committees (CAC). The CACs consisted of two kinds of committees, designated “Tier 1” and “Tier 2”. Tier 1 committees were formed by every city in the I-710 Corridor study area, and

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consisted of representatives from that community. The Tier 2 Committee was made up of the chairman of the Tier 1 committee and representatives appointed at large by the OPC made up of representatives of Tier 1 community level committees as well as other representatives from key stakeholder groups chosen by the OPC and the Tier 2 committee. The CAC’s were formed in 2003 when the I-710 corridor communities made it clear to the OPC that they wanted more input in determining the outcomes of the I-710 study.

What follows is a more detailed timeline outlining the history and major milestones of the I-710 Major Corridor Study. In December 2001, LAMTA prepared a Purpose and Need Statement that listed eleven problems/needs of the I-710 Corridor as well as a more detailed problem statement. The document also defined the territory of the I-710 Major Corridor Study Area, which is 18 miles long and encompasses the sphere of influence of the I-710 freeway corridor from the Long Beach area to the southeast portion of Los Angeles City. General boundaries for the study area were defined as:

- State Route 60 (north)
- Lakewood Boulevard (east)
- Ports of Long Beach / Los Angeles (south)
- Wilmington Avenue / Alameda Street (west)

In 2001 the OPC also held workshops to gather public input. This input was used by the engineering consultant to develop a set of project scenarios for addressing the issues of congestion on the I-710 freeway. By the spring of 2002, the consultants had fleshed out these scenarios and developed twelve alternatives to improve traveling conditions in the I-710 Corridor, ranging from service improvements such as increasing the availability of public transit, metering freeway ramps, and using advanced technologies to inform freeway users about congestion to more capital intensive facility improvements such as increasing the number of lanes, creating dedicated truck or HOV lanes, separating auto and truck traffic, and several other options. The OPC was asked to evaluate the twelve alternatives and reduce the number that were being analyzed by the consultants to five by June 2002. After additional meetings, the five alternatives that were selected included:

**Alternative A:** This is the No Build alternative. It involves no improvements beyond those which were already funded and planned through 2025. These improvements will be included in any of the other alternatives that will be considered by the OPC.

**Alternative B:** Consists of operational improvements that would use advanced technology to address the movement of goods, vehicles and public transit through the corridor using the existing freeway facilities.

**Alternative C:** This alternative improves safety through the elimination of bottlenecks for all vehicle types, manages the flow of heavy-duty vehicles by
focusing improvements and widening segments of I-710 as well as major arterial streets which can be used as an alternative to I-710. The estimated costs of this alternative were $2.2 billion to $3 billion. Key elements include:

- Add general-purpose lane in each direction to selected segments.
- Some improvements at freeway-to-freeway and local interchanges.
- Truck bypass lanes around freeway-to-freeway interchanges.
- Separate truck ramps at PCH and Washington Blvd. interchanges.
- New interchange at Slauson Ave.
- Four-lane extension of Terminal Island Freeway (SR-47/103) to I-710 north of I-405.
- Capacity enhancements to 10 arterials, including one new lane in each direction.

**Alternative D:** This alternative focuses on improving safety and increasing freeway capacity by widening of the I-710 and adding HOV lanes. Estimated costs of this alternative were $2.5 billion to $3.4 billion. Key elements of Alternative D include:

- Add two general purpose lanes in each direction in some segments, one lane in others.
- Add one carpool/bus lane in each direction in some segments, two lanes in others. In some locations, lanes would be elevated about I-710 median (similar to I-110).
- Major improvements at freeway-to-freeway and local interchanges, including direct carpool connectors at I-405.
- Four-lane viaduct connecting State Route 47 and Alameda.
- Capacity enhancements to four arterials, including one new lane in each direction.
- Preserves possibility of high-speed rail line between downtown Long Beach and downtown Los Angeles.

**Alternative E:** This alternative separates cars and trucks by constructing a separate roadway for goods movement. Estimated costs for this option were $2.5 billion to $3.1 billion. Key elements of Alternative E include:

- Add two exclusive truck lanes in each direction from Willow Street in Long Beach to Whittier Blvd in East Los Angeles. Lanes would be elevated in certain segments.
• Dedicated ingress and egress points for trucks at selected locations.
• Add two exclusive, mostly elevated auto lanes in each direction between Shoemaker Bridge near downtown Long Beach and Willow Street in Long Beach.
• Major improvements to freeway-to-freeway interchanges.
• New interchange at Slauson Avenue.
• Capacity enhancements to five arterials, including one new lane in each direction.

These five alternatives were developed in more detail during the last half of 2002 and the first quarter of 2003. The alternatives were analyzed to determine which of the five embodied the right mix of cost, mobility enhancement, safety improvements, environmental benefits while minimizing the damage that would be done to communities (i.e. property condemnation). The findings of the cost-benefit analysis included:

• Alternative A was the lowest cost of the five alternatives singled out by the OPC. It had the advantage of impacting no properties for freeway expansion but it also afford no benefits to the community or the region, such as reduced congestion, increased mobility, or reduced air pollution.

• Alternative B was relatively inexpensive, although not as much as Alternative A. Given the relatively small investment, this alternative had minimal impact on congestion, mobility and air quality. A benefit of this project was its limited impact on property, but it would not significantly alter the status quo either.

• Alternative C involved significant cost, as it included substantial modification to the existing infrastructure. Among the five alternatives, it also was projected to result in the greatest reduction in accidents while at the same time providing a moderate increase in average vehicle speeds. Other distinguishing characteristics of this alternative was that it would impact a significant number of properties and that it provided considerably less additional capacity than alternatives D and E.

• Alternative D would result in the greatest speed increases, but at the highest cost. This alternative also affects a large number of freeway adjacent properties. One of the benefits of this alternative is that it was projected to move the most people and vehicles. One of its projected drawbacks was that the models indicated that Alternative D will not reduce freeway accidents as much as the other alternatives.

• Alternative E, due to the separation of cars and trucks, yields major safety improvements and greater speed increases than the other alternatives. It is also the second most expensive of the alternatives, and will impact a large number of properties.
In April of 2003, a series of public open houses were convened to present the results of the cost-benefit analyses and to get the public’s input on the results. The workshops held in the Spring of 2003 revealed that the public was not pleased with the process thus far and was not prepared to recommend a locally preferred strategy for more study. Many community members and organizations expressed concerns about the impact that the I-710 freeway currently has on their communities, and were unwilling to support a project that did not include a strategy for addressing the air quality and public health impacts both of the existing corridor and any modifications to the infrastructure that might be undertaken. The communities were also unhappy with the proposed improvements to the I-710 that would have resulted in acquiring hundreds of homes along the freeway. They demanded a greater role in the process, and sought more information about alternative approaches to addressing the public health impacts of living near the I-710.

The OPC heard these concerns and took unprecedented steps to address them in their May 2003 meeting. The OPCs acted to accept the basic premises that were being expressed by community members regarding the condemnation of property and air quality, the need to develop another alternative to the five that have been studied thus far, and the formalization of a structure for engaging the community in the process. The OPC established guiding principles to govern the remaining process of the 710 Major Corridor Study. These principles included:

1. Minimize Right-of-Way acquisitions with the objective being to preserve existing houses, businesses and open space.

2. Identify and minimize both immediate and cumulative exposure to air toxics and pollution with aggressive advocacy and implementation of diesel emissions reduction programs and use of alternative fuels as well as in project planning and design.

3. Improve safety by considering enhanced truck safety inspection facilities and reduced truck/car conflicts and improved roadway design.

4. Relieve congestion and reduce intrusion of traffic into communities and neighborhoods by employing a comprehensive regional systems approach that includes adding needed capacity as well as deploying Transportation Systems Management and Transportation Demand Management technologies and strategies (TSM/TDM) to make full use of freeway, roadway, rail and transit systems.

5. Improve public participation in the development and consideration of alternatives and provide technical assistance to facilitate public participation.
The OPC also voted to direct the TAC to create a hybrid alternative that started with Alternative B but which combined appropriate elements from all five alternatives. The hybrid alternative had to be acceptable to each city that would be directly impacted by any modifications to the 710 freeway, and also had to be consistent with the guiding principles outlined above. See Figure 2 for the Hybrid Design Concept.

Figure 2:
I-710 Major Corridor Study
Hybrid Design Concept

- 10 General Purpose Lanes
- 4-Lane Truckway
- Interchange Improvements
- Direct Truck Ramps

Legend:
- Add One Mixed Flow Lane (Each Direction)
- Add Two Mixed Flow Lanes (Each Direction)
- Exclusive Truck Facility
- Interchange Improvement
- New Interchange
- Eliminate Interchange
- Interchange to be studied to remain open
- Truck Ramps
- Truck ingress/egress


Preliminary Concepts, Subject to Change
The final action that the OPC took was to consider the creation of I-710 Community Advisory Committees (CACs). The purpose of the proposal was to improve public input into the study process by developing a two-tiered structure. As previously discussed, Tier 1 of the CAC became the Community Advisory Committee, which consists of community level representatives from the 14 corridor cities and two unincorporated areas of Los Angeles County. Each city could, through its city council (or, in the case of unincorporated areas, through the County Supervisor) establish community committee to focus on I-710 freeway issues and the current and future impact of the Corridor on their communities.

Tier 2 of the CAC was to be a Corridor Level body. It would consist of the chair person from each of the Tier 1 committees, appointments from city councils for those cities that didn’t establish a Tier 1 committee, the Chairs of the TAC and the I-710 Enhancement Committee, and no more that 15 members appointed by the OPC to provide representation from the environmental, business, labor, and other communities. The CAC also had the authority to appoint up to 10 additional members.

With the assistance of a professional facilitator and a professional engineer, the CACs formed and created a “hybrid” design concept for the freeway by the middle of 2004. The Tier 2 Committee met twelve times between February 2004 and the adoption of the Tier 2 report in August 2004. The findings of this process included an extensive list of recommendations on a variety of issues associated with the proposed project, including health, economic development, safety, noise, congestion, community enhancements, design concepts, environmental justice and process. These recommendations can be found in the report entitled “Major Opportunity/Strategy Recommendations and Conditions”, also known less formally as the “Tier 2 Report”. The guiding principles of the Tier 2 report included:

- The I-710 is a corridor where considerations go beyond the freeway and infrastructure;
- Health is the overriding consideration;
- Every action should be viewed as an opportunity for repair and improvement of the current situation.

In November 2004, after considering community and technical recommendations, the OPC adopted the “hybrid” design concept developed by the communities and approved it as the “Locally Preferred Strategy” (LPS). The LPS consists of ten mixed flow lanes, four dedicated truck lanes, interchange improvements, arterial improvements, and set the goal of seeking funding for an EIR/EIS. The OPC also requested that the GCCOG return with suggested steps for initiating the development and implementation of a corridor level Air Quality Action Plan (AQAP) and identify and pursue appropriate opportunities to implement those Tier 2 recommendations that prove to exceed the scope of the I-710 transportation improvement project. The OPC also requested that
MTA and GCCOG develop a process and structure for continuing community participation throughout the environmental analysis.

In January 2005, the MTA Board received the Tier 2 Report which was to be accepted and utilized as pre-scoping guidance for the EIR/EIS. The MTA Board also directed staff to develop an EIR/EIS funding plan with funding sources from multiple partners, and identify strategies for achieving near-term improvements to the corridor's air quality prior to the initiation of consultant selection for an EIR/EIS. In June 2006, the MTA Board authorized $75,000 to be spent on a short-term air quality action plan that addressed near term mitigation of emissions.

C. The Air Quality Action Plan
When the OPC adopted its five guiding principles in May 2003, the second principle was to identify and minimize exposure to air pollution and toxic air contaminants through the implementation of a diesel emission reduction program the I-710 corridor. This principle embodies one of the primary concerns being voiced by the community during the public input process – that existing air quality along the I-710 Corridor was unacceptable and that before any work on “mainline project” could begin steps had to be taken to reduce the freeway’s air quality impacts.

During the process that was undertaken by the Tier 2 committee during the writing of that report, committee members developed several conditions for approval of major infrastructure improvements. The very first of these was that “a corridor level action plan to improve air quality” had to be implemented. Tier 2 participants also wanted to ensure that any plan to improve the I-710 freeway included careful analysis of the air quality impacts of those improvements and that a plan was in place before construction began to address the adverse impacts of those improvements on the community.

On November 18, 2004, the OPC voted to adopt the Locally Preferred Strategy to improve the I-710 freeway. In the same meeting, the OPC voted to agree with those parts of the Tier 2 report that said that air quality was the number one public health issue in the I-710 corridor and a first step of the process to address corridor congestion must be the development of the AQAP. It was the intent of the OPC that air quality was a high priority and that the AQAP was a necessary step in the I-710 Corridor planning process.

At this same meeting, the OPC voted unanimously to request that the GCCOG return to the OPC with suggestions for “initiating the development” of the AQAP. These suggestions were to include a discussion of the technical requirements of initiating such a plan, legislative strategies to achieve a local Air Quality Action Plan, the potential funding for the AQAP, the structure which could govern the AQAP, “as well as an approach to holding public agencies with jurisdiction in the Corridor accountable for
progress in meeting air quality and public health objective in the Corridor and Region.\textsuperscript{3}
This direction is what has led to the report contained herein.

Limited funding to begin the AQAP ($75,000) was approved by MTA in the summer of 2006 leading to the preparation of this preliminary portion of the AQAP. Although this initial sum would prove inadequate to develop and implement the entire AQAP, it did allow for the initiation of the AQAP process, contained herein.

\textsuperscript{3} I-710 Oversight Policy Committee Adopted Locally Preferred Strategy, November 18, 2004, Executive Summary, p. 2.
II. Description of the Project

There are three primary purposes for this report. The first is to begin to respond to the directive of the OPC and to meet the objectives as established in the LAMTA Resolution authorizing this project. The second is to provide a scope of work for the next phase of development of the AQAP. The third is to identify specific actions that could be taken in the near-term by stakeholders in the I-710 Corridor project to improve air quality in Corridor communities or which would facilitate the implementation of the AQAP. This last objective is important, particularly given the time that has elapsed since the inception of this effort and the time that will elapse until a complete AQAP can be developed and approved.

This chapter describes the instructions which the GCCOG received from the OPC and LAMTA to begin development of the AQAP, the obstacles which GCCOG faced in trying to address the OPC’s guidance, and the efforts which GCCOG has undertaken to initiate the process which will lead to the AQAP. This includes a description of the process the COG employed to create an approach to the AQAP that both made progress towards the goals of policy makers and community advisors while creatively working around the constraints faced by metropolitan planning organizations. In addition, this Chapter will also describe the responsibility that GCCOG assumed to address concerns of CAC members that this phase of the AQAP process, although preliminary, demonstrates progress toward the goal of reducing the community’s exposure to air pollution and toxic air contaminants.

A. OPC and LAMTA Direction

As outlined in Chapter 1, the authorization for the AQAP was given in November 2004 when the OPC issued its locally preferred strategy for the I-710 Major Corridor Study process. At the meeting, the OPC made the following findings:

The OPC agrees with the Tier 2 Committee that air quality is the number one public health issue in the I-710 Corridor.

The OPC agrees with the Tier 2 Committee that the first step must be the development of an action plan to improve air quality in the Corridor.

The OPC finds that the development of such a Plan must begin at once. 4

In order to provide further clarity on its intentions, the OPC also provided GCCOG with additional instructions regarding the AQAP. The “future direction” given by the OPC to the GCCOG focused on outlining a series of recommendations regarding the implementation of the AQAP. These concepts emerged primarily from the Tier 2 report, but some emerged from the discussions that took place in the OPC meeting. As

recorded in the November 18th report, the OPC wanted the AQAP to focus on the following objectives:

1. *Determine and quantify existing air and health quality setting;*

2. *Determine effectiveness of planned near-term air quality improvements;*

3. *Analyze and determine possible new (or emerging) air quality improvements or strategies, including estimated costs, time-lines and responsibilities;*

4. *Develop conceptual plan to implement and measure air quality improvements for the region; and,*

5. *Work with Regional, State and Federal Agencies responsible for air pollution control and enforcement and industry stakeholders along with local communities to develop consensus for this plan.*

These objectives informed the final action that the OPC took on the AQAP. The members of the committee unanimously approved a motion to request that the Gateway Cities Council of Governments…

...*return with suggested steps for initiating the development and implementation of a corridor level Air Quality Action Plan to include not only technical, but also funding, institutional structure and legislative strategies as well as an approach to holding public agencies with jurisdiction in the Corridor accountable for progress in meeting air quality and public health objectives in the Corridor and region.*

The OPC passed this resolution on November 18, 2004. This unprecedented action is worth noting. The development of an air quality plan had never before been associated with a major transportation project. In addition, the level of community involvement in reaching this conclusion has no parallel in recent history. The significance of these elements of the I-710 Corridor planning process should be recognized.

The resources that fund this report were approved by the LAMTA on June 22, 2006. The language authorizing the funding to advance the AQAP can be found in a motion from LAMTA Board Member Richard Katz. The fourth clause of Katz’s amendment to the motion authorizing the commencement of the environmental review process includes the allocation of money GCCOG “to complete the ‘short-term air quality plan’ that addresses near term mitigation of emissions.”

5 Ibid.
6 Ibid, p. 10.
7 See Agenda, Regular Board Meeting, Board of Directors, Los Angeles County Metropolitan Transportation Authority, Thursday, June 22, 2006, p. 9.
Prior to the preparation of this preliminary report on the AQAP, and in response to requests from the I-710 OPC and LAMTA boards, the following documents were prepared which summarized activity in the area of air quality policy:

- Compendium of existing and proposed near-term air quality improvement strategies for the I-710 Corridor, March 2006 (Appendix G).


B. Challenges of an AQAP

The objectives established for the AQAP by the OPC in November 2004 were broadly defined and far reaching. The expectations for the AQAP, as laid out by the OPC in its objectives, is a I-710 Corridor-specific Air Quality Management Plan (AQMP), similar to the effort that is produced by the SCAQMD every five years. The AQMP, which is mandated by both Federal and State law, includes many of the same elements that were being sought for the AQAP - an analysis of the health impacts of air pollution in communities on the corridor, an evaluation of the cost-effectiveness of dozens of potential measures which could be used to target emission sources that operate on or near the 710 freeway, a program to expand and improve air quality monitoring in Corridor communities and a strategy to implement these measures which included recommendations on how to compel public agencies to comply with the measures in the AQAP.

First of all, there is no record of an AQAP ever being required. As mentioned above, the direction was completely unique and unprecedented. There are no models or examples upon which GCCOG could base the proposed AQAP. There is no precedent for an AQAP in any of the existing policies, regulations, or statutes governing transportation. No transportation or planning agency has ever been asked to produce a proactive strategy to reduce the existing level of emissions from an in-use right-of-way, let alone offset the emissions that would be added to the inventory by the proposed project.

Second, the Gateway Cities Council of Governments is a sub region of the Southern California Association of Governments, which is the metropolitan planning organization (MPO) for the greater Los Angeles metropolitan area. As an MPO, the COG can only monitor and recommend, it cannot require. It does not have the authority that is vested in the SCAQMD, the ARB or EPA to develop, implement and enforce air quality regulations, or the resources or power of the California Transportation Commission or the LAMTA to place requirements on transportation projects. Any measure that would be proposed for inclusion in the AQAP by GCCOG would require a 3rd party to implement – the COG has no authority to require, implement or regulate.
This means that, in order to be effective, the AQAP will require the consent and agreement of all of the public agencies that will be included in its pages. Thus, the AQAP can only monitor developments in the air quality arena, provide analysis of the potential impact of air quality improvement measures on the I-710 Corridor communities, report on these activities and establish a “framework” to help organize and focus the activities of its member cities toward a common goal. It is this last function in which the GCCOG can be most effective for the objective of improving air quality.

Finally, as a MPO sub region, the COG has limited resources, both financial and in personnel, to undertake the tasks outlined by the OPC. The COG is set up to support the transportation planning process in the 27 cities of the Gateway region, but it does not have the funds or the expertise to prepare an air quality improvement plan that will apply to as much as half of its membership. This capability is housed in the regional air district (SCAQMD) and in the state’s air agency (ARB). The resources that are provided to these agencies to perform these functions are substantial and are not available to the COG. For comparison, the SCAQMD has an annual planning budget of $18 million, which it uses exclusively for the development of air quality improvement measures and the development and implementation of the AQMP, the region’s contribution to the State Implementation Plan (SIP) that ARB submits to Washington every five years. In addition, the SCAQMD has a planning staff of 117 who are dedicated year round to addressing precisely the objectives established by the OPC for the AQAP. The GCCOG has no independent source of funds to invest in the development of the AQAP – any funds for this work would have to be provided by other agencies.

Nonetheless, the GCCOG and the I-710 public committees and community committees have an important role to play in addressing air quality and health issues. These could include the following for the final AQAP:

1. Data collection of existing studies and review.
2. Evaluation and analysis of existing studies and programs.
3. Advocacy for adequate funding from all sources for air quality improvement programs.
4. Monitoring existing programs for strategies, progress and effectiveness.
5. Reporting function for elected officials, staff and communities.
6. Suggestions for existing or additional air quality programs (e.g., additional air monitoring stations in the I-710 Corridor)
7. Advocacy for health related issues and programs.
8. Providing testimony and input to other agencies.
9. Working with local communities to implement local air quality improvement strategies and programs.

10. Participating in air quality programs (e.g., GCCOG Truck Fleet Replacement Program) where applicable.

C. Recent Changes in the Policy Environment

As discussed earlier in this report there have been numerous air quality studies and programs that have been developed and/or implemented since the action by the OPC requesting the GCCOG prepare an AQAP for the I-710 Corridor. In fact, goods movement and the transportation corridors which it impacts has become the focus of air quality regulators over the last three years. Because of these developments the approach to preparing this initial phase of the AQAP had to start with recognition of the work that has been done by other agencies, and include at least an initial review of the impact that these measures would have on air quality in I-710 Corridor communities.

The air quality policy environment has changed substantially since the Tier 2 report was developed and the LPS approved. The San Pedro Bay Ports, SCAQMD, CARB and EPA all have proposed, developed and drafted new regulations and emission reduction programs that will contribute to significantly reducing air pollution in the 710 Corridor. Many of these measures directly and indirectly address the recommendations for air quality improvement initiatives in the Tier 2 report. These new developments have materially altered the policy debate from the summer of 2004, when many of the issues discussed in the Tier 2 report on emission reductions were not being as aggressively pursued as they are now. Thus, environmental and community representatives who had been working to reduce exposure to pollution from transportation and goods movement were frustrated by the pace of change.

Thus, the period between the summer of 2004 and the spring of 2007 has been a time of unprecedented progress in the development of policy, programs, regulations and legislation to address the air quality impacts of trucks, cargo handling equipment, locomotives, ships and other pollution sources that heavily impact the I-710 Corridor. Some of the more prominent of these developments are discussed below, in rough chronological order. A far more detailed discussion of the new air quality measures can be found in Chapter 4, including a brief analysis of the potential benefit of these activities on air quality in the 710 Corridor communities.

**Goods Movement Action Plan**

Upon his ascension to office, Governor Arnold Schwarzenegger has made both environmental quality and improving the efficiency of goods movement priorities for his administration. One of his first official acts was to order the preparation of a Goods Movement Action Plan for California. This effort, spearheaded by the California Air Resources Board and the Business, Housing and Transportation Department, is the first state plan that recognizes both the importance of goods movement to the state’s economy and its impact on California’s environment. The GMAP lays out specific
actions that California will take to both smooth the flow of cargo in and out of the state, as well as measures that will be implemented in order to reduce the air quality impact of that activity.

**Diesel Risk Reduction Program**

Since October of 2000, the ARB has been implementing the Diesel Risk Reduction Plan. This Plan has emerged from the designation, in 1998, of diesel exhaust as a human carcinogen and subsequent findings that over 70% of the risk from toxic air contaminants in the South Coast Air Basin comes from diesel exhaust. In recent years the ARB has geared up in its efforts to develop programs to reduce the exposure of Californians to diesel particulates. In part this acceleration of measure development has been a result of the Goods Movement Action Plan, but for the most part the regulations that are being developed by CARB are linked to the Diesel Risk Reduction Program. The most significant of these measures, which include low sulfur fuel requirements on ship board auxiliary power units, emission standard for yard tractors and other off-road cargo handling equipment, and emission requirements for trucks that are calling on the Ports of Los Angeles and Long Beach, have all been promulgated since August 2004. Other measures that will have substantial impact on the 710 Corridor are in the process of being evaluated. These measures are summarized in Chapter IV of this report.

This has also led CARB to prepare an Emission Reduction Plan for Ports and Goods Movement in California. This plan was prepared and updated once in 2005 and 2006. The revised plan includes domestic as well as international goods movement strategies to achieve an 85% reduction in risk from diesel particulate matter (PM). The Phase 1 Action Plan established four specific goals to address the air pollution impacts of goods movement and mitigate localized health risks in affected communities. These goals include:

- reduce emissions to 2001 levels by 2010;
- continue reducing emissions until attainment of applicable standards is achieved;
- reduce diesel-related health risks 85% by 2020; and,
- ensure sufficient localized risk reduction in each affected community.

**Port Pollution Task Force**

In November of 2005, the SCAQMD held their governing board meeting in the City Council chambers of Long Beach. This was the first time the Governing Board had met near the ports, and the District used the opportunity to announce the creation of a Clean Port Initiative. For the first time, the local air pollution agency is focused on addressing pollution from the activities that result from the operations of the port.

**Green Port Policy**

The Port of Long Beach adopted the Green Port Policy in January of 2005. This suite of emission reduction and other environmental enhancements had been pursued by the Port for a couple of decades and had been codified two years earlier under the Healthy
Harbor program. The Green Port Policy has six primary program elements, including wildlife, air, water, soils/sediments, sustainability and community engagement. The Port produces an annual Green Port Annual Report which enumerates the activities in which they have engaged to reduce their environmental footprint.

**No Net Increase**

The Port of Los Angeles initiated the No Net Increase (NNI) project in October of 2001. As noted, however, the program was not completed until June 2005. The goal of this project was to permit the port to grow but keep the total emissions from its activities at 2001 levels. Thus, the name of the policy stems from the objective of not allowing a net increase in emissions from port activity from the base year, in spite of the substantial growth which is anticipated to occur. Although NNI was never implemented, many of the measures that were studied have become the foundation for the Clean Air Action Plan or are being pursued by other regulatory agencies.

**Clean Air Action Plan**

Along with the Diesel Risk Reduction, perhaps the most far reaching and significant development that has taken place over the last two and a half years has been the approval of the Clean Air Action Plan by the San Pedro Bay Ports. The CAAP is the culmination of several concurrent programs in the ports of Long Beach and Los Angeles. The Port of Los Angeles completed the No Net Increase Task Force work in June 2005, a process whose objective was to provide for growth in port activity while keeping emissions from the port capped at 2001 levels. The Port of Long Beach implemented the Green Port policy, which provided for a raft of specific activities to reduce the environmental footprint of harbor operations there. In the spring of 2006 the two ports began an unprecedented collaboration to develop a joint program of emission reduction strategies that both ports would implement simultaneously. The 11 measures of the CAAP are intended to reduce the emissions of the ports by 50% by 2011.

**Proposition 1B**

In order to operationalize the objectives enumerated in the Goods Movement Action Plan, the Governor and the Legislature proposed a sweeping set of bond measures for the November 2006 ballot that would fund both transportation infrastructure improvements as well as specific actions to reduce emissions from the operations of ports. These measures, which were passed in to law by the voters, provide billions for these improvements, including $1 billion for environmental action in ports. Although it is not yet clear how these resources will be distributed, what is certain is the San Pedro Bay Ports should receive significant funding to help implement the emission reduction programs that they have proposed in the CAAP.

**New Emission Standards for Locomotives**

A major source of pollution within I-710 Corridor communities comes from the operation of intermodal rail facilities near the ports and at the northern end of the I-710 Corridor Study area. Emissions from locomotives had remained fairly steady in recent years, with little prospect for change except through voluntary measures (See the ARB MOU with the railroads). This situation changed dramatically in March 2007 when the EPA
proposed tough new emission standards for locomotives that would essentially bring these huge diesel engines level with the emission standards faced by both on and off road vehicles. Although it will take time to implement, these new standards will eventually have a dramatic and positive impact on the I-710 Corridor communities.

**SCAQMD Draft 2007 AQMP**
Every three years the SCAQMD is required to update its Air Quality Management Plan (AQMP), the District’s strategy to achieve Federal ambient air quality standards in the South Coast Air Basin. In early 2007 the SCAQMD published its most recent draft of the AQMP. In this year’s revisions to the region’s AQMP, the District contains control measures that are grouped in to three categories: Stationary and Mobile Source control measures proposed by the District, State and Federal control measures proposed by the District and the ARB, and a Regional Transportation Strategy, provided by the Southern California Association of Governments. The 2007 Draft AQMP includes recommendations for control measures to modernize the in-use mobile source fleet, accelerate the retirement of high-emitting vehicles and equipment (so called “gross polluters”), increasing the use of alternative fuels and necessary fueling infrastructure, retrofitting existing equipment with pollution control devices, modernizing stationary facilities, and reformulating or replacing existing products with lower polluting alternatives.

**Gateway Cities Truck Fleet Replacement Program**
Although it was first implemented in mid-2002, the Gateway Cities Truck Fleet Modernization Program has been a model for similar efforts nationwide. By the Spring of 2007, the Gateway Cities program had replaced over 550 pre-1994 trucks with newer trucks. Gateway Cities just received an additional $6.3 million from the San Pedro Bay Ports to continue to replace these older trucks, as well as implement a new element to retrofit the newer trucks with verified diesel emission control devices. GCCOG is working closely with the Ports on the development of their Clean Truck Program.

These activities have dramatically altered the air quality policy environment for addressing the environmental impacts of mobile sources in general and goods movement in particular. The effects of these policies will be especially felt in 710 Corridor communities. Their impact is at least as significant as that of the Oversight Policy Committee and the Community Advisory Committee on the I-710 planning process. These efforts lay the groundwork for the achievement of the goals in the Tier 2 report, as many of the specific emission reduction ideas that were conceived by the members of the Community Advisory Committees. What has transpired in the 28 months since the approval of the Locally Preferred Strategy is that much of what the CAC had proposed to be included in the AQAP is now being pursued by a number of agencies.

**D. Scope of Work**
These changes in the policy environment had a substantial affect on the nature of this project. It became clear that, with the advancements that had taken place since August
2004 in addressing the issues of the I-710 Corridor, the GCCOG had to first determine if attitudes regarding the AQAP remained the same. Do the stakeholders that called for the creation of the AQAP in 2004 retain the same hopes, expectations, and demands from this effort now that it was 2007? Enough time had lapsed since the publication of the Tier 2 Report (August 2004) and the adoption of the Locally Preferred Strategy (November 2004), and enough had happened on issues of importance to the I-710 Corridor communities that this became a legitimate question. Thus, one of the immediate needs for the development of the AQAP was to reengage the people who had authorized its creation. It became a priority of this effort to communicate with the members of the OPC and CAC to see if their vision for the AQAP had at all changed.

Hence, a key objective of this exercise was to communicate with the members of the OPC and CAC, interview them and evaluate their current perspectives on the AQAP. In order to achieve these objectives, the scope of work for this report focused on renewing communications with the members of the Tier 1 and Tier 2 committees to determine if attitudes or ideas had changed since the publication of the Tier 2 report in late 2004. This involved updating the contact list to ensure that all members of the OPC and CAC would be contacted, developing simple outreach materials to explain the reasons why GCCOG would be contacting them, meet with key stakeholders, and solicit their input regarding the strategy in which GCCOG has engaged in order to develop the AQAP. Stakeholders would be informed that their ideas for AQAP structure and measures would be included in a report, and that these measures would eventually be evaluated after this process by GCCOG to write the AQAP.

In addition, the scope of work called for a summary of the CAAP and the measures in it that are projected to have beneficial impact on air quality in the Gateway Cities. These finding would be summarized in this report, but this analysis would not include an attempt to quantify the air quality benefit of the CAAP on I-710 Corridor communities. The report is also to include recommendations for future research that can be conducted draft the final AQAP to quantify the potential air quality benefit that the CAAP and other air quality programs could bring to the Gateway Cities and the I-710 Corridor communities.

The last element of the report that was required in the original scope of work is a summary of the outreach that was undertaken to reengage stakeholders in the AQAP process, the ideas for emission reduction strategies which were presented by those who were interviewed, and any other input that was provided by stakeholders regarding the AQAP or the process which will be pursued to develop and implement it. In addition, this report includes recommendations for next steps, including a possible outline for a future scope of work and the resources which should be set aside in order to realize those recommendations.

The interviews that took place made it s clear that there were a wide range of expectations for this stage of the AQAP development process. Some understood that the AQAP would be a complicated and extensive effort that would take much resources and many years to accomplish. Others had hoped that the initial outlay of resources,
which they understood was insufficient to develop the actual AQAP, would still result in some substantial specific activities that could be pursued by I-710 Corridor Communities to begin the process of making their air cleaner.

Although it wasn’t the intent of GCCOG to attempt to deliver proposals for AQAP emission reduction measures nor was this exercise included in the original scope of work, the COG wants to be responsive to the CAC. In response to these concerns the Scope of Work was modified for the GCCOG to work with CAC members to develop a suite of early action items that could result in either reducing emissions from key sources or which would help lay the groundwork for future elements of a more comprehensive AQAP. This additional activity, included the identification of a set of ten pollution reduction recommendations from stakeholders from key environmental groups that, pending approval of the I-710 PC and EC, could be implemented in the next few years (while the final AQAP is being developed) and could have an appreciable impact on air quality in the 710 Corridor. The essential element of the early action items is to identify a discrete selection of potential emission reduction measures that the I-710 Corridor communities could actively help to implement.

These are the components of this report. The pages that follow will reflect both the initial and amended scopes of work.
III. Summary of Meetings with Stakeholders.

As previously discussed, one of the objectives of this effort was to re-engage those who were involved in the Community Advisory Committees as well as with members of the I-710 PC to ensure that attitudes and expectations regarding the AQAP have not changed since the publication of the Tier 2 report and the approval of the Locally Preferred Option in 2004. In addition, these meetings were meant to solicit ideas and input from I-710 Corridor stakeholders for measures that they would like to see included in the AQAP. Collecting these ideas, along with those which had already been recorded in the Tier 2 report and from work done by the other agencies, will provide the basis for the scope of work for the AQAP. These meetings were held in December 2006 and in January and February, 2007.

This Chapter reviews the comments of 710 Corridor stakeholders from these meetings. In order to ensure consistency, a set of questions was developed by GCCOG to guide these interviews. These questions can be found in Appendix F.

A. General Observations

A result of the process is that interview subjects, with the exception of the CEHAJ members, did not have many specific ideas regarding measures that they would like to see in the AQAP. For the most part, the comments were general in nature, or addressed the broad goals of the AQAP, but did not offer much in the way of definitive concepts that they would like to see explored in the next phase of the AQAP. The CEHAJ members did provide a list of their recommendations for early action items that are included in the subsequent section.

From the meetings, there were several common themes that emerged. Some addressed the elements that most stakeholders wanted to see examined in the AQAP, which other themes dealt with general concerns that stakeholders shared. These included:

Air Quality Monitoring

Almost every stakeholder interviewed spoke of the need for increased air quality monitoring in the 710 Corridor. A common perspective was that not enough data was being gathered on ambient air quality in the communities, and that this reduced the ability of local policy makers to address the public health issues. Virtually everyone wants to see more monitoring stations and greater public access to the data that it would produce.

A “Doable” Plan

A common theme was a desire for the AQAP to be both something realistic and doable. Several stakeholders said that they feared that the document would end up as nothing more than another volume on the shelf. They wanted to make sure that the outcome of this process is a plan that can and will be implemented by all the stakeholders who are identified as playing a critical role in it effectiveness.
Evaluation and Evolution
For the most part, the stakeholders who were interviewed want the AQAP to be a dynamic document that evolves so as to adjust to the changing policy, political and technological environment. The document must include mechanisms where it can be periodically evaluated for its effectiveness as well as processes where it can be adjusted in order to become more effective, if warranted. One thing that the AQAP must include is clear structure for accountability.

Community Participation
Virtually all of the stakeholders mentioned that community engagement and involvement are critical to the success of the AQAP and to the entire I-710 improvement process. Community participation must be a priority in order to ensure that the plan has the credibility it needs in order to enjoy the support of the community.

B. Meetings with Elected Officials

Long Beach Vice Mayor Bonnie Lowenthal
This meeting took place on December 22, 2006 in the Long Beach City Hall. The Vice Mayor expressed the following points regarding the 710 freeway and the AQAP.

- The Vice Mayor would like to see a plan whose goal is a net improvement in air quality and views the AQAP as a common agenda for advocacy.
- The Vice Mayor believes that there must be limits to port growth. Unlimited growth, she said, will hurt the City of Long Beach and the I-710 Corridor communities.
- There were a number of different measures that Vice Mayor Lowenthal would like to see prioritized in the AQAP. These include:
  - air quality measuring stations all along the I-710 Freeway. She suggested that epidemiological studies be conducted to better understand the rate of illness in the I-710 Corridor communities. She suspects that there will be a strong linkage between air quality and the incidence of disease.
  - truck inspections that cite trucks that pollute more. She understands that this would require legislation.
  - more on-dock rail employed at the ports to reduce truck trips.
  - limit truck traffic on the I-710 Freeway. She is not sure whether or how this can be done. Perhaps one way to limit the truck traffic is to restrict access to the proposed truckway to only those trucks that can pay a toll.
- She noted that there is a new Australian emission control technology for retrofitting trucks that she has been made aware of that she would like to see studied for its potential contribution to reducing air pollution in the ports.
➢ The Vice Mayor would like to see some of the economic benefits of developing the AQAP and other air quality improvement measures accrue to the I-710 Corridor communities. She would like to see the businesses that make products to improve air quality locate in the I-710 Corridor, and that there be some requirement or incentive that these businesses hire a certain percentage of their workers from the local communities. Perhaps enterprise zones can be established along the corridor to help with this objective. She also suggested that local government figure out ways to invest in the businesses that are manufacturing technology or helping to implement air quality control measures.

➢ The Vice Mayor believed that the programs such as PierPass have worked very well, but are band-aid solutions to a larger problem.

➢ The Vice Mayor suggested that truck scheduling be a part of any future system to manage port truck traffic. She believed that we may have to “ration mobility.”

➢ She doesn’t believe that absolutes can be used as milestones for progress. It is not reasonable to demand that the National Ambient Air Quality Standards be achieved before anything is done on the I-710 Freeway.

➢ She does not want to see “mom and pop” business suffer as a result of improvements on the I-710 Corridor.

➢ She is concerned about the drivers of port trucks. She said that, whatever is done on the I-710 Corridor, it must improve the standard of living of port truck drives. It must make their vocation safer. It can not continue that they earn next to nothing providing an essential community service. There should be some requirement for freight brokers to provide health insurance.

➢ She supports container fees. She believes that the fees that have been proposed in some of the legislation are too low. She says that the public should not have to fund clean air and economic programs in the ports.

➢ She does have some concerns regarding the CAAP – she fears that they will not be able to identify the right technology, that they won’t have the money to implement the plan, and that the ports won’t reach agreement on which plan to follow.

➢ She also had some concerns regarding the AQAP – will it be a dynamic document? How long will it last? Who is going to maintain and enforce it?

**Supervisor Gloria Molina, County of Los Angeles**

County of Los Angeles 1st District Supervisor Gloria Molina spoke to GCCOG on January 25, 2007 at the headquarters of the Los Angeles County Metropolitan Transportation Authority. Supervisor Molina offered the following observations about the I-710 Corridor program effort:

➢ The Supervisor biggest concern about the AQAP is that it produce a realistic, doable plan.
The Supervisor understands the importance of improving air quality is, but also believes that it is impractical to wait until air quality standards are achieved to do any work on the I-710 Freeway. Progress toward air quality goals necessitates modifications and improvements to the freeway, and the fact that some issues may still be unresolved shouldn’t impede the development of the AQAP or commencing with work on the I-710 Freeway.

The Supervisor does not want to raise expectations about what the AQAP will be able to accomplish. She is concerned about creating an unrealistic plan.

She suggested that the document assume responsibility for only what we can do. She is concerned that many in the community don’t understand the mission. At the same time, she wants to make sure that those who are conducting the process value and validate community input to the AQAP.

She would like for the AQAP to be a document that people can rely on. Everyone should be able to use it – it should be a tool for the community. She worries that too many plans are produced but then abandoned.

Everyone needs to take ownership of the AQAP.

She would like the AQAP to make sure that it looks at other contributors to poor air quality in the I-710 Corridor Communities, such as the ports and the Alameda Corridor, to name but two other sources of air pollution.

She would like to make sure that the AQAP includes elements for monitoring air quality in the I-710 Corridor Communities. She believes that someone needs to collect real time data on air quality. The purpose of monitoring will be to determine if the mitigation measures are actually working. It would provide reassurance to the community that the AQAP is succeeding. She also suggests that if the monitoring reveals that the measures are not improving air quality, that this should trigger another set of more stringent air quality improvement measures.

She would also like to see the AQAP include a process to constantly evaluate its effectiveness. It must be a dynamic, living document that has vitality. The evaluation of the individual measures will enable stakeholders to know what worked and what didn’t.

She would like for there to be a community engagement process that allows community members to participate in the AQAP. She wants to ensure that there is both accountability and continuity.

She wants to make sure that the AQAP does not compromise air quality for the sake of the interests of a few influential people or business.

She notes that she thinks that land use will have to be a part of the overall plan.

She would like to see the COG more in the driver seat. The COG, she suggests, should have more authority to implement the AQAP. She thinks that the AQAP should explore some of the responsibilities that the COG can take for the implementation of the AQAP. She suggests that someone will need to be in the middle to make sure that everyone sticks to the goal.
She said that, whoever if going to be taking ownership for the AQAP, the everyone is going to need to back them up, including the County, the CARB, the SCAQMD, the City, the Ports, etc. She suggests that the AQAP could create a model for pursuing such endeavors in the future.

**Nancy Ramos, Mayor, City of Commerce**

The meeting with former City of Commerce Mayor Ramos was held on January 30, 2007, at Commerce City Hall. Also in attendance were several staff and community members from the City of Commerce, including Bob Eula. Everyone participated in the discussion, which began with Councilwoman Ramos presenting a detailed history of the I-710 Corridor process and her involvement.

She recalled that she first heard about the I-710 Major Corridor Study soon after she was first elected in March 2003 in a presentation to the City Council of the five options that were being considered for the I-710 Corridor expansion. According to Mayor Ramos, the preferred option would have wiped out 1/3rd of the City of Commerce, including two parks and local landmark called Steven’s Steakhouse.

Mayor Ramos’ impression was that the city was being lied to. She recalls that virtually every other city representative along the I-710 Corridor felt similarly. They believed that they were being misled and deliberately left out of the loop.

She believed that the process led to a rebellion by nearly all of the I-710 corridor communities. After these presentations, including a public hearing in Carson, it was her impression that not a single city in the corridor was willing to allow the expansion.

Several of the local organizations were instrumental in organizing the opposition to the I-710 Corridor process, including the East Yard Communities for Environmental Justice and the United Families of Bristow Park.

Everyone in the Corridor had the same priority – addressing the health impacts of living along the I-710 Corridor and ensuring that mitigation of these adverse effects would take priority in any future planning. This led to the development of the Local Advisory Committees.

The LAC process worked much better. Now every city had a voice, could provide positive input, and help shape the outcome. This fundamentally changed how the problem of the I-710 freeway would be addressed.

Mayor Ramos opposes the CARB railroad MOU and SCAQMD Rule 1309 (Priority Reserve). She explained that these are examples of policy being developed without regard to local input.

She would like to see a reactivation of the LACs. She observed that maintaining a local community committee isn’t mandatory, but being left up to the local governments. She would like to see a little more certainty that community voices will be heard and would like to see the reintroduction of every community’s LAC.

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8 Mayor Ramos was defeated in the March 7, 2007 city election.
As an example of the value of involving the community, Ramos observed that there was a ramp that was being proposed for the I-710 that was absolutely unacceptable to the community. She led opposition to the ramp, and forced a study of alternatives. Although it took a long time for people to trust the process, the new consulting team really listened to the community and the local governments. The process, in which cities and neighborhoods were really involved, came up with some great ideas for alternatives. This is an example of the process as it should be.

Bob Eula noted that these “alternative methods” of planning have received a great deal of attention from other transportation and planning agencies around the state, as they have proved that collaboration and community input works. What they have pioneered in the I-710 Corridor is becoming a model for freeway development.

Bob Eula also noted that the Tier 2 committee produced some of the best work on the community’s interests regarding I-710 Corridor Expansion. This, he believes, is the body that must be listened to. Their representation of community interests was excellent, as they have the knowledge of the community.

Mayor Ramos seconded this observation. She wanted to make sure that the Tier 2 report makes up the foundation of what is to be done. She noted that both Supervisors Molina and Burke fought to make sure that the Tier 2 language was included in any future authorizing language for funding the I-710 Corridor process. The output of the Tier 2 committee was the “meat and potatoes” of why this process was pursued by the communities and local governments.

She reiterated many times that the community has the intelligence to contribute to this process.

Regarding program elements that she would like to see in the AQAP, she believes that Fleet Modernization is critical. She noted that it is very difficult for government types, particularly at the Federal level, to understand fleet modernization. She has been in rooms in which representatives of public agencies look on in disbelief as she tries to explain how fleet modernization works.

Bob Eula mentioned that he would like to see air purifying units in local schools. He would also like to see a more concerted effort to try to help local residents understand the health consequences of living so close to the freeway.

Mayor Ramos said that enforcement and monitoring were essential future elements of the I-710 Corridor process. Currently, she observed, there are too few monitoring stations, and those that do exist are not in the right places. She also noted that enforcement is absolutely critical, particularly when it came to the railroads. There needs to be more inspectors who ensure that they are doing what they are supposed to. The AQAP must include a realistic funding plan for enforcement and monitoring.
Staff mentioned that there should be electrical plug ins at all major distribution facilities so that trucks and TRUs could plug in. There should also be anti-idling rules.

She complained that the City of Commerce is never on the map when someone conducts a health risk assessment. The 90040 zip code never gets included. Although everyone knows that the City of Commerce is heavily impacted by emissions from the freeways and the railroads, the absence of data from the City makes it difficult to lobby on behalf of the City when she is in Sacramento or Washington. She would like to see this change. Future health risk assessments must include the 90040 zip code. Perhaps mitigation fees from freeway construction can go to fund this, and come back to the cities for them to invest in local public health needs.

She also spoke out forcefully against the CARB MOU with the railroads. She believes that CARB is working for the railroads, not the people. She insists that the AQAP not include any private MOUs with any party, nor should it allow for the relaxing of any rule that contributes to pollution. Finally, she says that she wouldn’t want to see any funding go to the railroads unless there is a clear and defined public benefit.

Both Mr. Eula and Mayor Ramos insisted that the entire I-710 project must include funding for sound walls. These should be an integral part of the project. Mr. Eula noted that he first requested a sound wall for the Washington Blvd off ramp from the freeway in 1954 and it still hasn’t been built.

Mayor Ramos would like to see BACT required in the rail yards.

She is concerned that the input from the communities will be ignored in the development of the AQAP. She wants to make sure that communities have a voice in the development and implementation of the AQAP. She worries that the measures proposed in the Tier 2 report will be relaxed or lost.

Mayor Ramos is also concerned about the implementation of the AQAP. She notes that there isn’t a single agency that encompasses all of the necessary responsibilities. Public agencies tend not to talk to one another – and funding gets depleted as agencies battle it out for control of resources or engaging in the blame game. Also, if there is not funding the agencies pass the buck – then no one picks up the ball to work on mitigation. There is also a problem because of the disconnect between the state and the Federal government and the fact that California is a donor state.

She suggested that, if the AQAP is going to work, we may need a new agency that encompasses all of the authority needed to improve air quality.

She stated that she hoped that the AQAP is a document that gives the ability to enforce to key agencies. She hopes that it isn’t just another “drawer document”, and that it actually lowers emissions. The Mayor insists that communication to communities is key to the AQAP’s success. All sides of the I-710 issue must be constantly notified of the AQAP development process. Need a good notification process to build confidence in the document.
C. Meetings with Members of the Community Advisory Committees

**Tier 1 and Tier 2 Committees**

On January 31, 2007, the Gateway Cities hosted a meeting for all of the members of both the Tier 1 community level committees and the Tier 2 corridor level committee at GCCOG offices in the City of Paramount. Attendees included:

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<th>Name</th>
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<tr>
<td>Glenna Amos</td>
<td>City of Southgate</td>
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<tr>
<td>Ed Avol</td>
<td>USC</td>
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<tr>
<td>Gustavo Comacho</td>
<td>East LA</td>
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<tr>
<td>Cliff Dunbar</td>
<td>City of Bell Gardens</td>
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<tr>
<td>Bob Eula</td>
<td>City of Commerce</td>
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<tr>
<td>Karen Heit</td>
<td>Gateway Cities Council of Governments</td>
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<tr>
<td>Bill Padgett</td>
<td>City of Paramount</td>
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<tr>
<td>Ray Park</td>
<td>City of Carson</td>
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<tr>
<td>Patty Senecal</td>
<td>California Trucking Association</td>
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<tr>
<td>Harold Tseklenis</td>
<td>City of Downey</td>
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<tr>
<td>Rod White</td>
<td>City of Lynwood</td>
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<tr>
<td>Jerry Wood</td>
<td>Gateway Cities Council of Governments</td>
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➢ The meeting was chaired by Jerry Wood of the GCCOG, who gave summary presentation of the history of the I-710 Major Corridor Study process and the status of the Environmental Impact Report (EIR). Important points on the EIR include:

  o The total cost of the EIR is projected to be $30 million, and is be funded by seven different public agencies.
  
  o The RFP for the EIR has been released and the contractor should be selected.
  
  o For the first time in an EIR for a freeway, a health risk assessment will be included.
  
  o Community input will be provided throughout the entire EIR process.

➢ On a separate but related track, consultants are being hired by the Ports to evaluate the feasibility of alternative technologies to carry containers from the ports to near dock intermodal facilities.

Comments about the Tier 1 and Tier 2 process included:

➢ There was general agreement among the attendees that the facilitators did very good jobs keeping the previous meetings focused and on-track, helping the community understand the process. The facilitators were also very diplomatic in their management of the discussions. Several committee members appreciated that the facilitators kept “poker faces” and displayed no bias for one position over another.
Number of Meetings: Harold Tseklenis asked for more meetings to be held, perhaps as frequently as once per month. He felt that quarterly meetings were not frequent enough. Others agreed, and consensus seemed to build around holding meetings once a month through the EIR process and then on an as needed basis.

Meeting Schedule: The previous round of meetings were not pre-planned which allowed for people to request nights that did not conflict with their schedules. However, Gustavo Comacho requested that, if meetings were going to be held as frequently as once per month, it would be helpful to pre-schedule them in advance. Evenings are best, from about 6:00p - 9:00p.

Community Participation: Some expressed frustration with the fact that public comments took up too much time and were repetitive. Due to the Brown Act, this process has to be public so it wasn’t clear what exactly could be done to limit redundant comments by community members. The high level of participation was admirable, but it limited the time that committee members could actually deal with substance. It was suggested that, when groups come to participate in the meetings, and they all are going to say essentially the same thing, that they appoint a spokesperson to speak for them.

Meeting Minutes: It was helpful that these were distributed before the next meeting so that they could be reviewed. Some prefer to have these electronically and some prefer a hard copy.

Transparency: The group agreed that there is a need for transparency during the whole process and to make sure that all members are aware of what is going on.

Comments about measures that attendees would like to see in the AQAP included:

Monitoring Stations: Harold Tseklenis raised the point, and all agreed, that there needed to be more air quality monitoring stations set up before any work began in order to establish an accurate baseline. Continuous measurement of air quality is essential to not only establish a baseline, but to understand if progress is being achieved. It is vital that the project members and the community know what emissions levels are at the beginning in order to be able to evaluate any emissions reductions. It was also suggested that a program be developed to provide real time publication of the results of this monitoring. It is also important that these monitoring stations be set up in strategic locations that reflect the exposure of neighborhoods to air pollution from the freeway. This theme was mentioned several times throughout the meeting. It was discussed that perhaps AQMD could provide these stations, or that funding come from the $1 billion in bond funding from Proposition 1B.

Compliance: The Tier 2 report stated that the area must be in compliance with state air quality standards before any mainline freeway construction could begin. There was some disagreement regarding the meaning of this requirement. Some insisted that this applied only to the “mainline”, or the primary freeway development, and did not apply projects that could improve efficiency or address congestion and safety. It was also mentioned that a study should also be done
showing what would happen if the area was not in compliance and there were no actions taken.

- **Air Dispersion Studies:** An air study should be done so that the communities know where the air goes from the I-710 area; that is, who bears the brunt of the air pollution if it is not cleaned up in the I-710 Corridor.

- **Glenna Amos** mentioned the importance of Health Risk Assessments and the need to address the public health impacts of living next to the freeway.

- **Gustavo Comacho** targeted the health issues of children and senior citizens. He wants to make sure that future studies address the illnesses that are associated with exposure to the pollutants in the air. The monitoring also should track increases and decreases in these pollutants. With this and other information, the community can begin to establish an economic impact from air pollution.

- **Tree Planting:** Emission reductions and/or mitigation from this type of project should be assessed.

- **Hybrid Access:** Cliff Dunbar suggested that the plan include incentives for the use of low emission and hybrid trucks in the proposed dedicated truck lanes, and possibly even restrictions against the use of diesel trucks. Patty Senecal pointed out that sometimes toll lanes can have a negative effect. With regard to studying turnaround times, there is no information on freight mapping that identifies which trucks are going where and how long it takes them. This is something the goods movement industry is in desperate need of.

- **Terminal Efficiency:** Several attendees asserted that improving terminal efficiency could also contribute to improving traffic flow on the I-710. An industry standard should be developed for ports and railroads that establishes the definition for reasonable turn time.

- **Forward thinking:** Ed Avol commented that it is important to realize that the AQAP should not just look at the I-710 as it is now, but how it will be in the future and recognize that it is part of a much larger patchwork of freeways and goods movement corridors. It is at least as important where the cargo started from and where it ends up. Traffic patterns in these areas must also be considered.

- **Realistic and Timely:** Bill Pagett said that the AQAP should produce a plan that definitely could be implemented. The plan should be something useable so that it doesn’t end up another binder on the shelf. It is important to consider the time frame for implementation.

- Several attendees mentioned the importance of funding. Adequate funding will be essential for the AQAP to succeed. Funding should be considered in all measures.

- **Passenger Cars** were not even looked at in the previous report. There are more cars driving more miles than ever before. Perhaps this is something that the AQAP should consider was suggested.

- **Urgency:** The AQAP should convey a sense of urgency. Population is growing and already the problems that used to be unique to the I-710 freeway are now
impacting the I-605 and SR-91 freeways. Things are getting worse and this has to be addressed, sooner than later.

- If there are land use measures in the AQAP, Harold Tseklenis suggested that these be incorporated into the General Plans of the I-710 Corridor Communities.
- Bill Pagett suggested that the AQAP report on items that can be acted upon regionally and locally.
- A question was raised regarding the process once the AQAP is published. If a measure is not progressing, would it be possible to identify and report back to the Community Advisory Committees what is preventing the measure from advancing?
- The discussion then turned to the fact that the GCCOG has no regulatory authority and members were questioning how the AQAP would be used.
- Jerry Wood pointed out that just about everything that the group asked for in the Tier 2 report is being done. His perspective is that the document did motivate state and local agencies to action.
- The question then became, does the group just want to use the AQAP as a tracking system to keep tabs on where the regulations are and where the bottlenecks lie.
- Cliff Gladstein outlined how he saw the GCCOG’s role. First, the individual municipalities within the GCCOG do have authority, whether through their planning or transportation departments. Monitoring the actions of the regulatory agencies is good, but even better would be to take policy recommendations back to their municipalities and implement them on a city level, such as passing business ordinances, making changes to the General Plan etc. Secondly, the GCCOG has the ability to ask traditional and non-traditional community groups to hold policymakers accountable for reporting and achieving the goals they stated they would. This group can put pressure on the elected officials as well.
- Harold Tseklenis claimed that there are things that are happening that the Community Advisory Committees are not being told. Because of this, he insists that the process have more transparency, better communications and more frequent correspondence.
- The group suggested inviting the railroads and other transportation sector members to attend the meetings, as well as members from the AQMD, ARB and local chambers in the future.

D. Meetings with Representatives of the Environmental Community

Two meetings took place with representatives of environmental organizations. The first meeting took place on January 16, 2007 and was held at the offices of Communities for a Better Environment in Huntington Park. The second meeting was held on February 21, 2007 and was held in the offices of East Yard Communities for Environmental Justice in the City of Commerce.
January 16, 2007
Attendees to the January 16th meeting included the following representatives from local environmental and environmental justice organizations had participated in the Tier 2 Community Advisory Committee. Attendees included:

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<tr>
<td>Elina Green</td>
<td>Long Beach Alliance for Children with Asthma</td>
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<tr>
<td>Malcolm Carson</td>
<td>Legal Aid Foundation of LA</td>
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<td>Cecilia Sandoval</td>
<td>Long Beach Alliance for Children with Asthma</td>
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<tr>
<td>Yuki Kidokoro,</td>
<td>Communities for a Better Environment</td>
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<tr>
<td>Angelo Logan</td>
<td>East Yard Communities for Environmental Justice</td>
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As the meeting began, almost immediately it became clear that the representatives from the EJ groups had a different expectation of the purpose of the meeting. Malcolm Carson explained that the $75,000 that MTA allotted for the AQAP development should have, in their minds, to be given to GCCOG for the purpose of creating a near-term AQAP that outlined measures that could be implemented in the short term to bring the corridor into compliance. Anything that was short of that expectation would be a disappointment.

The environmentalists’ assumption about this meeting was that GCCOG would be presenting an initial draft of the short-term plan air quality improvement plan. They were disheartened and frustrated to learn that this was not the case.

From that beginning, the representatives in the room said that they were not willing to discuss air quality improvement programs that they would like to see addressed in the AQAP because, in their view, this dialogue should happen in a public forum in which members of the community could provide insight and suggestions to the decision-makers.

The EJ groups emphasized time and again that this is the basis of how their organizations operate, and that they felt that they did not have the legitimacy to negate anything that the Tier 2 process produced. They emphasized that they operate on a democratic model, and that their jobs are to ensure that the community has a voice in the process. They insisted that they could not presume to interpret for the community what the community would like to see included in the AQAP – that the community should be included formally in this process to describe the measures that they would like to see considered in the AQAP. They regard the AQAP as an aspect of a public process that was agreed to by the GCCOG, and they don’t want to usurp that process.

The environmental groups in attendance were not interested in discussing ideas behind closed doors, and were concerned that the process in which we were engaged could result in a report that just collected dust on a shelf.

Environmental groups represented at the January 16th meeting were interested in knowing more about what has occurred in the more than two years since the Tier 2 report was published, and what impact these new measures might have on air quality in I-710 Corridor communities. They were interested in better
understanding how measures that were being proposed or implemented by 3rd parties could benefit the I-710 corridor communities, and what could be done to enhance the effectiveness of these air quality improvement measures along the I-710 Corridor. This, they felt, could serve as a good purpose for the AQAP.

- The group emphasized, however, that they did not want to see a laundry list that outlines what is already being done by other agencies and organizations. They specifically mentioned the “Compendium” and that, although this was a useful document, that they did not believe that it could serve as a platform upon which to build the AQAP.

- The environmental activists would like the AQAP to be independent of what other parties are doing. They don’t want the AQAP to be dependent on the existence of other air quality improvement programs, because they are concerned that if those programs should go away, that the AQAP would disappear as well and they want to ensure that the AQAP has a life and a purpose of its own. The groups want an independent, stand-alone air quality improvement plan that goes above and beyond what other plans have already outlined.

- The environmentalists in the meeting suggested that several public forums be held that include community members as well as technical experts from the Tier 2 committees. The goal of the forums would be to create and approve a near-term plan that outlines all the actions that must be undertaken before construction can begin.

- While the groups realize that $75,000 will not cover all of the expenses of drafting a near-term AQAP, they do believe that the funds could be used to produce a document which moved the ball down the field more than the existing scope of work. Malcolm said several times that he wanted a “near term” AQAP with the resources that have been provided. This view comes, in part, from a perception that this may be the only resources that are provided by the MTA toward the development of the AQAP, and they want to ensure that it produces something that can be used by the community to organize around and which will lead to air quality improvements along the I-710.

- Several times they reiterated that they believe that they have a commitment that nothing will be done to modify the I-710 until the communities along the corridor meet national ambient air quality standards.

**February 21, 2007**

This meeting was held with members of the Coalition for Environmental Health and Justice, an ad hoc group of environmental and environmental justice organizations created to monitor the I-710 Corridor planning process and to advocate positions consistent with improving public health. Attendees at this meeting included:

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<tr>
<td>Angelo Logan</td>
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<tr>
<td>Elina Green</td>
<td>Long Beach Alliance for Children with Asthma</td>
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<tr>
<td>Yuki Kidikoro</td>
<td>Communities for a Better Environment</td>
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<tr>
<td>Candace Kim</td>
<td>Coalition for Clean Air</td>
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The meeting began with expressions of “disappointment and dismay” from CEHAJ folks regarding unmet expectations associated with the expenditure of the $75,000 which was allocated from the MTA for the development of the “short term air quality plan”, as mentioned in the Katz amendment of June 22, 2006 authorizing the money. They reiterated earlier expressions that they had hoped to see a roadmap for the implementation of the measures that were first identified in the August 2004 Tier 2 report.

Several CEHAJ members expressed the belief that the process needed to adhere more closely to the “original intent” of the Tier 2 process and report. We replied that this is precisely what we intended to produce, and that we believed that the effort in which we were engaged would advance the AQAP.

This discussion progressed to a review of the hopes and wishes of CEHAJ regarding the Air Quality Action Plan. Some of the common themes included:

- The AQAP should be a “really clear roadmap” for what I-710 corridor communities can do to bring the I-710 corridor in to compliance with Federal air quality standards. The local cities seem to think that the SCAQMD is doing all the work – the AQAP has to bring air quality activities down to the local level;
- The AQAP should be a plan for measures and activities that last the life of the I-710, not just for the period of construction;
- The AQAP should have present a clear plan that lays out the steps that need to be followed to achieve clean air in the I-710 Corridor communities.
- The AQAP should be something that everyone can rally around;
- The AQAP should be prescriptive;
- All of the I-710 Corridor cities should commit to implement the AQAP;
- The AQAP must have action items in it, and CEHAJ was hoping that the “short term air quality plan” specified in the Katz resolution would include air quality action items.
- The scope of work for the AQAP needs to identify specific next steps for each strategy that was outlined in the Tier 2 report.
- CEHAJ is “nervous” that the report that GCCOG is currently developing will resemble the compendium of measures that they have already received but which will not specific who is accountable for implementing the measures.
- CEHAJ would like for there to be language in the report that clearly states that it is an interim document and should not be interpreted as the final AQAP.

There was some recognition of the limitations (primarily financial) of the current effort that is being funded by the $75K. CEHAJ representatives indicated that they understood that GCCOG could not produce the final AQAP for the
Some brainstorming took place regarding the securing additional funds for the development of the AQAP, including asking each of the I-710 Corridor communities to contribute.

A discussion took place regarding how the GCCOG could respond to CEHAJ’s interests with the resources which had been allocated. The discussion led to the idea that this phase of the AQAP process produce not only the blueprint for future activity, but that it also propose a set of “early action items” that could serve as the basis of initial activity focused on achieving immediate emission reductions.

CEHAJ proposed a list of ten early action items that the group would like to see developed in this report. These included:

1. Pool local resources to advance the AQAP. In addition to LAMTA, SCAQMD, and other regional and state agencies, I-710 corridor city governments should be asked to contribute to the fund to develop the AQAP. Every community in the I-710 Corridor needs to participate in the effort, which shows interest and commitment in the goals of the AQAP.

2. City fleets should convert their vehicles to low emission alternative fuels and to install the best available control technology to reduce emissions of existing equipment.

3. Container Fees. The I-710 Corridor communities should work to ensure that any legislation to establish container fees includes strong provisions that a portion of the resources will be used to reduce emissions on impacted corridor communities and to improve air quality monitoring and reporting in the area. The early action item is for the I-710 Corridor communities to work to influence the language of any container fee legislation so that it includes language that supports the implementation of the AQAP and the improvement of air quality along the corridor.

4. Air Quality Monitoring. The I-710 Corridor communities have had discussions with the SCAQMD regarding increasing the number of air quality monitoring stations located in the I-710 Corridor. This early action item involves the development of a partnership between the I-710 Corridor communities and the SCAQMD for the development of the new air quality monitoring system in the I-710 Corridor. Local governments should consider setting aside some matching funds in order to accelerate the roll out of the new monitoring system, as well as to ensure a role in the new systems development and operations.

5. Anti Truck Idling Ordinances. I-710 Corridor communities will either pass ordinances restricting truck idling in their communities or invest resources in enforcing state anti-idling ordinances. This includes training public safety officers in how to recognize and enforce anti-idling regulations. Local
governments will also help to educate truck operators and distribution facilities about the importance of complying with idle restriction regulations.

6. Conditional Use Permits for New Warehouses. I-710 Corridor communities will adopt requirements for new warehouse and distribution facilities including idle restrictions, provision of electrical outlets to plug in reefer units, restrictions on the use of diesel power auxiliary power units, requirements for alternative fuel cargo handling equipment, and other emission reduction measures.

7. Support legislation to reduce emission from diesel. I-710 Corridor communities will endorse legislation that either provides for stricter standards for heavy duty diesel engines or which provides incentives for the retrofit or replacement of diesel equipment with cleaner technology.

8. Construction Equipment Requirements. I-710 Corridor communities will consider ordinances or incentive programs to either require or encourage companies performing local construction to use only the cleanest construction equipment. Contractors will also be required to provide plans on how they will reduce emissions from their diesel equipment.

9. Sensitive Receptors. I-710 Corridor communities will create plans to reduce the exposure of sensitive receptors to diesel exhaust. Such plans could include requirements that trucks be rerouted away from schools, senior centers, medical facilities, etc. and/or the development of standards for landscaping near such high priority facilities.

10. Buy Local Ordinances. The I-710 Corridor communities are subject to excessive levels of air pollutants because of the volume of cargo that enters the San Pedro Bay Ports. If Americans consumed more locally produced products, then not only would it help the U.S. economy, but it would also have a positive impact on the amount of pollution caused by goods movement through the ports. The I-710 Corridor communities should pass resolutions establishing preferences for goods and services produced in Los Angeles County, in California, and in the United States.

- The CEHAI representatives would like to review the list of early action items that we developed together to confirm that it represents their understanding of the discussion and to assist with the development of these proposals.

May 10, 2007
This meeting was held at the Coalition for Clean Air Office in downtown Los Angeles. The purpose of this meeting was to review the ten early action measures that had been proposed by the environmental community in the February 21st meeting. From the environmental community, the meeting was attended by:

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<tr>
<td>Angelo Logan</td>
<td>East Yard Communities for Environmental Justice</td>
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<tr>
<td>Tim Grabriel</td>
<td>Natural Resources Defense Council</td>
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<tr>
<td>Elina Green</td>
<td>Long Beach Alliance for Children with Asthma</td>
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The meeting began with an expression of concern about whether the ten measures in the draft section of the report that the environmental community had an opportunity to review constituted the entire document. They were assured that the pages that they were commenting comprised only a small section of the overall document, and that the entire document would be ready in draft form in a matter of weeks. The environmentalists inquired whether they were going to have an opportunity to review the entire draft report prior to its release to the public, and they were told that they would receive the draft at the same time as everyone else.

The conversation then turned to a discussion of the specific measures (the originals of which are found in the previous section of this chapter). What follows is a summary of the environmentalist’s comments on the draft early action items that they wanted to recommend to the Project Committee.

**Pool Local Resources to Advance the AQAP.**
Concern was expressed that the recommendation reflected a request that the I-710 Corridor communities fund the AQAP. Participants in the meeting wanted to make sure that other entities, such as the SCAQMD, LAMTA, CalTrans and others help fund the AQAP. The cities of the I-710 Corridor should not be the sole source of funding for the AQAP. The AQAP, the CEHAJ representatives urged, should include a funding plan that was very specific about where the resources to implement the AQAP would come from. In addition, they insisted that the funding plan for the AQAP include specific milestones and denote who will be responsible for managing and dispensing the resources.

**Conversion of City Fleets to Cleaner Fuels**
The draft of the recommended early action items called for the conversion of heavy duty diesel vehicles in municipal fleets to natural gas, recognizing that, in the near term, natural gas is the only technology that is commercially available to achieve surplus emission reductions beyond those which are already mandated by law. CEHAJ representatives were uncomfortable with the designation of a specific fuel for a recommended early action, claiming that there may be other technologies which emerge which could yield larger emission reductions. They would prefer to see the language modified to reflect the best available technology.

**Support Container Fees and Policies which Direct Resources to the Implementation of the AQAP**
At the May meeting, CEHAJ representatives expressed concern that amending existing container fee legislation so that some of the resources would be directed to the I-710 Corridor cities to implement the AQAP may create obstacles to the passage of the legislation. They also expressed reservations that this would be an appropriate way to fund the AQAP.
**Development of Air Quality Monitoring Program for the 710 Corridor Communities**

It is very important to CEHAJ that there be a clear definition of which cities are a part of the I-710 Corridor so that participants in the monitoring program are specified and the program is not diluted by the participation of cities that are not impacted by the Corridor. Equally as important is for the AQAP to make very clear who is tasked with the development and the management of the air quality monitoring program. The AQAP, they environmental activists urged, should provide the community with a step-by-step blueprint of how the new air quality monitoring program will be funded, managed, and how and when information will be reported to the public.

**Development of Local Ordinances Restricting Truck Idling**

The primary concern expressed regarding this section was a reference to the PierPass program, which has since been deleted, as it had nothing to do with the substance of the proposed early action item.

**Conditional Use Permits for New Warehouses and Distribution Facilities**

The primary critique of this section by the environmentalists was that it was too weak. They would like to see the language in the recommendation strengthened to reflect the position that it would be best for the cities to pass and implement the entire package of proposed ordinances, and not pick and chose which measures they would approve. Language was recommended that was incorporated in to the language of the recommendation. In addition, the environmentalists would like to see the language include not only new warehouse and distribution facilities, but also big box retail facilities and other new developments that generate significant truck traffic.

**Support Legislation to Reduce Emissions from Diesel-fueled Vehicles and Equipment**

The representatives of the environmental community no longer support this measure would like to see if removed from the list of recommended early action items.

**Requirements on Construction Equipment Used in I-710 Corridor Communities**

The CEHAJ representatives in the meeting had three primary comments about this draft recommendation. First, they would like to see the measure patterned on the successful program to reduce emission from construction equipment that has been implemented by the Los Angeles World Airports. Second, they would like to see more emphasis on requirements and less on incentives. Finally, they would like to see the recommendation be elevated to a binding requirement contained in all future Requests for Proposals (RFPs) that are issued by participating cities.

**Plans to Reduce Exposure of Sensitive Receptors to Diesel Exhaust**

Rather than require I-710 Corridor Cities to develop plans to reroute trucks away from sensitive receptors, the environmentalists would like to see this be a recommendation to create truck-free zones in impacted cities that project sensitive receptors. In addition, CEHAJ would like to see this measure expanded to include infrastructure improvements which also help reduce exposure to not only diesel exhaust, but to other harmful impacts of living in close proximity to transportation corridors. They would like to see
resources provided to help fund community clinics, erect sound walls, install double-paned windows and air filtration systems, and other measures which would help reduce the public health impacts of living near the I-710 Corridor.

**Buy Local Ordinances**

CEHAJ would like to see this measure contain specific deadlines for compliance. Also, recognizing that many cities already have such ordinances, this recommended early action measure should refer to strengthening existing policies.

In general, the environmental representatives in this meeting would like to see all of the recommended early action items contain specific timelines and deadlines for implementation, as well as clear designation of responsible parties.
IV. Review of Air Quality Policy and Programs since the Approval of the LPS

This section reviews the primary emission reduction measures that have been proposed or which are being implemented that should improve air quality in the I-710 Corridor Communities. This includes the ideas which were listed by the Tier 2 Committee in their August 2004 report, the measures that are contained in the CAAP, the measures that are being implemented by CARB as a result of the Diesel Risk Reduction Program or the Goods Movement Action Plan, by the Alameda Corridor Transportation Authority, and by the South Coast Air Quality Management District.

The emission reduction concepts presented here form the foundation for the GCCOG’s development of the AQAP. All these measures should be fully analyzed for their benefits to the I-710 Corridor Communities. The next phase of work on the AQAP should include: an examination of the emission reduction potential of these measures in the I-710 Corridor, a cost-benefit analysis of these measures as well as recommendations for actions that I-710 Corridor Cities and other stakeholders can take to maximize the air quality benefit of these measures in the I-710 Corridor Communities. These next steps or phases would include a monitoring effort to “track” the progress of the various air quality strategies and programs and report strategies and progress and provide analytical analysis when needed. This is further detailed in later sections of the report.

The examination of the emission reduction potential of air quality measures in the I-710 Corridor Communities is necessary to determine the extent to which the activities that were recommended by the Tier 2 Committee as well as those measures which are being developed or which have already been implemented will result in emission reductions in the neighborhoods which currently suffer from exposure to air pollution along the I-710 Freeway. Not all air quality measures will have the same benefit – measures which focus on reducing emissions from ocean going vessels will have significant impact on Long Beach, but less benefit for the City of Commerce, while measures to reduce emissions from locomotives will help the communities which are adjacent to intermodal facilities more than those which are distant from rail line. The projected emission reduction benefits analysis is necessary to evaluate whether air quality programs will reduce pollution in the I-710 Corridor as well as to help local stakeholders determine if there are ways to increase the benefit of a measure’s implementation. The next phase of the AQAP will need to begin with this detailed analysis of the emission reductions of these measures that will take place in the I-710 Corridor Study Area.

The cost-benefit analysis is recommended to provide the AQAP with a means to prioritize those measures which yield the maximum air quality benefit in the I-710 Corridor Communities. This information can then be recommended to decision makers in the region to determine where resources and energy should be expended to maximize the health benefits to the community. For instance, a particular measure
could result in substantial emission reductions state-wide or throughout the South Coast Air Basin, but may have limited impact on the I-710 Corridor. Thus, it may be more cost effective for I-710 stakeholders to elect to support another measure that will have greater impact on their community.

Finally, most of the emission reduction measures that are listed here are being proposed by agencies whose jurisdiction is state or region-wide, or whose jurisdiction does not extend beyond the port. When these agencies develop and implement emission reduction strategies, there is no guarantee that the I-710 Corridor Communities will benefit. The next phase of the AQAP must analyze the ways that I-710 stakeholders can ensure that they maximize the potential of these air quality measures improve their community. For instance, there may be steps that cities can take, for instance, to ensure that idle reduction regulations are met within their boundaries, or that trucks domiciled in their community obey retrofit regulations. The ways that I-710 stakeholders can enhance the effectiveness of these state, regional or port-focused emission reduction strategies should be addressed in the full AQAP.

In the pages that follow, GCCOG is providing a comprehensive list of the measures that are recommended to be a part of the AQAP. Most of these measures are being developed and implemented by 3rd parties. Preliminary steps have been taken in this report to gauge the impact of these measures on air quality in the I-710 Corridor. Although imprecise, this effort has been taken to help guide future work on the AQAP by providing a cursory assessment of the air quality impact of each measure. The evaluation scale that has been employed here is as follows:

**Substantial** – the air quality benefit of this measure in I-710 Corridor Communities is judged to be major and this measure will be an important component of any effort to reduce the impact of pollution from the I-710 Freeway.

**Moderate** – the air quality benefit of this measure in I-710 Corridor Communities is judged to be considerable and this measure could be an important component of the AQAP.

**Limited** - the air quality benefit of this measure in I-710 Corridor Communities is judged to be constrained and this measure will provide less benefit to the I-710 stakeholders than those listed as Substantial or Significant.

**None** - the air quality benefit of this measure in I-710 Corridor Communities is judged to be negligible and thus little or no attention should be invested in pursuing this measure.

It is important to note that 29 of the 44 measures outlined in this Chapter have been approved or will be approved within the near-term (within five years). Many ARB measures have already been implemented with the majority of those remaining going to the board within the next two years. The SPBPs have already begun to implement the measures in the CAAP. This reinforces the perception that much progress has occurred since the publication of the Tier 2 report and the approval of the LPS.
SECTION A
California Air Resources Board
Goods Movement/Diesel Risk Reduction Measures
Title of Measure
Regulation for Mobile Cargo Handling Equipment (CHE) at Ports and Intermodal Rail Yards

Responsible Agency
California Air Resources Board

Description
This measure requires stricter PM and NOx emissions standards for new and in-use CHE at California's ports and intermodal rail yards. For example, in-use yard trucks will be required to have engines that are certified to 2007 emission standards, or to be retrofitted with a verified diesel emission control strategy. Compliance schedules for various CHE can be found on the website below.

Status
Measure was approved by CARB in December 2005. Requirements began in January 2007.

Annual Emissions Reductions
<table>
<thead>
<tr>
<th>PM</th>
<th>NOx</th>
</tr>
</thead>
</table>

While the emissions reductions indicated above are statewide, CARB states that the proposed regulation will provide particular benefits in areas having ports and intermodal rail yards. Additionally, CARB estimates that nearly 70 percent of the reported NOx and PM CHE emissions come from the South Coast District.9

Potential Benefit to the I-710 Corridor Communities - Substantial
Emissions from CHE impacts the entire I-710 Corridor. The CARB Emission Reduction Plan for Ports and Goods Movement (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBP complex (approximately four square miles), where 53,000 people live. Since the concentration of diesel PM in the air declines with distance from the sources, risk decreases the further one moves away from goods movement activity centers. However, the same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBPs. The CAAP states that CHE is the second largest contributor to SPBP PM emissions with diesel engines from OGV’s being the first.10 CHE generates 14 percent of the total SPBP PM emissions and 12 percent of total NOx emissions.11 In addition to the SPBPs, CHE is operated at the intermodal rail yards in West Long Beach and in the City of Commerce. Emission reductions at these sites will help reduce I-710 Corridors communities exposure to toxic diesel exhaust and will help the region reduce precursors to ozone-forming chemicals.

10 A link to this report can be found at: http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc. This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.
11 http://www.portoflosangeles.org/DOC/CAAP_Overview_Final.pdf, p. 8
**Costs**

$71 million from 2007-2020. This estimate is for the capital cost of equipment, reporting costs, maintenance and replacement. Some operators will replace, some will retrofit and some will retrofit now and replace later.

**Cost to Ports:** Not Applicable

**Cost to Industry:** Total business costs are approximately $1.8 million to $9.2 million/year. CARB estimates the cost to each rail and terminal operator with CHE equipment will be approximately $343,000 to $1,373,000 (in 2004 dollars), depending on the size of the business.\(^{12}\)

**Cost to State:** Some costs to CARB will be incurred in order to implement and enforce this regulation; however, it is believed that these costs can be absorbed in the current CARB budget.

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**Website**

[http://arb.ca.gov/msprog/offroad/cargo/cargo.htm](http://arb.ca.gov/msprog/offroad/cargo/cargo.htm)

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Title of Measure
Requirements to Reduce Idling Emissions from New and In-Use Trucks Beginning in 2008

Responsible Agency
California Air Resources Board

Description
This measure, developed as a follow up to the existing in-use idling measure that was adopted in July 2004, limits the amount of time sleeper berth equipped trucks can operate at idle. Model year 2008 and newer engines will be required to have a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling, or alternatively will be required to meet strict NOx and PM idling emissions standards. Both in-state and out-of-state in-use trucks will be required to manually shut down their engine when idling more than five minutes beginning in 2008.

Status
Measure approved by CARB in October 2005 and modified in June 2006. As noted, the measure will go into effect in 2008.

Annual Emissions Reductions

<table>
<thead>
<tr>
<th>Estimated Statewide Idling Emission Reductions (Sleeper Trucks Only)</th>
<th>Estimated South Coast Air Basin Idling Emission Reductions (Sleeper Trucks Only)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Tons per Day</td>
</tr>
<tr>
<td>PM</td>
<td>NOx</td>
</tr>
<tr>
<td>2010</td>
<td>0.42</td>
</tr>
<tr>
<td>2020</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Potential Benefit to the I-710 Corridor Communities - Moderate
The projected emissions reductions are significant and will provide benefits to communities that are located near truck stops, ports and distributions centers and other places where large groups of trucks idle for extended periods of time. The impact will be greatest at those facilities which provide food and lodging to long haul trucks. Due to the fact that most port trucks are not equipped with sleeper cabs, this measure will have limited benefit in the ports. In addition, if, through the CAAP, the SPBPs develop a standard port truck spec which guides their grant-making decisions, the specification is likely to include day cabs only.

Costs
Cost to Ports: Not Applicable
Cost to Industry:
Truck drivers and trucking companies will pay the following costs for anti-idling technologies and APU pollution control technologies that need to be installed on their vehicles:
- Pre-2007 model year sleeper cab trucks: $5,000 to $8,000;
- Model Year 2007 and newer sleeper cab trucks: $7,000 to 10,100;
- Estimated fuel and maintenance savings: $4,280 per year

Cost to State: Not Applicable

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Website
http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm
**Regulation Title**
Port Truck Regulatory Program Development

**Responsible Agency**
California Air Resources Board

**Description**
This measure would reduce emissions from diesel-powered trucks in port service. CARB staff initially considered three strategies for this proposal and ultimately decided to pursue Strategy 3. This measure would be implemented in two phases: The first phase would require the replacement of all 1994 MY and older trucks and would require the entire fleet, including replacement vehicles, to be retrofitted with a diesel particulate filter and NOx catalyst. In a few instances, the NOx catalyst would not be required. The second phase would require that the entire port fleet meet 2010 emission standards by the year 2017. Incentive funding would only be applied to the Phase I efforts.

This measure is similar to the CAAP Measure HDV1 (see page 75).

**Status**
Air Resources Board to consider draft proposal in late 2007.

**Annual Emissions Reductions**

<table>
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<tr>
<th></th>
<th>PM</th>
<th>NOx</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>520 TPY by 2010</td>
<td>2,000 TPY by 2010</td>
</tr>
</tbody>
</table>

An additional 4,750 TPY of NOx reductions are expected by 2020 after full implementation of Phase 2.

**Potential Benefit to the I-710 Corridor Communities - Substantial**
I-710 is currently the primary route for as many as 20,000 trucks per day carrying containers to and from the Ports. The corridor is expected to remain the primary corridor in the near future. Within ten years this measure would eliminate any truck from operating in the SPBPs that did not meet the strictest emission standard currently on the books. This would dramatically alter air quality in the I-710 Corridor, as many of the trucks that operate in the ports are pre-MY1994 and tend to be older than the state truck fleet average. Community members should monitor the development of this rule and participate in upcoming workshops.

**Costs**
$590 million for truck replacements, retrofits and program administration.

Phase 1 Cost: The cost of truck replacement and retrofitting for the existing fleet of 12,000 trucks is estimated at $280 million over a 10 year period.

Phase 2: CARB staff estimates the cost of Phase 2 is approximately $200 million. Two potential funding options:
1. Container Fees – levy fees on containers to either pay for the program or repay truck owner-operators for their investment.
2. Incentive Options – including Carl Moyer funding, general obligation bonds and federal funding to provide grants to enable truckers to purchase compliant trucks.

Cost to Ports: Not Applicable

Cost to Industry: The cost to industry could be considerable, depending on how the program is implemented. If the state provides grants for the transition into newer trucks, the cost to industry can be reduced. However, grants may cover only a portion of the cost of the new trucks. For instance, the Gateway Cities Fleet Modernization Program has, on average, covered about 75 percent of the cost of the new truck. Truck owners would be required to pay for the balance.

One of the possible solution funding sources for an incentive program, container fees, would also levy a cost on the goods movement industry. Although it is not specified who would be responsible for those fees, presumably terminal operators or Beneficial Cargo Owners (BCOs) would be charged the container fee. CARB estimated 2007-2015 container volume transported by truck and suggested that a $5 fee/off-loaded container transported by truck would pay for complete fleet retrofit under Strategy 3.

CARB also suggests a possible repayment scenario for reimbursing the cost to the truck owner would be to ‘pay’ a predetermined amount ($5/container for Strategy 3) each time the truck picked up a container from the port until the modernization cost to the truck driver is refunded. There is no indication of where this funding would originate.

Cost to State: Using the incentive option to fund the program would cost the state nearly $590 million. This funding could come in part from utilizing funds already designated for the Carl Moyer Program (up to 10 percent of current Moyer funding could be redirected), from state bond measures, or through US EPA clean diesel funding.

There are also potential costs to outsource program administration, which were not included in this analysis.

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Website
http://arb.ca.gov/msprog/onroad/porttruck/porttruck.htm
**Regulation Title**  
On-Road Heavy-Duty Diesel Vehicles (In-Use) Control Measure

**Responsible Agency**  
California Air Resources Board

**Description**  
This measure would reduce emissions from in-use heavy-duty diesel powered vehicles by requiring that owners of such equipment install in-use controls such as verified diesel emission controls to ensure engines operate as cleanly as possible.

**Status**  
This regulation is in development phase with workshops planned in April 2007. Air Resources Board to consider a proposal at the end of 2007.

**Annual Emissions Reductions**  
Not yet quantified

**Potential Benefit to the I-710 Corridor Communities - Substantial**  
In-use heavy-duty diesel trucks use the I-I-710 corridor. This measure would apply emission controls to those heavy-duty diesel trucks that were not covered by any other measures. The development of this rule should be monitored, including participation in upcoming workshops.

**Costs**  
Cost to Ports: Not Available

Cost to Industry: Not Available

Cost to State: Not Available

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**Website**  
[http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm](http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm)
Regulation Title
Rail Yard Emission Reductions Program

Responsible Agency
California Air Resources Board

Description
The railroads have committed to studying and reducing pollution risks at 17 designated rail yards in and around Los Angeles County. This agreement (which is a voluntary MOU, not a regulatory measure) obligates the railroads to reduce diesel emissions in and around rail yards in California. Three main provisions include: 1) a statewide idling-reduction program, 2) health risk assessments (HRA) for all major rail yards, 3) community and air district involvement in the preparation of risk assessments and enforcement of MOU provisions.

Status
Measure approved by CARB in June 2005.

Annual Emissions Reductions
Twenty percent PM reductions (baseline 2005) expected in and around rail yards. NOx reductions are unknown at this time. A draft health risk assessment (HRA) for the four Commerce railyards was released in May, 2007.

Potential Benefit to the I-710 Corridor Communities - Limited
This measure achieves a 20 percent PM reduction from current emissions levels and an undetermined volume of NOx emission reductions. Other sectors studied here are achieving emission reductions of 50 percent or greater. In addition, this is not a regulatory action – it is voluntary and thus there are limited enforcement options. The railroads operate intermodal rail yards in West Long Beach and in the Cities of Vernon and Commerce. This program should continue to be monitored as it is a voluntary MOU between the railroads and CARB along with the development of this measure and release of the HRA report.

In May, 2007, as this report was going to print, the ARB issued the draft Health Risk Assessment for nine of the sixteen railyards which were being studied as a part of the 2005 Statewide Railroad Agreement, including the four Commerce railyards. ARB took the opportunity of the release of the Draft HRAs to reiterate the programs that the agency is implementing to reduce emissions from intermodal operations, including requirements on port trucks, cargo handling equipment, transport refrigeration units and other measures. Coupled with new emission standards for locomotives, there is potential for substantial emission reductions from railyard operations in the future.

Costs
Cost to Ports: Not Applicable
Cost to Industry: Will vary based on company. No public information on cost is available.

Cost to State: Not Applicable

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Website
http://arb.ca.gov/msprog/offroad/loco/loco.htm
**Regulation Title**  
Diesel Particulate Matter Control Measure for On-Road Heavy-Duty Diesel-Fueled Vehicles owned or operated by Public Agencies and Utilities

**Responsible Agency**  
California Air Resources Board

**Description**  
This measure requires public agency and utility vehicle owners reduce diesel PM emissions from their affected vehicles through the application of best available control technologies (BACT) on these vehicles by specified implementation dates. Implementation is phased-in by engine model year groups.

**Status**  
Measure was approved by CARB in December 2005.

**Annual Emissions Reductions**

<table>
<thead>
<tr>
<th>Estimated Statewide Emission Reductions</th>
<th>Tons per Day</th>
<th>Tons per Year = (tpd*365)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PM</td>
<td>NOx</td>
</tr>
<tr>
<td>2010</td>
<td>0.15</td>
<td>0.3</td>
</tr>
<tr>
<td>2020</td>
<td>0.05</td>
<td>0.09</td>
</tr>
</tbody>
</table>

**Potential Benefit to the I-710 Corridor Communities - Moderate**  
Over 80 percent of public agencies have fleets with fewer than 15 vehicles. These vehicles account for less than 20 percent of the 23,227 medium and heavy-diesel vehicles targeted in this measure. On the other hand, only 2.6 percent of the fleets surveyed owned over 100 vehicles, yet these fleets account for 46 percent of the vehicles targeted in this measure. The larger the municipality, the more the potential benefit to the community. The 17 cities encompassed by the Corridor presumably operate fairly small fleets of medium and heavy-duty vehicles. This is similar to one of the early action items sought by the environmental community.

**Costs**  
CARB estimates that it will cost $213 million to apply BACT to approximately 31,076 vehicles (estimated statewide fleet in 2006). CARB estimates the cost per vehicle at $6,857 for the least expensive BACT option available (retrofit.) CARB estimates that program administration and compliance monitoring will cost the state approximately $9.1 million.

**Cost to Ports:** Not Applicable
Cost to Industry (public agencies and utilities): The total program cost breakdown is as follows:

- Utilities - $28,290,000 for to apply BACT to 4,140 vehicles;
- Local government agencies - estimated cost of $156.6 million to apply BACT to approximately 22,839 vehicles (fleet size in 2006);
- Federal agencies - ~$19 million (2005$) for 2,771 vehicles, and
- Low-population municipalities and municipal utilities - approximately $9.2 million.

Cost to State: $9.1 million for administration and monitoring.

Contact
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Website
http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm
**Regulation Title**  
On-Road Heavy-Duty Diesel Engine In-Use Compliance Program

**Responsible Agency**  
California Air Resources Board

**Description**  
CARB, the U.S. EPA, and the Engine Manufacturers Association have developed a manufacturer-run heavy-duty diesel engine in-use compliance program. Under this program, all 2007 and newer heavy-duty engines are subject to state and federal emissions tests to ensure that they are not exceeding emissions limits. The tests will be an in-use test using a portable emission measurement system (PEMS) device. If the engine does not pass the emissions test twice it may be subject to recall. This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H2-a.

**Status**  
This measure was adopted by the Board in September 2006. The U.S. EPA adopted a similar measure in June of 2005 which will be administered throughout the rest of the country.

**Annual Emissions Reductions**  
Not applicable as this is a compliance regulation.

**Potential Benefit to the I-710 Corridor Communities - Limited**  
It is difficult at this point to predict whether in-use testing of MY 2007 and later engines will result in enforcement actions that yield significant emission reductions. If there are enforcement actions, however, they will not result in surplus emission reductions, they will simply help guarantee that reductions from newer engines are maintained. A more useful monitoring and enforcement effort would result from this same test being applied to all trucks that use the I-710 Freeway. Fortunately, per proposed CARB regulations and the CAAP program, virtually all trucks that use the I-710 will be subject to the testing protocol outlined here. Agencies can be held accountable by monitoring the implementation of this program and ensuring that mobile monitoring units focus on the I-710 Corridor.

**Costs**  
**Cost to Ports:** Not Applicable

**Cost to Industry:** Engine manufacturers will be required to test 25 percent of their engine families per year, with a minimum of 6 and a maximum of 10 trucks per family being tested. Each test costs $3,000-$4,000, so a minimum of $18,000 per engine family and a maximum $40,000 per engine family. Manufacturers will have multiple engine families to test each year.
**Cost to State:** Not Applicable

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**Website**
http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm
**Regulation Title**
In-Use Off-road Diesel Vehicle Rule

**Responsible Agency**
California Air Resources Board

**Description**
This rule will reduce emissions from in-use off-road vehicles such as those used in construction, mining, and industrial operations. This measure requires that each fleet must meet the fleet average requirements by March 1 of each year or demonstrate that it applied the best available control technology (BACT).

**Status**
Air Resources Board to consider in May 2007.

**Annual Emissions Reductions**
Not yet quantified.

**Potential Benefit to the I-710 Corridor Communities – Potentially Substantial**
Off-road vehicles are a major source of both smog forming compounds and diesel PM. If improvements to the I-710 Corridor do proceed, there will be a high concentration of such equipment in close proximity to the residents of the I-710 Corridor for the duration of the construction. Measures that will reduce emissions from this type of heavy-duty diesel technology will therefore provide substantial relief to I-710 Corridor neighborhoods. At this time, however, there is no date on the potential emission reductions; thus more information will be needed to evaluate the utility of this proposal. Participation at regulatory hearings should be provided.

**Costs**
Cost to Ports: Not Available

Cost to Industry: Not Available

Cost to State: Not Available

**Contact**
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**Website**
http://arb.ca.gov/msprog/ordiesel/ordiesel.htm
**Regulation Title**
Ocean-Going Vessel Main Engine Rule

**Responsible Agency**
California Air Resources Board

**Description**
This regulation requires the use of low-sulfur fuel in the main engine of ocean-going vessels (OGVs). [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-e.]

**Status**
Air Resources Board to consider in December 2007.

**Annual Emissions Reductions**
Not yet quantified. CARB is just beginning to conduct surveys of ships.

**Potential Benefit to the I-710 Corridor Communities - Substantial**
The CARB *Emission Reduction Plan for Ports and Goods Movement* (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles), where 53,000 people live. Since the concentration of diesel PM in the air declines with distance from the sources, risk decreases the further one moves away from goods movement activity centers. However, the same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBPs.\(^{13}\)

Additionally, the report found that ships using diesel engines at dock while hotelling were the largest contributor to emissions at the ports. While ships in transit produce a substantial portion of total port-related diesel PM, they did not produce a comparable cancer risk because these emissions are released off-shore and dispersed over a very wide area. Even so, the CAAP reports that OGVs produce 59 percent of the SPBP’s total annual PM emissions, 36 percent of the SPBP’s total annual NOx emissions, and 90 percent of the SPBP’s total annual SOx emissions.\(^{14}\) While it is difficult to estimate community benefits without emissions quantifications, the proximity of the ports to the Corridor increases the likelihood of significant air quality improvements from this proposed measure.

**Costs**
- **Cost to Ports**: Not Available
- **Cost to Industry**: Not Available

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\(^{13}\) A link to this report can be found at: [http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc](http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc). This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.

**Cost to State:** Not Available

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**Website**
http://arb.ca.gov/msprog/offroad/marinevess/marinevess.htm
Regulation Title
Ocean-Going Vessel Auxiliary Engines

Responsible Agency
California Air Resources Board

Description
This measure requires ships entering California’s ports to use 0.5 percent sulfur content Marine Diesel Oil (MDO) by January 1, 2007, or Marine Gas Oil for auxiliary diesel engines within 24 nautical miles of the California coast. Additionally, beginning January 1, 2010 MGO sulfur content may not exceed 0.1 percent. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-e.]

Status
Measure approved by CARB in December 2005.

Annual Emissions Reductions

<table>
<thead>
<tr>
<th></th>
<th>Tons per Day</th>
<th>Tons per Year = (tpd*365)</th>
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<tr>
<td>2020</td>
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</table>

Potential Benefit to the I-710 Corridor Communities - Substantial
The reduction of emissions from auxiliary engines will provide significant reductions in PM and NOx in the I-710 Corridor. As noted above, the CARB Emission Reduction Plan for Ports and Goods Movement (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles), where 53,000 people live. Since the concentration of diesel PM in the air declines with distance from the sources, risk decreases the further one moves away from goods movement activity centers. However, the same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBPs.15

Additionally, the report found that ships using diesel engines at dock while hotelling were the largest contributor to emissions at the ports. While ships in transit produce a

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15 A link to this report can be found at: http://wwwARB.ca.gov/planning/gmerp/march21plan/march22_plan.doc. This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.
substantial portion of total port-related diesel PM, they did not produce a comparable cancer risk because these emissions are released off-shore and dispersed over a very wide area. Even so, the CAAP reports that OGVs produce 59 percent of the SPBP’s total annual PM emissions, 36 percent of the SPBP’s total annual NOx emissions, and 90 percent of the SPBP’s total annual SOx emissions.\(^\text{16}\)

Although proposals to provide shore power to hotelling vessels will eliminate any emission reductions from the use of low sulfur MDO and MGO while the vessel is berthed, this measure will substantially reduce emissions from ships as they transit and maneuver in California waters.

**Costs**

**Cost to Ports:** Not Applicable

**Cost to Industry:** The typical cargo vessel operator will incur additional charges of approximately $20,000 per company per year, while passenger cruise companies will have an added annual cost of about $2 million per company. Ship retrofits will be required that cost between $100,000 and $500,000 per vessel. Costs to individual business may vary widely from this average based on the number of vessels visiting California ports and the frequency of their visits. CARB estimates range from $3,400 annually (for a single California port visit) to $1 million (for a company with 300 California port visits). These estimates account for fuel and capital costs assuming the average cost differential between residual fuels and distillates is $1,750 - $2,730 per day while in California waters and ports. These estimates do not account for growth.

**Cost to State:** Short-term program administration costs can be conducted with existing CARB resources.

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\(^{16}\) [http://www.portoflosangeles.org/DOC/CAAP_Overview_Final.pdf](http://www.portoflosangeles.org/DOC/CAAP_Overview_Final.pdf), p. 8
**Regulation Title**  
Commercial Harbor Craft Regulation

**Responsible Agency**  
California Air Resources Board

**Description**  
Regulation will reduce emissions from commercial harbor craft such as tugs, tows, ferries and fishing vessels through engine retrofits and repowers, as well as regulations on fuel type. Vessels would be required to repower Tier 0 vessels to a Tier 2 or cleaner, depending upon what is available.\(^\text{17}\) This measure excludes recreational marine craft and ocean-going vessels.

**Status**  
Public workshops occurring in 2007. Measure expected to be implemented in 2009.

**Annual Emissions Reductions**  
Not yet quantified.

**Potential Benefit to the I-710 Corridor Communities - Substantial**  
As noted above, the CARB *Emission Reduction Plan for Ports and Goods Movement* (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles), The same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBPs.\(^\text{18}\)

The CAAP estimates that emissions from commercial harbor craft vessels represent 11 percent of total PM emissions and 13 percent of total NOx emissions from the SPBPs.\(^\text{19}\) While it is difficult to estimate community benefits without emissions quantifications, the proximity of the ports to communities in the southern portion of the I-710 Corridor increases the likelihood that improvements in marine emissions will have a positive impact on air quality in these neighborhoods. The air quality impact on I-710 communities that are further from the harbor, however, is uncertain.

**Costs**

**Cost to Ports:** Not Available

**Cost to Industry:** Not Available

**Cost to State:** Not Available

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\(^{17}\) A repower is the replacement of an existing engine with a newer engine.

\(^{18}\) A link to this report can be found at: [http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc](http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc). This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.

\(^{19}\) [http://www.portoflosangeles.org/DOC/CAAP_Oversview_Final.pdf](http://www.portoflosangeles.org/DOC/CAAP_Oversview_Final.pdf), p. 8
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Website
http://arb.ca.gov/msprog/offroad/marinevess/harborcraft.htm
Regulation Title
Shore Power for Ocean-Going Vessels

Responsible Agency
California Air Resources Board

Description
This measure requires that ocean-going vessels (OGVs) use shore power (connecting to electrical power at the dock) in lieu of auxiliary engines while hotelling. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-c.]

Status
To be presented to Board in late 2007.

Annual Emissions Reductions
Not yet quantified.

Potential Benefit to the I-710 Corridor Communities - Substantial
The reduction of emissions during hotelling will provide significant reductions in PM and NOx in the I-710 Corridor. As noted above, the CARB Emission Reduction Plan for Ports and Goods Movement (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBP’s (approximately four square miles), where 53,000 people live. The same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBP’s.

Additionally, the report found that the largest contributors to cancer risk ships using diesel engines at dock while hotelling. While ships in transit produce a substantial portion of total port-related diesel PM, they did not produce a comparable cancer risk because these emissions are released off-shore and dispersed over a very wide area. OGVs produce 59 percent of the SPBP’s total annual PM emissions, 36 percent of the Ports’ total annual NOx emissions, and 90 percent of the SPBP’s total annual SOx emissions.

Costs
The cost effectiveness of cold ironing is dependent upon a number of factors, including number of ships making multiple annual visits to the same terminal, length of berthing time and the power demand required by the ships.

Cost to Ports: The Ports will likely need to invest in extensive infrastructure improvements in electrical capacity and shore power dock stations. The infrastructure

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20 A link to this report can be found at: http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc. This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.

21 http://www.portoflosangeles.org/DOC/CAAP_Overview_Final.pdf, p. 8
costs vary widely from terminal to terminal. The largest portion of the cost is the modifications to the electrical infrastructure and the availability and proximity of power varies widely between ports. Preliminary pricing estimates from CARB indicate the average cost for providing shore-side infrastructure without additional shore-side transformers is about $3.5 million per terminal. CARB estimates the cost for a shore-side transformer and associated equipment to be an additional $1.5 million per berth.

**Cost to Industry:** Industry will have to develop on-ship infrastructure including a transformer. CARB estimates that the cost to retrofit a ship with an on-board transformer is about $500,000 and the cost to retrofit a ship without an on-board transformer is about $1.5 million per ship.22

**Cost to State:** Not Available

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[http://www.arb.ca.gov/ports/shorepower/shorepower.htm](http://www.arb.ca.gov/ports/shorepower/shorepower.htm)

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**Regulation Title**  
Regulation to Establish Allowable Speeds for Ocean Going Vessels in Coastal Waters

**Responsible Agency**  
California Air Resources Board

**Description**  
The implementation of this measure is on hold until the CARB can assess the emission reduction results from the other OGV measures that have recently been implemented such as the rules governing fuels being used in main and auxiliary engines. The need for a Vessel Speed Reduction measure will be evaluated after the effectiveness of these measures has been assessed. CARB did not provide a timeline for this evaluation, however, the measure regulating main engine fuel standards is not set to be heard by the board until 4th quarter 2007.

**Status**  
On hold

**Annual Emissions Reductions**  
Not yet quantified

**Potential Benefit to the I-710 Corridor Communities - Unknown**  
Unknown

**Costs**

**Cost to Ports**: Not Available

**Cost to Industry**: Not Available

**Cost to State**: Not Available

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General Marine Vessel Website:  
[http://www.arb.ca.gov/msprog/offroad/marinevess/marinevess.htm](http://www.arb.ca.gov/msprog/offroad/marinevess/marinevess.htm)
SECTION B
San Pedro Bay Ports
Clean Air Action Plan Measures
**Regulation Title**
Clean Air Action Plan
SPBP HDV1 – Performance Standards for On-Road Heavy-Duty Trucks

**Responsible Agency**
San Pedro Bay Ports

**Description**
By the end of 2011, all trucks calling at the ports frequently or semi-frequently will be required to meet or be cleaner than the EPA 2007 on-road PM emissions standards (0.01 g/bhp-hr for PM) and be the cleanest available NOx at the time of replacement or retrofit. This measure is directed at the approximately 16,800 port trucks that make 80 percent of the calls on marine terminals. For planning purposes, the CAAP proposes an implementation scenario which would replace 5,311 trucks with new diesel-fueled vehicles, 5,311 trucks with new alternative fuel vehicles, and retrofit the balance (6,178 trucks) with verified diesel emission control systems. This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H2-c.

**Status**
Measure approved by Ports of Los Angeles and Long Beach in November, 2006. Program specifics for the entire program have not, as of this writing, yet been made public. SPBP staff are working on the details. The alternative fuel truck component has been initiated, with the publication of an RFP for $22 million for LNG trucks. Proposals were due on April 6th, and are being evaluated by Port staff.

**Annual Emissions Reductions**

<table>
<thead>
<tr>
<th>PM</th>
<th>NOx</th>
<th>SOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>782 TPY</td>
<td>6,417 TPY</td>
<td>2.5 TPY</td>
</tr>
</tbody>
</table>

These are the emission reductions that will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until the full 2011 reductions are met.

**Potential Benefit to the I-710 Corridor Communities - Substantial**
Within five years the trucks that make most of the trips to the marine terminals will be replaced with much cleaner vehicles or will be equipped with devices that reduce PM emissions by 85 percent and NOx emissions by 25 percent. Since many of these trucks use the I-710 corridor, the emission reductions from this measure will definitely improve air quality in the I-710 Corridor study area. The development and implementation of this measure should continue to be monitored and include the evaluation of additional measures to accelerate the deployment and use of the cleanest trucks in I-710 Corridor communities.
Costs

Cost to Ports: The cost of the scenario being studied by the SPBPs for implementation is $1.8 billion. These costs are divided between the three proposed elements, shown below:

<table>
<thead>
<tr>
<th>Program Element</th>
<th>No. of Trucks</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement w/Diesel</td>
<td>5,311</td>
<td>$687,774,500</td>
</tr>
<tr>
<td>Replacement w/Alt Fuel</td>
<td>5,311</td>
<td>$120,471,000</td>
</tr>
<tr>
<td>Retrofit</td>
<td>6,178</td>
<td>$1,001,123,500</td>
</tr>
<tr>
<td>Total</td>
<td>16,800</td>
<td>$1,809,369,000</td>
</tr>
</tbody>
</table>

The cost assumption for a new LNG truck is approximately $188,500/truck ($185,000 Replacement Incentive for new LNG truck, $1,300 Automated Vehicle Locator (AVL) installation, $2,200 Administration costs). The cost assumption for a diesel truck replacement is $129,500/truck ($126,000 Replacement Incentive for new cleaner diesel truck, $1,300 AVL installation, $2,200 administration costs). The cost for the installation of an emission control device is $19,500 ($15,500 for the retrofit, $1,300 for the AVL, $2,200 for administration and $500 for a program participation incentive).

The SPBPs and the SCAQMD have allocated $202 million for the implementation of this measure over the next five fiscal years (thru FY 2010/11). This leaves approximately $1.6 billion of the total cost of the measure to be raised from other sources. The SPBPs are considering a number of different possible sources for the balance, including obtaining a portion of the $1 billion provided for in the recent Proposition 1B bond, implementing a dirty truck fee, securing a portion of the funds from the possible passage of a container fee, or requiring a portion of the cost to be paid for by truck owners. As of this writing, it is not clear from where the funds to pay for the implementation of this measure will come.

Cost to Industry: As of this writing, the cost to industry has not been determined. There are a number of ways that industry may be billed for the costs of this measure, some of which were mentioned above. Trucks that do not meet prescribed emission standards could be charged a “dirty truck” fee per entry in to the marine terminals. Truck owners could be required to pay a portion of the cost of a replacement truck or the installation of a retrofit device. The cost of a container fee would likely be passed through to the beneficial cargo owner. These decisions have not been determined or finalized.

Cost to State: Again, the cost to the taxpayer of the implementation of this measure is not clear. Certainly, if the SPBPs are successful in obtaining all or a portion of the $1 billion provided for in Proposition 1B for goods movement related air quality programs, the state can provide significant funding for this program.

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**Regulation Title**
Clean Air Action Plan
SPBP-HDV2 - Alternative Fuel Infrastructure for Heavy-Duty Natural Gas Vehicles

**Responsible Agency**
San Pedro Bay Ports

**Description**
In order to support the deployment and operations of alternative fuel port trucks called for in SPBP CAAP Measure HDV1, this measure provides for the development of an alternative fuel refueling and central maintenance facility, jointly owned by both ports, and located on Terminal Island.

**Status**
Measure approved by Ports of Los Angeles and Long Beach in November 2006. The SPBPs issued an RFP for a contractor to develop this project in February 2007. As of this writing, only one proposal was submitted and it is being evaluated by SPBP staff.

**Annual Emissions Reductions**
Not applicable. This measure provides for supporting infrastructure, and contributes to the ability of SPBP Measure HDV1 to generate its emission reductions.

**Potential Benefit to the I-710 Corridor Communities - Moderate**
This measure will support SPBP HDV1 and should be monitored by community groups as a secondary priority.

**Costs**
**Cost to Ports:** $4 million as incentive funding. A large portion of this value, however, is being provided in-kind.

**Cost to Industry:** The RFP was developed so that the winning bidder will have to invest capital in the development of the fueling and maintenance facility. As proposals are being evaluated at this time, the cost to industry has not yet been determined.

**Cost to State:** Not Applicable

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Regulation Title
Clean Air Action Plan
SPBP-OGV1 - OGV Vessel Speed Reduction (VSR)

Responsible Agency
San Pedro Bay Ports

Description
This measure requires that 100 percent of the OGVs that visit the SPBPs must comply with the VSR requirement 20 nautical miles (nm) from Point Fermin, with the prospect of expanding the measure to 40 nm from Point Fermin.

Status
Measure approved by Ports of Los Angeles and Long Beach in November 2006. The VSR measure is now being implemented. The extension to 40 nm will be implemented after the appropriate infrastructure is installed, which is projected to be some time in 2008.

Annual Emissions Reductions

<table>
<thead>
<tr>
<th>NOx</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1,721 TPY</td>
<td>20 nm 2006-2011</td>
</tr>
<tr>
<td>3292 TPY</td>
<td>40 nm 2010-2011</td>
</tr>
</tbody>
</table>

There are no PM reductions under SPBP-OGV1 as it was created as a NOx control measure. At the time of the CAAP publication, Port staff was uncertain if the measure achieved PM reductions. It is believed now that PM reductions are indeed achieved, however, those reductions have not been quantified.

Potential Benefit to the I-710 Corridor Communities - Moderate
The reduction of emissions during hotelling will provide significant reductions in PM and NOx in the I-710 Corridor. As noted above, the CARB Emission Reduction Plan for Ports and Goods Movement (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles), where 53,000 people live. The same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBPs.\(^{23}\)

Additionally, the report found that the largest contributors to cancer risk ships using diesel engines at dock while hotelling. While ships in transit produce a substantial portion of total port-related diesel PM, they did not produce a comparable cancer risk because these emissions are released off-shore and dispersed over a very wide area. Even so, OGVs produce 59 percent of the SPBP’s total annual PM emissions, 36

\(^{23}\) A link to this report can be found at: [http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc](http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc). This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.
percent of the Ports' total annual NOx emissions, and 90 percent of the SPBP's total annual SOx emissions.24

**Cost**

**Cost to Ports:** $22,700,000 for port incentive funding for the needed upgrades to the Marine Exchange radar system, administrative costs and the incentive funding offered by the Port of Long Beach.

**Cost to Industry:** Not Available

**Cost to State:** Not Available

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**Regulation Title**  
Clean Air Action Plan  
SPBP-OGV2 - Reduction of At-Berth OGV Emissions  

**Responsible Agency**  
San Pedro Bay Ports  

**Description**  
This measure mandates the use of shore power to reduce hotelling emissions at all container terminals and cruise terminals in the Port of Los Angeles in five years and all container terminals and one crude oil terminal in the Port of Long Beach within five to ten years. It also calls for the exploration of alternative emission reduction technologies for hotelling OGVs within the Technology Advancement Program. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-c and is similar to CARB measure Shore Power for Ocean-Going Vessels (see page 71).]  

**Status**  
Measure approved by Ports of Los Angeles and Long Beach in November 2006.  

**Annual Emissions Reductions**  

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>NOx</th>
<th>SOx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34 TPY</td>
<td>1,495 TPY</td>
<td>648 TPY</td>
</tr>
</tbody>
</table>

These are the emission reductions that will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until the full 2011 reductions are met.  

**Potential Benefit to the I-710 Corridor Communities - Substantial**  
The reduction of emissions during hotelling will provide significant reductions in PM and NOx in the I-710 Corridor. As noted in the similar CARB shore power regulation, the CARB Emission Reduction Plan for Ports and Goods Movement (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles and a 50 per one million elevated cancer risk more than 15 miles from the SPBPs. Additionaly, the report found that the largest contributors to cancer risk are ships using diesel engines at dock while hotelling. While ships in transit produce a substantial portion of total port-related diesel PM, they did not produce a comparable cancer risk because these emissions are released offshore and dispersed over a very wide area.  

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25 A link to this report can be found at: [http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc](http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc). This report cites data from the "CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach" released in October, 2005.
The CAAP indicates that OGVs produce 59 percent of the SPBP’s total annual PM emissions, 36 percent of the SPBP’s total annual NOx emissions, and 90 percent of the SPBP’s total annual SOx emissions.26

**Costs**
As noted in the CARB shore power regulation, the cost effectiveness of cold ironing is dependent upon a number of factors, including number of ships making multiple annual visits to the same terminal, length of berthing time and the power demand required by the ships.

**Cost to Ports:** As noted in the CARB shore power regulation, the infrastructure costs are vary widely from terminal to terminal depending upon required modifications to the electrical infrastructure and the availability of power. The Port of Los Angeles estimates a total cost of $49 million from 2006-2011 for infrastructure and incentive costs. The Port of Long Beach estimates a cost of $72 million for infrastructure, line extension and container berths. The total cost for the measure for both ports over fiscal years 2006-2011 would equal $121 million.27

**Cost to Industry:** Not Available

**Cost to State:** Not Applicable

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**Regulation Title**

Clean Air Action Plan  
SPBP-OGV3 - OGV Auxiliary Engine Fuel Standards

**Responsible Agency**  
San Pedro Bay Ports

**Description**

This measure establishes a fuel standard for fuel used in on-board auxiliary power units of ≤0.2 percent sulfur distillate or Marine Gas Oil equivalent reduction. This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-d, and is similar to CARB measure Ocean-Going Vessel Auxiliary Engines (see page 18).

**Status**

Measure approved by Ports of Los Angeles and Long Beach in November 2006.

**Annual Emissions Reductions**

<table>
<thead>
<tr>
<th></th>
<th>PM TPY</th>
<th>NOx TPY</th>
<th>SOx TPY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>17</td>
<td>29</td>
</tr>
</tbody>
</table>

These are the emission reductions that will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until the full 2011 reductions are met.

**Potential Benefit to the I-710 Corridor Communities - Substantial**

The reduction of emissions from auxiliary engines will provide significant reductions in PM and NOx in the I-710 Corridor. As noted in the similar CARB shore power regulation, the CARB *Emission Reduction Plan for Ports and Goods Movement* (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles and a 50 per one million elevated cancer risk more than 15 miles from the SPBPs). Additionally, the report found that the largest contributors to cancer risk are ships using diesel engines at dock while hotelling. While ships in transit produce a substantial portion of total port-related diesel PM, they did not produce a comparable cancer risk because these emissions are released off-shore and dispersed over a very wide area. Even so, the CAAP indicates that OGVs produce 59 percent of the SPBP’s total annual PM emissions, 36 percent of the SPBP’s total annual NOx emissions, and 90 percent of the SPBP’s total annual SOx emissions.

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28 A link to this report can be found at: [http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc](http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc). This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.

Costs
Cost to Ports: No cost to CAAP partners as they have made a decision not to subsidize the higher-cost, lower sulfur fuels. Thus, the cost to the ports for this measure is limited to meeting with fuel providers and shipping lines and verifying the use of the fuels.

Cost to Industry: Not available in CAAP report, however, estimates were made for the CARB rule.

Cost to State: Not Applicable

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**Regulation Title**
Clean Air Action Plan
SPBP-OGV4 - OGV Main Engine Fuel Standards

**Responsible Agency**
San Pedro Bay Ports

**Description**
This measure establishes a fuel standard for fuel used when ships are arriving or departing San Pedro Bay of \( \leq 0.2 \) percent sulfur distillate or Marine Gas Oil equivalent reduction. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-d, and is similar to CARB measure Ocean-Going Vessel Main Engine Rule (see page 17).]

**Status**
Measure approved by Ports of Los Angeles and Long Beach in November 2006.

**Annual Emissions Reductions**

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>NOx</th>
<th>SOx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>295</td>
<td>379</td>
<td>2,056</td>
</tr>
</tbody>
</table>

These are the emission reductions that will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until the full 2011 reductions are met.

**Potential Benefit to the I-710 Corridor Communities - Substantial**
The reduction of emissions from auxiliary engines will provide significant reductions in PM and NOx in the I-710 Corridor. As noted in the similar CARB shore power regulation, the CARB *Emission Reduction Plan for Ports and Goods Movement (2006)* cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles and a 50 per one million elevated cancer risk more than 15 miles from the SPBPs). Additionally, the report found that the largest contributors to cancer risk are ships using diesel engines at dock while hotelling. While ships in transit produce a substantial portion of total port-related diesel PM, they did not produce a comparable cancer risk because these emissions are released off-shore and dispersed over a very wide area. Even so, the CAAP indicates that OGVs produce 59 percent of the SPBP’s total annual PM emissions, 36 percent of the SPBP’s total annual NOx emissions, and 90 percent of the SPBP’s total annual SOx emissions.

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30 A link to this report can be found at: [http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc](http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc). This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.

**Costs**

**Cost to Ports:** No cost to CAAP partners.

**Cost to Industry:** Not Available

**Cost to State:** Not Available

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**Website**

[http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf](http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf)
**Regulation Title**
Clean Air Action Plan  
SPBP-OGV5 - OGV Main and Auxiliary Engine Emissions Improvements

**Description**
This measure provides research money for the development of new technologies that reduce emissions from both APUs and main engines. Resources will be spent through the Technology Advancement Program. The first innovation which will be supported and validated through OGV4 will be slide valve technology from ship engine manufacturer MAN B&W.

**Status**
Measure approved by Ports of Los Angeles and Long Beach in November 2006.

**Annual Emissions Reductions**

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>NOx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>115 TPY</td>
<td>1138 TPY</td>
</tr>
</tbody>
</table>

These are the emission reductions that will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until the full 2011 reductions are met.

**Potential Benefit to the I-710 Corridor Communities - Moderate**
This is primarily a research measure, so the emission reduction benefit of the technologies that may emerge from this effort are not known at this time. The emission reductions cited above are from the implementation of the slide valve technology. These emission reductions will benefit the I-710 Corridor communities, but the benefit is not as great as several of the other measures discussed herein.

**Costs**

**Cost to Ports:** The CAAP projects a budget of $15 million for port-related emission reduction research.

**Cost to Industry:** Not Available

**Cost to State:** Not Available

**Contact**
Thomas Jelenic  
Environmental Specialist  
Port of Long Beach  
(562) 590-4160

Kevin Maggay,  
Environmental Specialist  
Port of Los Angeles,
Website
http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf
**Regulation Title**  
Clean Air Action Plan  
SPBP-CHE1 - Performance Standards for Cargo Handling Equipment

**Responsible Agency**  
San Pedro Bay Ports

**Description**  
This measure would require that, beginning in 2007, all CHE purchases will be required to have either the cleanest available NOx alternative fueled engine or the cleanest available NOx diesel fueled engine. If there are no engines available that meet this standard, then terminal operators must buy the cleanest available engine and install the best available VDECS.

**Status**  
Measure approved by Ports of Los Angeles and Long Beach in November 2006.

**Annual Emissions Reductions**

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>NOx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11 tons</td>
<td>376 tons</td>
</tr>
</tbody>
</table>

These are the emission reductions that will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until the full 2011 reductions are met.

**Potential Benefit to the I-710 Corridor Communities - Substantial**  
The CARB *Emission Reduction Plan for Ports and Goods Movement* (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles), where 53,000 people live. Since the concentration of diesel PM in the air declines with distance from the sources, risk decreases the further one moves away from goods movement activity centers. However, the same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBPs. The CAAP states that CHE is the second largest contributor to SPBP emissions with diesel engines from OGV’s being the first.32 CHE generates 14 percent of the total SPBP PM emissions and 12 percent of total NOx emissions.33 Emission reductions at these sites will help reduce I-710 Corridors communities’ exposure to toxic diesel exhaust and will help the region reduce precursors to ozone-forming chemicals.

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32 A link to this report can be found at: [http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc](http://www.arb.ca.gov/planning/gmerp/march21plan/march22_plan.doc). This report cites data from the “CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach” released in October, 2005.

Costs
Cost to Ports: No cost to CAAP Partners

Cost to Industry: Not Available. Industry will be required to purchase new CHE, which presumably will be more expensive as newer, cleaner engines become available.

Cost to State: Not Applicable

Contact
Thomas Jelenic
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Port of Long Beach
(562) 590-4160

Kevin Maggay,
Environmental Specialist
Port of Los Angeles,
(310) 732-3947

Website
http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf
**Regulation Title**
Clean Air Action Plan
SPBP-HC1 - Performance Standards for Harbor Craft

**Responsible Agency**
San Pedro Bay Ports

**Description**
Measure would require that by the end of the 2nd year of the CAAP, all SPBP harbor craft will meet EPA Tier 2 standard for harbor craft or equivalent reductions. By the 5th year of the CAAP, all previously repowered SPBP harbor craft will be retrofitted with the most effective CARB verified NOx and PM emission reduction devices. When Tier 3 marine engines become available, within five years all SPBP harbor craft will be repowered with the new engines. All tugs will use shore power while berthed.

**Status**
Measure approved by Ports of Los Angeles and Long Beach in November 2006. This measure is similar to CARB’s harbor craft measure on page 69.

**Annual Emissions Reductions**
Not yet quantified

**Potential Benefit to the I-710 Corridor Communities - Substantial**
As noted above, the CARB *Emission Reduction Plan for Ports and Goods Movement* (2006) cites that there is a potential cancer risk increase of over 500 in one million in the adjacent 2,500 acres to the SPBPs (approximately four square miles). The same report also found a 50 per one million elevated cancer risk more than 15 miles from the SPBPs.

The CAAP estimates that emissions from commercial harbor craft vessels represent 11 percent of total PM emissions from the SPBPs.34 While it is difficult to estimate community benefits without emissions quantifications, the proximity of the ports to communities in the southern portion of the I-710 Corridor increases the likelihood that improvements in marine emissions will have a positive impact on air quality in these neighborhoods. The air quality impact on I-710 communities that are further from the harbor, however, is uncertain.

**Costs**
Cost to Ports: No cost to CAAP Partners.

Cost to Industry: Not Available

Cost to State: Not Applicable

---

Contact
Thomas Jelenic
Environmental Specialist
Port of Long Beach
(562) 590-4160

Kevin Maggay,
Environmental Specialist
Port of Los Angeles,
(310) 732-3947

Website
http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf
**Regulation Title**
Clean Air Action Plan  
SPBP-RL1 - PHL Rail Switch Engine Modernization

**Responsible Agency**
San Pedro Bay Ports

**Description**
This measure would require that, by 2008, all existing switch engines in the Ports will be replaced with cleaner engines and will use emulsified fuels as available or other equivalently clean alternative diesel fuels. Additionally, any new switch engine acquired after the initial replacement must meet even cleaner standards. All switch engines will have a 15-minute idle limiting device installed and operational. Lastly, Pacific Harbor Lines will conduct tests with switchers equipped with diesel emission control devices, LNG locomotives, or hybrid locomotives. If the demonstration of the technology is successful, other engines will be retrofitted with the cleanest available device. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H3-e.]

**Status**
Measure approved by Ports of Los Angeles and Long Beach in November 2006.

**Annual Emissions Reductions**

<table>
<thead>
<tr>
<th></th>
<th>PM 3 TPY</th>
<th>NOx 163 TPY</th>
<th>SOx 0.2 TPY</th>
</tr>
</thead>
</table>

These are the emission reductions that will result each fiscal year from 2006-2011.

**Potential Benefit to the I-710 Corridor Communities - Moderate**
Although port emissions do travel inland, this measure will deal with only a segment of the locomotive population that operates in the SPBPs. Rail locomotives produce just six percent of the SPBP’s total annual PM emissions, 13 percent of the NOx emissions and two percent of the SOx emissions. The total emission reduction from this measure is small in comparison to others outlined herein. The benefit should be more significant for those communities nearest to the ports.

**Costs**
**Cost to Ports:** $21 million for each purchase of less-polluting rail locomotives.

**Cost to Industry:** Not Available

**Cost to State:** Not Applicable

---

35 http://www.portoflosangeles.org/DOC/CAAP_Overview_Final.pdf, p. 8
Contact
Thomas Jelenic
Environmental Specialist
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(562) 590-4160

Kevin Maggay,
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(310) 732-3947

Website
http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf
**Regulation Title**
Clean Air Action Plan  
SPBP-RL2 - Existing Class 1 Railroad Operations

**Description**
This measure would require that, by 2011, all diesel-powered Class 1 switcher and helper locomotives entering port facilities will be 90 percent controlled for PM and NOx and will have 15-minute idle restriction devices installed. After Jan. 1, 2007, all locomotives will be required to use ultra low sulfur diesel fuel. Additionally, starting in 2012 and fully implemented by 2014, the fleet average for Class 1 long haul locomotives calling on Port property will be Tier 3 equivalent (either Tier 3 engines or tier 2 equipped with diesel particulate filters (DPF) or selective catalytic reduction (SCR)).

**Status**
Measure approved by Ports of Los Angeles and Long Beach in November 2006.

**Annual Emissions Reductions**
Not yet quantified.

**Potential Benefit to the I-710 Corridor Communities - Substantial**
Unlike CAAP Measure RL1, this measure would apply to locomotives that operate outside of the SPBPs. These locomotives are likely to operate throughout the I-710 Corridor. Thus, the emissions benefits of this measure are more likely to be felt by I-710 Corridor communities.

**Costs**
- **Cost to Ports:** Not Available  
- **Cost to Industry:** Not Available  
- **Cost to State:** Not Available

**Contact**
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Port of Long Beach  
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Kevin Maggay,  
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Port of Los Angeles,  
(310) 732-3947

**Website**
[http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf](http://www.portoflosangeles.org/DOC/REPORT_Clean_Air_Tech.pdf)
**Regulation Title**  
Clean Air Action Plan  
SPBP-RL3- New and Redeveloped Rail Yards

**Responsible Agency**  
San Pedro Bay Ports

**Description**  
This measure, which focused on new or redeveloped rail yards on SPBPs property, would require the cleanest available technology for switcher, helper and long haul locomotives; “green-container” transport systems; idling shut off devices; idling exhaust hoods; ULSD or alternative fuels and clean CHE and HDVs. [Note: This measure addresses two of the suggestions put forth in the Tier 2 Report, specifically Recommendations H3-e and H5-f.]

**Status**  
Measure approved by Ports of Los Angeles and Long Beach in November 2006.

**Annual Emissions Reductions**  
Not yet quantified.

**Potential Benefit to the I-710 Corridor Communities – Potentially Substantial**  
This measure would require that the two proposed intermodal facilities, which are located on a sliver of land adjacent to the Los Angeles River and which are as far north as the 405 Freeway, to implement far-reaching emission reduction programs. Although these emission reductions have not been quantified, the measures described in CAAP Measure RL3 would significantly reduce the air quality impact of the proposed rail yards.

**Costs**  
**Cost to Ports:** Not Available

**Cost to Industry:** Not Available

**Cost to State:** Not Available

**Contact**  
Thomas Jelenic  
Environmental Specialist  
Port of Long Beach  
(562) 590-4160

Kevin Maggay,  
Environmental Specialist  
Port of Los Angeles,
SECTION C

Tier 2 Committee Report Measures
Regulation Title
I-710 Corridor Tier 2 Report
H1 a-c: Air Quality Improvements - Air Quality Improvement Action Plan

Responsible Agency
Gateway Cities Council of Governments

Description
Establish a baseline of current levels of pollution, identify level of air quality impacts from increasing truck, rail and shipping and determine costs of health care that can be traced to pollution encountered by corridor community as a result of construction.

Status
Propose for this measure to be evaluated for inclusion in the AQAP.

Annual Emissions Reductions
As this recommendation proposes a list of subjects for study, there will be no direct emission reductions from its implementation. The information that would be provided, however, would be extremely useful for the development of emission reduction measures.

Potential Benefit to the I-710 Corridor Communities – Potentially Substantial
The development of a study that established the baseline for the current level of pollution for I-710 Corridor stakeholders in their efforts to ensure that the adverse health and social impacts of the air pollution are addressed. [Note: As of this writing, the two ports are finalizing a study of existing levels of pollution in the ports and AQMD has similar information included in its Draft 2007 AQAP.]

Costs.
Cost to Ports: Not Available

Cost to Industry: Not Available

Cost to State: Not Available

Contact
Gateway Cities Council of Governments
(562) 663-6850

Website
http://www.gatewaycoq.org/I710/Tier_2_Report_v1-small-Final.pdf
**Regulation Title**
I-710 Corridor Tier 2 Report
H1-d: Air Quality Improvements: Global Trade Expansion Impact Assessment

**Responsible Agency**
Gateway Cities Council of Governments

**Description**
Perform studies to determine direct and indirect health and other economic costs on corridor communities and the region. Determine how other ports are addressing health and air quality issues.

**Status**
Propose for this measure to be evaluated for inclusion in the AQAP.

**Annual Emissions Reductions**
Not yet quantified

**Potential Benefit to the I-710 Corridor Communities - None**
This recommendation proposes a study to determine social and economic impacts on the I-710 Corridor communities of the expansion of global trade. Although the information may be useful to I-710 Corridor stakeholders, it will not result, either directly or indirectly, in any emission reductions.

**Costs**
**Cost to Ports**: Not Available

**Cost to Industry**: Not Available

**Cost to State**: Not Available

**Contact**
Gateway Cities Council of Governments
(562) 663-6850

**Website**
**Regulation Title**
I-710 Corridor Tier 2 Report
H2-a: Air Quality Improvements - Truck Inspection

**Responsible Agency**
Gateway Cities Council of Governments

**Description**
This measure would require the increased use of enforcement and inspections to control emissions from on-road heavy-duty vehicles. CARB is partially addressing this issue through its On-Road Heavy-Duty Diesel Engine In-Use Compliance Program, but that measure only addresses MY 2007 and later heavy-duty engines. Gateway Cities is performing a truck enforcement and inspection site feasibility study which is to be completed in 2007.

**Status**
Propose for this measure to be evaluated for inclusion in the AQAP.

**Annual Emissions Reductions**
Not yet quantified.

**Potential Benefit to the I-710 Corridor Communities – Potentially Substantial**
Although this measure is beginning to be addressed, the potential emission reduction of polluting trucks from the I-710 Corridor could have a dramatic impact on air quality in the region based on inspection and enforcement.

**Costs**
**Cost to Ports:** Not Available

**Cost to Industry:** Not Available

**Cost to State:** Not Available

**Contact**
Gateway Cities Council of Governments
(562) 663-6850

**Website**
Regulation Title
I-710 Corridor Tier 2 Report
H2 b-c: Air Quality Improvements - Port Emissions Reduction

Responsible Agency
Los Angeles Metropolitan Transportation Agency
Caltrans
Gateway Cities Council of Governments

Description
Recommendation H2b sought to condition project approval on air quality improvements in Port operations. Recommendation H2c encourages the development and expansion of fleet modernization clean air programs.

Status
Action is already being taken to fulfill these proposals. The SPBPs have proposed and begun to implement the CAAP, which is designed to reduce pollution from port activities by 50 percent in five years. Evidence of improvement in the emission inventory from the SPBPs should be evident in a year or two, well before the earliest possible time for the environmental study to be completed for the I-710 Corridor improvement project. In addition, not only has the Gateway Cities Fleet Modernization program continued to be effective (replacing over 550 port trucks), several other fleet modernization programs have been initiated or are in the process of being developed, including the SCAQMD Fleet Modernization program and the SPBP’s Clean Trucks Program, which targets the replacement and/or retrofit of nearly 17,000 port trucks.

Annual Emissions Reductions
Not yet quantified.

Potential Benefit to the I-710 Corridor Communities - Substantial
CAAP Measure HDV1 demonstrates the emission reduction value of expanding efforts to modernize the port truck fleet. In addition, delaying approval of the I-710 Corridor project until such time as there are demonstrable air quality improvements in port operations will put pressure on public agencies to achieve these reductions. This increases the likelihood that the residents of the I-710 Corridor communities will see improvements in air quality before the freeway is allowed to expand.

Costs
Cost to Ports: CAAP Measure HDV1 outlines the projected cost to the SPBPs of their fleet modernization program.

Cost to Industry: Not Available

Cost to State: Not Available
Chapter IV: Review of Recent Air Quality Policies and Programs

**Contact**
Gateway Cities Council of Governments
(562) 663-6850

**Website**
Regulation Title
I-710 Corridor Tier 2 Report  
H2-d: Air Quality Improvements - Container Fees

Responsible Agency
Gateway Cities Council of Governments

Description
Impose container fees to generate revenue to enhance corridor communities and address impacts. This recommendation has been addressed in recent legislation in the California Senate. Alan Lowenthal recently introduced SB 974 which would impose container fees on cargo which has been supported by the Gateway Cities Policy Board.

Status
Container fee legislation was approved by the Legislature in 2006, but the bill was vetoed by the Governor. The concept has been reintroduced in the current legislative session. In addition, the Clean Trucks Program proposed by the SPBPs contains several container fees, the proceeds of which will be used for environmental mitigation and infrastructure improvements.

Annual Emissions Reductions
A container fee would not result in any direct emission reductions. It could, however, provide much needed resources to implement other elements of the strategy to clean up emissions from port-related activities.

Potential Benefit to the I-710 Corridor Communities – Substantial
As was discussed above, the CAAP is projected to cost $2.1 billion. The SPBPs and the SCAQMD have budgeted just over $400 million for CAAP implementation. A container fee could raise hundreds of millions of dollars every year (approximately $500 million from the two ports). These resources would make up 70 percent of the current shortfall in the CAAP’s projected $2.1 billion budget. Thus, the passage of the container fee could enable much of the emission reduction strategy developed by the SPBPs, which could have a substantial beneficial impact on the I-710 Corridor.

Costs
Cost to Ports: There would be no cost to the SPBPs from this measure, except for any administrative expenditure needed to manage the funds that would come to the Ports from the collected fees.

Cost to Industry: As shown above, the potential cost to industry would be approximately $500 million annually, assuming the same container throughput as in 2006.

Cost to State: Not Available
Contact
Senator Alan Lowenthal
(916) 651-4027

Website
**Regulation Title**  
I-710 Corridor Tier 2 Report  
H2-e & f: Air Quality Improvements - Quantify Emissions

**Responsible Agency**  
South Coast Air Quality Management District

**Description**  
Install permanent monitoring stations to measure emissions levels. Develop and implement improved air quality monitoring techniques.

**Status**  
Discussions would need to be initiated with the SCAQMD regarding the development of a work plan to make this recommendation a reality. It is recommended that this measure be evaluated for inclusion in the AQAP.

**Annual Emissions Reductions**  
This measure would not result in emission reductions, but would provide crucial data to help alert local residents to the pollutants to which they are being exposed.

**Potential Benefit to the I-710 Corridor Communities - Substantial**  
As mentioned, this recommended strategy would provide more air quality information for the I-710 Corridor.

**Costs**  
**Cost to Ports:** Not Available

**Cost to Industry:** Not Available

**Cost to State:** Not known at this time.

**Contact**  
Arun Roychowdhury  
Program Supervisor  
South Coast Air Quality Management District  
(909) 396-2268

**Website**  
**Regulation Title**
I-710 Corridor Tier 2 Report  
H3 a-f: Diesel Emissions Reduction - Alternative Fuels

**Responsible Agency**
Yet to be determined.

**Description**
Support policies that encourage use of alternative fuels; discourage use of out-of-state fuels; subject all trucks to local, state and federal standards and require trucks using I-710 to use alternative fuels or equivalent pollution controls. Require railroad locomotives servicing the two ports to use alternative fuels or pollution controls which achieve equal or better results; request the Alameda Corridor Authority to prepare a plan to electrify locomotives involved in its operations.

**Status**
Propose for this measure to be evaluated for inclusion in the AQAP

**Annual Emissions Reductions**
Not yet quantified.

**Potential Benefit to the I-710 Corridor Communities - Substantial**
Please see benefits to similar CARB and CAAP programs.

**Cost**

<table>
<thead>
<tr>
<th>Cost to Ports:</th>
<th>Not Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost to Industry:</td>
<td>Not Available</td>
</tr>
<tr>
<td>Cost to State:</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

**Contact**
Gateway Cities Council of Governments
(562) 663-6850

**Website**
**Regulation Title**  
I-710 Corridor Tier 2 Report  
H4 a-c: Environmental Improvements - Emissions Reduction and Mitigation  

**Responsible Agency**  
Yet to be determined.

**Description**  
Retrofit schools, homes and parks to increase protection from noise and pollution; identify locations and develop facilities for one-stop truck inspection; provide incentives for business to accept off-peak deliveries.

**Status**  
Propose for this measure to be evaluated for inclusion in the AQAP.

**Annual Emissions Reductions**  
Not yet quantified. The recommendation to retrofit schools for noise pollution would not reduce emissions. Shifting truck traffic to off-peak has the benefit of shifting emission to evening hours, which reduces the prospect that NOx emissions will contribute to smog formation. It also has the benefit of reducing truck traffic during peak hours, which should help reduce congestion and thus have a positive impact on air quality. The benefit of truck inspections was discussed above (Tier 2 Recommendation H2-a).  
*Note: The Ports have already implemented PierPass which has shifted significant volumes of truck traffic to evening hours. Also, Gateway Cities has initiated a truck enforcement/inspection site feasibility study.*

**Potential Benefit to the I-710 Corridor Communities - Moderate**  
Reducing the impact of noise pollution is a very positive objective, but it will primarily benefit those closest to the freeway. Truck inspection program may help, but it is uncertain how pollution inspection and enforcement could affect truck repairs or retrofits. Shifting deliveries to off-peak may reduce congestion during the day, but may have other impacts such as increasing noise levels during evening hours.

**Costs**  
**Cost to Ports:** Not Available

**Cost to Industry:** Cost for OffPeak program is 160 million paid for by Beneficial Cargo Owners (BCOs)

**Cost to State:** Not Applicable

**Contact**  
Gateway Cities Council of Governments, (562) 663-6850

or
PierPass

Website
Regulation Title
I-710 Corridor Tier 2 Report
H4 d-f: Diesel Emissions Reduction - Truck emissions reduction programs

Responsible Agency
San Pedro Bay Ports
California Air Resources Board
South Coast Air Quality Management District
Gateway Cities Council of Governments

Description
Create programs to assist truck owners with engine/equipment upgrades; restrict Port generated traffic on I-710 until emission mitigation is in place; provide landscaping to improve air quality.

Status
As noted, several programs currently exist to provide truck owners with resources to pay for retrofits or truck replacements. These include the Gateway Cities Fleet Modernization Program, the SCAQMD Fleet Modernization, and the SPBPs retrofit program. In addition, the SPBPs are in the process of developing a program to retrofit or replace 16,800 port trucks. As for the two other elements of this recommendation, these should be included in the work plan for the AQAP.

Annual Emissions Reductions
The emission reduction benefit for landscaping and for restricting port truck traffic on the I-710 freeway have not yet been quantified. The emission reduction benefit for truck retrofit and replacement programs has been discussed extensively above.

Potential Benefit to the I-710 Corridor Communities - Substantial
As noted, truck retrofit and replacement can yield tremendous air quality benefits. In addition, modernizing these trucks will help make them safer and more fuel efficient, two additional benefits. Increasing the use of landscaping as a mitigation measure would certainly improve community aesthetics, and may have the added benefit of reducing the urban heat island effect.

Costs
Cost to Ports: $1-2 billion.

Cost to Industry: Not available but could be substantial.

Cost to State: Unknown.

Contact
Gateway Cities Council of Governments, (562) 663-6850
Website
Regulation Title
I-710 Corridor Tier 2 Report
H5 a-b: Port Air Quality – Alternative Fuels

Responsible Agency
San Pedro Bay Ports
California Air Resource Board

Description
Require plans for terminal operation electrification and require electrification of port gantry cranes. [Note: both CARB and the CAAP have measures requiring shore side power for ocean-going vessels.]

Status
Gantry cranes, for the most part, have already been electrified. In regards to terminal electrification, both the CAAP and the CARB have measures requiring the use of shore power for hotelling ships (see pages 71 and 82 above). Additional opportunities for terminal electrification should be explored in the AQAP.

Annual Emissions Reductions
Since gantry crane electrification has already taken place, there will be little emission reductions achieved from this recommendation. The emission reduction benefit of providing shore power has been discussed on pages 71 and 82. The electrification of other terminal operations, particularly of cargo handling equipment, may result in additional emission reductions. This should be included in the AQAP.

Potential Benefit to the I-710 Corridor Communities - Substantial
If it is possible to increase the use of electricity in lieu of diesel powered CHE in terminal operations, this would significantly reduce emission from these sources, and would hence provide a significant benefit to the I-710 Corridor. This benefit would be even greater if these electrified CHE technologies could then be used in intermodal rail yards and warehouse operations.

Costs
Cost to Ports: See the discussion of shore power.

Cost to Industry: Not Available

Cost to State: Not Available

Contact
Gateway Cities Council of Governments, (562) 663-6850

Website
**Regulation Title**
I-710 Corridor Tier 2 Report
H5 c-e: Port Air Quality – Ship Operations

**Responsible Agency**
Gateway Cities Council of Governments

**Description**
Require ships to shut down diesel engines and use shore electric power; require ports to expedite development of pollution control for ships; make low sulfur diesel fuel use mandatory. [Note: CARB has implemented a measure regulating fuels used in auxiliary engine and is drafting a measure to regulate fuel used in main engines.]

**Status**
Both the CAAP and CARB have proposed and implemented measures to make low sulfur diesel fuel use mandatory for both auxiliary and main engines (see pages 65 – 68 and pages 84 – 87) and to require vessels to use shore power while berthed (see pages 71 and 82). The SPBPs are also working to develop pollution control for ocean going vessels (see the discussion of the development of slide valve technology on page 88). In addition, the Port of Long Beach is assisting with the demonstration of the Advanced Maritime Emission Control System (AMECS), an emission control technology that treats the emission from OGV stacks, at Pier G.

**Annual Emissions Reductions**
The emission reduction benefit of shore power and of using low sulfur fuels have been discussed extensively above (see pages referenced above). The emission reduction benefit of the slide valve technology and the AMECS should be evaluated in the AQAP, as should the emission reduction benefit of other ship pollution control systems.

**Potential Benefit to the I-710 Corridor Communities - Substantial**
See CARB main and auxiliary measures on pages 65 – 68, 71, 82 and 84 – 87.

**Costs**

**Cost to Ports:** The costs of shore power have been discussed above, as have the costs of using low sulfur fuel. The costs of slide valve technology and AMECS are not available.

**Cost to Industry:** The costs of shore power have been discussed above, as have the costs of using low sulfur fuel. The costs of slide valve technology and AMECS are not available.

**Cost to State:** Not Available
Contact
Paul Milkey
Air Pollution Specialist
California Air Resources Board
Stationary Sources Division
(916) 327-2957

Website
Regulation Title
I-710 Corridor Tier 2 Report
H5 f-g: Port Air Quality – Emissions Control

Responsible Agency
Gateway Cities Council of Governments

Description
Include trucks, trains and rail yards, marine vessels and port equipment in clean air initiative; require terminal equipment at the ports to operate on alternative fuels as defined by CARB. As an alternative, require all engines to be equipped with pollution control technology which achieves equal or lesser emissions.

Status
Propose for this measure to be evaluated for inclusion in the AQAP

Annual Emissions Reductions
Not yet quantified

Potential Benefit to the I-710 Corridor Communities - Substantial
Other sections of this report had discussed implementing these types of air pollution programs.

Costs
Cost to Ports: See other relevant sections of this report
Cost to Industry: See other relevant sections of this report
Cost to State: See other relevant sections of this report

Contact
Gateway Cities Council of Governments
(562) 663-6850

Website
Title of Measure
I-710 Corridor Tier 2 Report
H5 h: Port Air Quality – Funding

Responsible Agency
Gateway Cities Council of Governments

Description
Establish a shipper funded emissions lowering system. This would be a fund that shippers pay into which provides rebates to those who adopt the use of clean engines for vehicles.

Status
Propose for this measure to be evaluated for inclusion in the AQAP

Annual Emissions Reductions
Not yet quantified

Potential Benefit to the I-710 Corridor Communities - Moderate

Costs
Cost to Ports: Not Available
Cost to Industry: Not Available
Cost to State: Not Available

Contact
Gateway Cities Council of Governments, (562) 663-6850

Website
SECTION D
Alameda Corridor Transportation Authority Measures
Title of Program
Virtual Container Yard (VCY)

**Responsible Agency**
Alameda Corridor Transportation Authority in partnership with the Ports of Los Angeles and Long Beach

**Description**
More than twenty percent of the truck trips to and from the ports involve empty containers. When implemented, this program will matches empty containers with potential users by allowing a carrier to post the location of an empty container online.

**Status**
The project partners are currently testing preliminary posting with the plans to be operational by mid-summer 2007.

**Annual Emissions Reductions**
Not Available

**Potential Benefit to the I-710 Corridor Communities - Substantial**

**Costs**
- Cost to Ports: Not Available
- Cost to Industry: Not Available
- Cost to State: Not Available

**Contact**
Alameda Corridor Transportation Authority, (310) 233-7480

**Website**
Not Available
### Title of Program
Extended Gate Hours

### Responsible Agency
Alameda Corridor Transportation Authority and PierPASS

### Description
OffPeak is the off-peak hours program implemented by PierPASS, a not for profit company created by terminal operators at the Ports of Los Angeles and Long Beach. The program provides a financial incentive for cargo owners to move freight during off-peak hours such as at night and on weekends in order to reduce truck traffic and pollution.

### Status
Implemented in July 2005

### Annual Emissions Reductions
Not Available

### Potential Benefit to the I-710 Corridor Communities – Moderate
Keeping gates open longer helps to ease congestion during peak hours only if there is an incentive for truckers and beneficial cargo owners to use the off-peak gates. The OffPeak program, for instance, has shifted over 35% of the container moves to off-peak hours, which helps to relieve congestion during peak operating times. This helps to reduce air pollution by reducing queuing at marine terminal gates, alleviates freeway congestion, and contributes to faster turn-around time. In the long run, however, as more and more containers arrive at the SPBPs, the benefits of this measure will begin to wane.

### Cost
**Cost to Ports:** Terminals have increased staff but cost is borne by beneficial cargo owners.
**Cost to Industry:** $160 million paid for by Beneficial Cargo Owners (BCOs)
**Cost to State:** Not Applicable

### Contact
Alameda Corridor Transportation Authority  
(310) 233-7480

Or

PierPASS

### Website
[www.pierpass.org](http://www.pierpass.org)
**Title of Program**  
Increased On-Dock Rail

**Responsible Agency**  
Alameda Corridor Transportation Authority

**Description**  
On-dock is any rail yard located within the marine terminal. On-dock rail yards are currently handling over 20 percent of Port cargo. Due to cargo growth, it has been proposed that existing yards be expanded and new yards be developed over the next 20 years.

**Status**  
Both the Ports of Los Angeles and Long Beach are evaluating the development of additional intermodal facilities on Terminal Island. Other on-dock expansion and improvement projects are also being considered.

**Annual Emissions Reductions**  
Not available

**Potential Benefit to the I-710 Corridor Communities - Substantial**  
Shifting more containers to rail decreases the use of trucks from the movement of cargo. Evidence indicates that rail has less emissions per cargo mile than trucks, primarily because up to 200 containers can be transported in a single train. Moving containers directly from ship to rail eliminates the intermediary truck trip and maximizes efficiency in container movement.

**Cost**  
Cost to Ports: Not Available  
Cost to Industry: Not Available  
Cost to State: Not Available

**Contact**  
Ports of Los Angeles and Long Beach  
Alameda Corridor Transportation Authority  
(310) 233-7480

**Website**  
[http://www.portoflosangeles.org/DOC/REPORT_SPB_Rail_Study_ES.pdf](http://www.portoflosangeles.org/DOC/REPORT_SPB_Rail_Study_ES.pdf)
**Title of Program**  
Increased Near Dock Rail Yards

**Responsible Agency**  
Alameda Corridor Transportation Authority

**Description**  
Near-dock is defined as a rail yard located within five miles of the marine terminals. These yards can combine cargo from multiple marine terminals and utilize trains that efficiently transport cargo throughout the U.S. The only existing near-dock rail yard for the SPBP is the Intermodal Container Transfer Facility (ICTF) which is operated by Union Pacific Railroad.

**Status**  
The Ports are evaluating a proposal for the near-dock facility operated by BNSF called the Southern California International Gateway (SCIG) project, as well as a proposal for the expansion of the existing ICTF facility.

**Annual Emissions Reductions**  
Not Available

**Potential Benefit to the I-710 Corridor Communities – Moderate to Substantial**  
Shifting more containers to rail decreases the use of trucks for the movement of cargo. Evidence indicates that rail has less emissions per cargo mile than trucks, primarily because up to 200 containers can be transported in a single train. However, near dock rail still must transport containers from the marine terminals to the near dock rail facility, a movement that is still done by trucks. Thus, there are still diesel emissions from these operations. Near dock rail facilities can do more, however, to use cleaner trucks than other operators. Because the distance from dock to near dock rail is so short, the prospect for using alternative fuel, electric or electric hybrid truck technology is enhanced. The benefits of near dock rail would be much more significant if operators were to use alternative cargo transport technology or trucks equipped with engines that were cleaner than the EPA 2010 standard.

**Cost**  
Cost to Ports: Not Available  
Cost to Industry: Not Available  
Cost to State: Not Available

**Contact**  
Ports of Los Angeles and Long Beach  
Alameda Corridor Transportation Authority  
(310) 233-7480
Website
http://www.portoflosangeles.org/DOC/REPORT_SPB_Rail_Study_ES.pdf
**Title of Program**  
Shuttle Trains

**Responsible Agency**  
Alameda Corridor Transportation Authority

**Description**  
This program would shuttle containers on rail between the Ports of Los Angeles and Long Beach as well as the Inland Empire for a six to nine month demonstration project. The concept is that containers would be moved by rail to the Inland Empire intermodal facility. The containers would be trucked the remaining distance to warehouses for outbound distribution. Empties would be transported back to the inland rail center and transported via rail back to the ports.

**Status**  
Under consideration

**Annual Emissions Reductions**  
Not Available

**Potential Benefit to the I-710 Corridor Communities - Unknown**

**Cost**  
Cost to Ports: Not Available  
Cost to Industry: Not Available  
Cost to State: Not Available

**Contact**  
Alameda Corridor Transportation Authority, (310) 233-7480

**Website**
SECTION E
South Coast Air Quality Management District
**Title of Program**
Chairman’s Clean Port Initiative

**Responsible Agency**
South Coast Air Quality Management District

**Description**
In 2005, Chairman Burke announced the Clean Port Initiative which consisted of seven action items:

- **Action Item 1**: Clean Port Summit between the AQMD and the SPBP.
- **Action Item 2**: Called on Ports to accelerate efforts. If ports do not act aggressively, AQMD staff will develop regulations to control port pollution.
- **Action Item 3**: AQMD staff will prepare a monthly report to the public describing environmental impact reports and other CEQA documents for projects related to goods movement.
- **Action Item 4**: AQMD staff will work with SPBP to conduct air quality monitoring both inside and outside of the port terminals.
- **Action Item 5**: Asked USEPA to adopt strict emission standards for marine vessels. If EPA fails to do so, AQMD will take action to force EPA to take aggressive action.
- **Action Item 6**: AQMD staff will develop a proposal for corresponding emission reduction measures in Southern California and at the Asian ports and discuss implementation at an international summit.
- **Action Item 7**: Called on state legislature to adopt a shipping container fee or some other mechanism to fund pollution clean up at the ports.

**Status**
Unable to confirm

**Annual Emissions Reductions**
Not Available

**Potential Benefit to the I-710 Corridor Communities - Limited**
Most of the action items listed above would not result in measurable emission reductions.

**Cost**
- **Cost to Ports**: Not Available
- **Cost to Industry**: Not Available
- **Cost to State**: Not Available

**Contact**
South Coast Air Quality Management District, (909) 396-2000
Website
http://www.aqmd.gov/phone/imp_phone_numbers.html
V. Summary and Recommended Next Steps

5a. Summary

This report is not the AQAP. The AQAP will require a much greater depth of analysis than was possible at this level of commitment. This report was a preliminary step in the development of the AQAP. It summarizes the process that resulted in the creation of the AQAP and the expectations that stakeholders have for the document. It reviews the enormous progress that has been made in goods movement and diesel related air quality policy since the summer of 2004. It identifies the limitations of this approach, but makes suggestions on how to maximize the opportunity that is presented by this unprecedented exercise.

Some have insisted that the AQAP must stand on its own – be separate and distinct from the numerous other air quality programs which are being pursued by several public agencies. This is not logical. The measures listed in Chapter IV are a profound step for air quality improvement in the Ports and the I-710 Corridor. Taken together, these policies and programs represent the most far reaching, comprehensive, and promising strategy ever proposed to reduce emissions from diesel fueled engines and the goods movement sector. If successfully implemented these air quality measures will have a significant and positive impact on the quality of life in the I-710 Corridor. Thus, the first best thing that the stakeholders in the environmental health of the I-710 Corridor can do is work for the successful implementation of the measures in Chapter IV.

Neither GCCOG nor the I-710 Corridor cities should try to replicate the programs listed in Chapter IV. How then can the AQAP add to the effort to clean the air in Southeastern Los Angeles County? One obvious purpose for the AQAP would be to provide the I-710 Corridor cities with a blueprint to maximize the benefits of these policies in their communities. This is best accomplished by working to make sure that the owners and operators of assets that pollute are among the first to comply with new regulations, that they comply ahead of schedule (if possible), and that they be encouraged to develop ways to go beyond their requirements. This should be one of the primary missions of the AQAP – to provide guidance to I-710 Corridor cities on how they can ensure that the benefits of the measures in Chapter IV accrue to their communities, and do so rapidly.

Another purpose of the AQAP can be to identify gaps in air quality programs. Once identified, these gaps can be addressed. In most instances, I-710 stakeholders will have to advocate the development of policies by SCAQMD, CARB or EPA to address any deficiencies that are discovered. In some instances, however, there may be actions that can be taken at the local level to help alleviate the problems. The AQAP should provide a venue to pursue either approach.

Finally, the AQAP can help mobilize stakeholders to work on behalf of the goals of the Plan. Given the 13 cities and dozens of stakeholders who participated in the I-710 Major Corridor Study, the potential for meaningful action exists. But the stakeholders must be kept apprised of the issues, they must be provided information to help them...
make decisions, and they must be organized to make decisions and allocate resources. The AQAP can be that mechanism.

In order to successfully tackle the job of developing an AQAP, it will be necessary to better understand the nature of the problem in the I-710 Corridor. Enhancing air quality monitoring in the community is essential for both understanding the severity of the impacts as well as developing effective responses. The data that is collected by an expanded monitoring program can be used to support policies and craft programs to ensure that the I-710 corridor communities maximize their opportunities for cleaner air.

To develop a useful air quality action plan, the GCCOG will need to better understand the impacts that the 44 programs listed in Chapter IV will have on I-710 Corridor communities. As discussed, although there are many measures, the benefits will be unevenly distributed. For those measures in Chapter IV for which an emission reduction benefit has been quantified, the reductions in I-710 Corridor communities have not been differentiated. Thus, the data needed to prioritize measures for their impact on the I-710 Corridor needs to be developed. This should be a goal of the next phase of the AQAP.

This document is intended to be a blueprint for the next phase of the AQAP. In the pages that follow, the reader will find a number of recommendations for how to proceed with the AQAP. Section 5b presents the recommendations for early action which representatives of the environmental community would like the Program Committee to consider. Section 5c presents recommendations from GCCOG for the scope of work for the next phase of development of the AQAP. Finally, Section 5d makes a projection for the budget of the next step in the AQAP.

5b. Proposed Early Action Items Recommendations from the Environmental Community

In the process of developing the scope of work for the AQAP, representatives from the environmental community indicated a strong desire to see the immediate development and implementation of several air quality improvement measures. They expressed concern that more than 30 months had elapsed since the publication of the Tier 2 report and the draft of this report, and had hoped that more progress would have been made in the interim on the development and implementation of emission reduction measures. As summarized in Chapter III, these representatives of environmental organizations, many of whom were members of the Tier 2 Committee, indicated that they were disappointed that the process in which they were now being asked to participate would not result in near term air quality improvement measures.

Although a good deal of time has passed since the publication of the Tier 2 report and the adoption of the LPS, much had transpired during this period. The GCCOG was required to develop a “Mini-study” of alternatives for the I-5/I-710 intersection which were acceptable to the communities of East Los Angeles and the City of Commerce. This study was one of the conditions of the Major Corridor Study approval. Some of the
community-based alternatives required additional modeling and engineering analysis which prolonged this process. Additionally, the process to create the multi-agency funding partnership that has assumed the responsibility of moving the project to the next phase took months as each of the six respective governing boards took action to commit to the project and program funding.

Nonetheless, given the lapse of time, the interest in tangible signs of progress is understandable. Fortunately, the interim period has seen unprecedented activity in the arena of air quality regulations and programs, particularly in the area of goods movement. For some, the advent of an aggressive agenda on air quality regulation, much of which will dramatically impact the 710 Corridor, is a welcome development. For others, the fact that many of these measures are not yet approved, may take many years to implement and may not necessarily target communities along the 710 corridor, are reasons to accelerate the development of the AQAP.

Through several discussions with key environmental representatives, it was clear that some members of this community wanted to see this report make recommendations for immediate actions that could be pursued to help improve air quality in the 710 Corridor while the bulk of the AQAP was being developed. Most of these “early action” recommendations listed in this section were based on the concepts that were originally proposed in the Tier 2 report. Some, however, emerged from meetings during the AQAP development process as presenting some additional opportunities for near term progress towards the goal of the AQAP and which support other strategies already listed in the Tier 2 report.

This section of the report presents a list of nine early action recommendations that environmental community representatives would like to propose to the I-710 Project Committee (PC) and Executive Committee (EC) for immediate action. They urge the committees to adopt and implement these recommendations prior to the full development of the AQAP in order to provide near term air quality benefits in the 710 Corridor. These measures present a variety of opportunities, some of which will result in direct emission reductions while others may provide the foundation for the development and implementation of a successful AQAP. The recommendations for early action items presented herein were selected by the representatives of the environmental community primarily because they believe that these measures provide I-710 Corridor communities with actions that can be taken now to improve air quality in Study Area.

This chapter of the report summarizes the recommendations for early action items developed from the meetings with the environmental community discussed above. These recommendations will be presented to the I-710 Project Committee and Executive Committee for review and comment. If the I-710 Project Committee and the I-710 Corridor communities concur and decide to proceed with all or some of these recommendations, then the GCCOG and other stakeholders can begin to implement these near term air quality improvement measures.
Early Action Item #1: Develop funding plan for the AQAP

The recommendations that were listed in the Tier 2 report provided for an ambitious agenda of activities to improve air quality in the I-710 Corridor Communities. Resources will be essential to ensuring the development and the implementation of the AQAP. As of this writing, however, no money has been allocated for the AQAP other than the initial $75,000 which was authorized by LACMTA in June 2006. Representatives of environmental groups in 710 Corridor do not want to wait another two years from the issuance of this document to obtain resources for the advancement of the AQAP.

Thus, in order to advance the AQAP, the environmental community recommends that a plan be put together to fund the development and implementation of the AQAP. This plan should identify all of the potential sources of funds for AQAP implementation, should include a timeline for the implementation of the funding plan, and should stipulate milestones for achievement.

The I-710 Corridor cities should participate in financing the air quality planning that they advocate. Such participation not only would help launch the AQAP project, but will also demonstrate the interest and commitment of each of the 710 Corridor cities to the goals of the AQAP. It could also provide early resources for the development of the AQAP while the other, more substantial sources of funds undertake their processes for authorization and appropriations. It is recommended that each city authorize an appropriate sum to be set aside for the development and implementation of these early action items and the AQAP. Each city and the County of Los Angeles would provide an allocation beginning with the next fiscal year. These funds should be used by the GCCOG to prepare the AQAP or implement early action recommendations.

The total amount of resources set aside by the 710 Corridor cities would then be matched on an annual basis by both the LACMTA and the SCAQMD.

If this early action item recommendations is supported by the I-710 PC and EC, the GCCOG could develop model language to be used by each city for a resolution authorizing the set aside of resources for these recommendations.

Early Action Item #2: 710 Corridor Communities to Maximize Use of Cleaner Transportation Technology

The Tier 2 Report contains several measures which encourage the use of cleaner alternatives to diesel in heavy-duty vehicles or which seek to support the use of emission control equipment on these same vehicles. It is important that, if the cities of the 710 Corridor are going to seek to maximize the use of the fuels and technologies on vehicles that operate in Corridor, it is recommended by the environmental groups that they lead by example. Early Action Item #2 recommends the use of the best available emission reduction technology to reduce emissions from vehicle fleets, most importantly municipally-owned diesel fueled medium and heavy-duty vehicles.
The two most effective immediate steps that can be taken to reduce emissions from diesel fueled heavy-duty vehicles are to either replace them with alternative fuel vehicles or to equip their existing fleet with emission control devices. To facilitate the purchase of cleaner, alternative fuel vehicles, I-710 cities could create a buyers’ consortium that will pool the purchasing power of the public and private sectors to maximize the number of clean-fueled vehicles in Gateway Cities based fleets.

**Early Action Item #3: Support Legislation Establishing Container Fees**

In both 2005 and 2006, legislation was introduced in Sacramento to create a fee on each import container that enters the San Pedro Bay Ports and use the collected funds to help pay for port security, infrastructure improvements and the environmental impacts of goods movement. This legislation, introduced both times by Senator Alan Lowenthal, passed both houses of the state legislature in 2006 as SB 927, but was vetoed by Governor Schwarzenegger. Last month, the container fee bill was reintroduced by Senator Lowenthal (as SB 974), addressing many of the issues that were raised by the Governor in his September 2006 veto message.

The latest version of the container fee legislation provides for a charge of $30 per TEU to be billed to the owner of container cargo that moves through the Ports of Long Beach, Los Angeles, and Oakland. The money that would be collected by the San Pedro Bay Ports would be deposited equally in to one of two accounts, the Southern California Congestion Relief Trust Fund and the Southern California Port Mitigation Relief Trust Fund. Resources collected from users of the Port of Oakland would be deposited in duplicate trust funds for Northern California. The Southern California Congestion Relief Trust Fund would be used for funding projects that improve the flow and efficiency of container cargo moving to and from the San Pedro Bay Ports, while the Port Mitigation Relief Trust Fund would be used to mitigate environmental pollution caused by the movement of cargo to and from the Ports. The Congestion Fund would be administered by the California Transportation Commission, while the Mitigation Fund would be run by the Air Resources Board. Using 2006 cargo statistics, the bill would raise over $325 million annually for Southern California transportation and environmental improvement projects.

These resources will be critical for both the facility improvements outlined in the 710 Major Corridor Study and the achievement of the objectives of the Air Quality Action Plan. 710 Corridor communities must work to ensure the passage of this legislation as SB 974 includes strong provisions that the resources will be used to reduce emissions on impacted Corridor communities and to improve air quality monitoring and reporting in the area. GCCOG Board of Directors took the first step towards supporting this critical legislation with the “Support” vote taken at their April 4, 2007 meeting. Environmental stakeholders further recommend that I-710 Corridor cities work with the author to ensure that projects recommended for funding from this program are generated locally and give priority to projects that are most impacted by cargo movement in and out of the ports.
To achieve these goals, 710 Corridor stakeholders should be asked to support early action item #3 by:

- having their city councils pass resolutions in support of SB 974.
- directing their representatives in Sacramento to work with Senator Lowenthal, his co-authors and the Governor’s office to support the passage of SB 974.
- seeking statements of support for the legislation from all State Senators and Assemblymembers who represent communities in the 710 Corridor.
- seeking statements of support for the legislation from non-governmental community organizations, neighborhood associations and other civic organizations.

If this early action item is approved by the Community Advisory Committees, the GCCOG will be asked to draft a model resolution of support that can be used by 710 Corridor cities as a template for their own resolutions.

**Early Action Item #4: Formal Establishment of a Partnership Between the 710 Corridor Communities and the SCAQMD for the Improvement of the Air Quality Monitoring System in the 710 Corridor**

Air quality in the 710 Corridor is widely believed to be among the worst in the South Coast Air Basin, which is the most polluted air basin in the United States. Numerous studies have recently pointed to the deleterious health impacts of air in the 710 Corridor communities, including the SCAQMD’s Multiple Air Toxics Exposure Studies (MATES I, II and III) and ARB’s Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach. Unfortunately, many of the conclusions in these studies are extrapolated from relatively limited sets of air quality monitoring data that have been collected from a handful of monitoring stations scattered throughout the South Coast Air Basin. For instance, for the groundbreaking MATES II study, data was collected from only three air quality monitoring stations in the I-710 Corridor (North Long Beach, Compton and Huntington Park) and one nearby (Wilmington).

The 710 Corridor communities have made previous recommendations that the SCAQMD increase the number of air quality monitoring stations located in the 710 Corridor.

This fourth recommendation for early action involves the development of a partnership between the 710 Corridor communities and the SCAQMD for the development of a new and expanded air quality monitoring system in the I-710 Corridor. It is recommended that the I-710 Project Committee establish a committee of representatives from the I-710 Corridor communities to work with the SCAQMD to develop and implement a program to expand and improve air quality monitoring in the Corridor including the deployment of mobile monitoring equipment. The 710 Corridor Air Quality Monitoring
Committee would work with the SCAQMD to identify appropriate sites for new monitoring stations, develop protocols for reporting the data collected, and encourage the use of the data among atmospheric scientists and public health specialists for studies which can help policy makers develop better policies to reduce public exposure to harmful pollutants. The 710 Corridor Air Quality Monitoring Committee and the SCAQMD would establish a timeline for the deployment of new monitoring stations and a budget for the purchase and maintenance of these air quality monitoring assets. The SCAQMD would also designate a senior staff member to take the lead on the development of this new program.

**Early Action Item #5: Development and Passage of Local Ordinances to Restrict Truck Idling**

It has been well established that emissions from diesel fueled vehicles pose a public health risk in the 710 Corridor communities. The MATES II study established that 71 percent of the toxic air contaminants in local air comes from diesel particulates. According to other studies, in some places along the 710 Corridor, the cancer risk from exposure to toxic air contaminants is as high as 1 in 2000.

A significant source of diesel emissions comes when trucks idle while parked or queued at distribution facilities. This practice, which is not necessary for the operation of most heavy-duty diesel trucks, comes from driver habits established at a time when diesel engines were difficult to restart once they had been turned off. Since the 1994 model year, however, virtually all diesel engines have electronic controls, which enable the big rigs to restart instantly from either a warm or cold start. With contemporary diesel engines, all idling does is waste fuel and pollute the air.

In recognition of the health threat posed by unnecessary idling, various efforts were initiated to limit truck idling. The state of California has passed legislation and developed regulations to control heavy duty vehicle idling. In 2002, then-Assemblymember Alan Lowenthal authored legislation which placed limits on idling outside of marine terminals. AB 2650 put the onus on the operators of the marine terminals, making them responsible for preventing trucks that were queued outside of their gates from idling longer than 30 minutes. Enforcement of the regulation was placed on the local air districts, and the penalty for violations was $250 per occurrence. In 2005, Senator Lowenthal introduced SB 761, which would make it a violation for marine terminals to operate in a manner that causes trucks that call on their terminal to exceed 60 minutes in total turn time while conducting business at the terminal.

In October 2005 the ARB approved new regulations which limit idling in new and in-use sleeper berth equipped heavy-duty trucks. The regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with an engine shutdown system that automatically shuts down the engine after five minutes of idling or optionally meets a stringent oxides of nitrogen idling emission standard. For in-use trucks, the requirement is for operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes.
at any location within California beginning in 2008. The ARB has also established idle limits for school buses.

Although these regulations are now in place, there are significant gaps both in enforcement and in the regulations themselves. For instance, the legislation passed by Senator Lowenthal only applies to trucks waiting at marine terminals in the ports, and does not apply to trucks waiting at warehouses and cargo distribution facilities. The regulations approved by ARB, on the other hand, apply only to trucks that are equipped with sleeper cabs and not to those with day cabs. In order for truck idling to be addressed in a more comprehensive fashion in the I-710 Corridor, either more stringent regulations would have to be promulgated in Sacramento or local governments would have to step forward and both pass regulations to limit truck idling and invest the resources that are necessary to enforce these ordinances.

In order to address these gaps in enforcement and legislation, this fifth early action item recommends that municipalities in the 710 Corridor pass ordinances to prohibit the idling of any diesel-fueled medium or heavy-duty vehicle for longer than five minutes at any time when that vehicle is within city limits. The ordinance could levy a $250 fine that will be placed on the vehicle operator if the diesel truck that the driver is operating idles within city limits for five minutes or longer.

It should be noted that, in order to enforce this new municipal ordinance, the I-710 Corridor communities would have to commit to training local public safety officers in how to recognize idle limit violations and enforce anti-idling regulations. Environmental groups also recommend that local governments work to help educate truck operators and distribution facilities in their communities about the new anti-idling ordinances and the importance of complying with the new regulations. In order to provide for training and education programs, I-710 Corridor communities could draw upon the AQAP fund created in Early Action Item #1.

If Early Action Item #5 is approved by the PC, the GCCOG could take the lead and provide I-710 cities with a model ordinance. GCCOG would also work with the ARB, the SCAQMD and local law enforcement agencies on the development of training programs for public safety officers who would be responsible for enforcing the anti-idling ordinances. Finally, GCCOG would coordinate with local governments on the development of a Corridor-wide public and distribution facility education program, to ensure consistency and to maximize the efficient use of resources.

**Early Action Item #6: Conditional Use Permits for New Warehouses and Distribution Facilities**

The goods movement industry is one of the largest employers in Southern California. Business associated with the management and handling of cargo is one of the fastest growing segments of the region’s economy. Whereas the industry is creating jobs for residents and providing tax revenue for local governments, it is also a source of much of the air pollution which is adversely affecting the health of these communities.
One of the reasons that diesel fueled trucks are a primary source of toxic air contaminants in 710 Corridor communities is that businesses in these communities are the destination of many trucks. Trucks not only make deliveries to business, but they are also visit warehouses and distribution facilities where cargo is transloaded i.e. where it is either broken down so that deliveries can be made to individual customers or where it is aggregated so that it can be shipped more easily to distant locations. The off-road equipment used to break down and organize the cargo and deliveries are also generally fueled by diesel. At present, there are few, if any, requirements placed on these facilities regarding their operations, the infrastructure that they must provide, how they manage the trucks that call on their warehouses, or the emissions of the off-road equipment used at these facilities to manage their cargo. In the absence of rules governing their development, these facilities will contribute to the inventory of toxic air contaminants that impact the I-710 Corridor communities.

In order to mitigate the public health and environmental impact, the environmental community recommends that I-710 Corridor communities adopt criteria for the issuance of conditional use permits on all new warehouse or freight distribution facilities that seek to be built in the region. These new conditions would be placed on the any new permittee before the issuance of a permit to build is granted from the Planning or Building and Safety Departments. The environmental community recommends that each city adopt the following complimentary suite of new requirements which, if implemented together, will achieve significant relief for their communities:

- **Idle restrictions.** New permittees would be required to provide plans for how they will help the city enforce new idle restrictions on trucks that call on their facilities. Such plans would include demonstrating that the new permittee will monitor idling trucks at their facility and that the permittee has developed clear procedures to ensure that no truck idles for longer than five minutes while on their property or queued outside of their property for entry to their property.

- **Provision of electrical outlets to plug in refrigerated trailer (reefer) units.** New permittees would be required to include, in their building plans, designs for the installation of appropriate electrical infrastructure that would enable any truck carrying a reefer unit to plug that trailer in to the local electrical grid to power the refrigeration unit.

- **Restrictions on the use of diesel power auxiliary power units.** New permittees would be required to provide plans for how they will restrict the use of diesel fueled auxiliary power units (APUs) in both trucks and trailers that call on their facilities.

- **Requirements for alternative fuel cargo handling equipment.** New permittees would be required to show how they would incorporate electrical and low emission alternative fuel cargo handling equipment in to
their operations. Such equipment includes yard hostlers, fork lifts, reach stackers, and other equipment used to move trailers, containers, and cargo within the subject property.

- Provide for these conditions within the land use permit terms of any warehouse, distribution center, or big-box retail facility in the city.

The GCCOG could assist the local governments develop these conditions for the issuance of CUPs in 710 cities. 710 Corridor communities could also explore ways that they can apply or incentivize these and other permit restrictions on the operations of existing warehouses and distribution centers within their boundaries.

**Early Action Item #7: Requirements on Construction Equipment Used in 710 Corridor Communities.**

Another source of emissions in the South Coast Air Basin is construction equipment. Except in rare instances, construction equipment emissions are uncontrolled, i.e. there are no requirements that such equipment be equipped with emission control devices. Although in recent years the U.S. EPA has promulgated new emission standards for new off-road engines, it will take many years for these new requirements have an impact on air quality. Construction equipment, like other diesel-powered technology, can last in use for decades before it is retired, thus diminishing the impact of tightening emission standards on this generation of equipment.

There are a few examples already in place that outline the kinds of requirements that can be placed on construction contractors. Legislation has been proposed at the state level that would create regulations supporting the use of the most recently manufactured construction equipment on state-financed projects. Another example is the Community Benefits Agreement that Los Angeles World Airport negotiated with a coalition of adjacent cities and community groups. These represent some of the mechanisms that can be used by 710 Corridor cities to address this source of air pollution in their communities.

In order to accelerate the introduction of cleaner technology in the I-710 Corridor communities, the environmental community recommends that cities establish requirements that companies performing construction in the region use only construction equipment with the cleanest available engines. These requirements would be placed in the language of RFPs that cities issue for work, or in permits that the cities issue for construction. If a city opts to establish a requirement, they could restrict the kinds of equipment that is used in their community to only those units that operate with an engine that meets the most stringent emission standard in effect at the time. For instance, if a contractor wanted to use a backhoe in his operations with a 300hp engine, that engine would have to meet EPA’s Tier 3 emission standard of 3.0 grams of NOx per brake horsepower hour and 0.15 grams of PM/bhp-hr, because this standard, which took effect in 2006, is the most stringent in effect at this time. Another approach that a contractor could take is to install the cleanest possible verified diesel emission
control systems on his construction equipment that is not already equipped with the cleanest available engines.

In another approach, I-710 Communities could develop regulations that require contractors bidding on projects in I-710 Corridor communities to provide plans for how they will reduce emissions from their diesel-fueled equipment. Such plans would describe what steps contractors will take to mitigate emissions from their construction equipment, or could require that contractors tell the city why they have been unable to implement such measures.

If this early action item is supported by the I-710, PC & EC, the SCAQMD and the GCCOG could work with I-710 Corridor communities to provide them with models for either ordinances that require contractors to use construction equipment with the latest model engines or programs that incentivize the use of such equipment.

Early Action Item #8: Plans to Reduce the Exposure of Sensitive Receptors to Diesel Exhaust.

Although exposure to diesel exhaust is not good for anybody, there are certain segments of the population for whom breathing pollution from diesel vehicles is especially damaging. These sensitive populations include children, seniors, and people with respiratory problems. Unfortunately, facilities where these sensitive populations congregate, such as schools, senior centers, clinics and hospitals, are often on or very near major transportation corridors. Recent studies have demonstrated that the incidence of asthma increases significantly the closer a child is to a freeway. Other studies have linked increased mortality to days where particulate pollution is particularly high. It is therefore important to limit the exposure of these sensitive receptors to diesel exhaust.

In order to reduce the contact of sensitive populations to diesel exhaust, the environmental community recommends that the 710 Corridor cities create and implement plans to that mitigate such exposure. Communities should make reducing exposure of children, seniors and other sensitive receptors to diesel exhaust an objective of their land use planning, zoning, transportation plans and other public policies. Such plans could include requirements that trucks be rerouted away from schools, senior centers, medical facilities, etc., the development of diesel truck-free zones, the development of standards for landscaping near such high priority facilities, the installation of double paned windows and air filtration devices on buildings containing sensitive populations, and other measures.

Where rerouting trucks or other polluting vehicles or changing land uses is not practical, the utilization of landscaping as a pollution mitigation should be investigated.

In addition, such ordinances should take in to consideration the adverse health impacts of noise and vibration. Expansion of the use of sound walls could help alleviate some of these impacts.
The I-710 Corridor communities can work with the SCAQMD, LACMTA, SCAG and the GCCOOG in order to evaluate measures that can be taken to achieve this public policy goal. Corridor communities could promulgate and pass resolutions which elevate this objective as a municipal priority. Planning and transportation departments can be asked to study the issue, and to develop plans to reduce, to the extent feasible, the exposure of sensitive populations to diesel exhaust.

**Early Action Item #9: Policies to Encourage Communities to Buy Local**

The I-710 Corridor communities are subject to high levels of air pollutants because of the volume of cargo that enters the San Pedro Bay Ports. If Americans consumed more locally produced products, then not only would it help the U.S. economy, but it would also have a positive impact on the amount of pollution caused by goods movement through the ports. It is recommended by the environmental group stakeholders that the I-710 Corridor cities pass resolutions establishing preferences for goods and services produced in Los Angeles County, in California, and in the United States. It is further recommended that any existing “buy local” ordinances be strengthened to include reports back to the council, milestones for achievement, and other measures to help enhance their effectiveness.

**5c. Recommendations**

This section includes a set of recommendations for the GCCOOG Board of Directors to accept, review and forward to the I-710 Project Committee and I-710 Executive Committee for their review, consideration and direction. These recommendations are based on the interviews undertaken for the preparation of this study and our evaluation of how best to proceed with the development and implementation of an effective AQAP. These recommendations are followed by a description of a scope of work for the next phase of work on the AQAP (development and implementation), as well as an estimate of the budget for this work.

The recommendations are as follows:

a. Approve the scope of work and budget and instruct GCCOOG to proceed with the AQAP.

b. Request that the GCCOOG Board of Directors pursue funding for the development and implementation of the AQAP.

c. Work with air agencies to establish additional air quality monitoring stations in the I-710 Corridor as soon as possible, as well as develop a protocol for reporting the information collected by these stations to the public.

d. The AQAP should include, but not be limited to, the following elements:

   1. Report on status of all other air quality programs and reports and provide more detailed analysis.
(2) Detailed analysis and quantification of the air quality benefit of all emission reduction programs and regulations that have substantial or moderate benefits for the I-710 communities based on updated baseline of current pollution levels.

(3) Develop a priority list of near-term air quality strategies that will be monitored twice a year for progress with specific status reports of timelines, time-tables, funding, status, benefits and issues. This is an important element as 31 of 44 of the air quality strategies and programs outlined in this report have been approved or will be approved within the near-term time frame of five years.

(4) Develop actions that local communities can take to maximize air quality benefits of the near term air quality strategies identified in Chapter IV, including a cost-benefit analysis of these actions for I-710 cities.

(5) Develop monitoring program to “track” the progress of various air quality strategies and programs and report progress twice a year.

(6) Monitor Health Risk Assessments that are being prepared in the I-710 corridor and report results.

(7) Develop a subregional Health Risk Assessment to evaluate the public health benefit of the full implementation of the air quality measures to be included in the AQAP.

(8) Develop advocacy programs to assist other agencies obtain funding for air quality programs and regulations.

(9) Develop program for GCCOG to participate in air quality improvement programs (such as the Clean Trucks Program), where applicable.

e. Address “Early Action Items” recommendations from environmental community representatives and forward those recommendations with support to the GCCOG for consideration for implementation and request GCCOG to work with local communities to implement the selected recommendations.

5d. Proposed Scope of Work for the AQAP

The next phase of the development of the AQAP should involve the development of a specific strategy for maximizing, in the I-710 Corridor, the air quality improvement potential of the measures outlined in Chapter 4. It should also entail the provision of support for the successful implementation of those early action items from Section 5b and the recommendations in Section 5c that are approved by the Project Committee. Finally, the AQAP should develop and obtain the approval of additional measures to address the gaps left by other public agencies in policies to improve air quality in the I-710 Corridor communities.

This section provides a draft of a proposed scope of work for the next phase of the development of the AQAP.
Task 1: Formalize the Scope of Work and Project Timeline and Develop a Request for Proposals to secure a contractor to do the work.

The GCCOG will need to secure the services of a contractor to perform the work for the next phase of development of the AQAP. Although this report provides a blueprint for the activities that this contractors should engage, it will still be necessary to draft and publish either a Request for Proposals (RFP) or a Request for Qualifications (RFQ) in order to select and appropriate contractor. Some of the sub tasks that would be involved include:

- GCCOG will draft the RFP/RFQ and provide this draft to the Project Committee for their review and approval. If an RFP, GCCOG will create a draft list of deliverables and a timeline for the achievement of milestones. If an RFQ, a draft list of deliverables and timeline will still need to be created to help direct the selected contractor.

- GCCOG will investigate partnering arrangements with other public agencies that could advance the development and implementation of the AQAP.

- GCCOG will collect comments from the Project Committee and integrate these comments in to the final draft RFP/RFQ.

- Once finalized, the RFP/RFQ will be published and applications accepted. GCCOG will work with the Project Committee to create a committee to evaluate applicants. Applicants’ submissions will be reviewed, interviews will be conducted and recommendations will be formulated on the basis of selection criteria developed by GCCOG.

- Upon approval of the recommended contractor, contracts will be negotiated and the contractor will be retained to develop the AQAP.

Task 2: Coordination with GCCOG, Project Committee

It will be essential for the AQAP contractor to remain in close communication with GCCOG and the Project Committee regarding progress that is being made on the development of the AQAP. This coordination should involve:

- Bi-weekly conference calls with GCCOG;
- Quarterly meetings with GCCOG;
- Provide regular briefings on the status of the project;
- Quarterly reports on the status of the project;
- Meetings with key leadership on the Project Committee (2 a year).
**Task 3: Analysis of Impact of Chapter 4 Air Quality Measures on the I-710 Corridor Communities**

As discussed, a crucial aspect of the development of the AQAP will be a detailed analysis of the air quality impact of the measures that have been or will be implemented by the ARB, SCAQMD and SPBPs that are listed in Chapter 4 of this report. This analysis will focus on the extent to which the emission reductions that are attributable to these measures will accrue to the I-710 Corridor communities. This analysis will enable the contractor to evaluate the measures to determine which of these will have the most beneficial impact on the I-710 Corridor communities, which in turn will help the contractor and the stakeholders make decisions about which of these measures to prioritize for additional local work. Thus, this task will entail:

- A review of the measures in Chapter 4 and an evaluation of whether, in the interim period between the publication of this report and the beginning of the next phase of AQAP development, additional air quality measures have been proposed by 3rd parties which should be included in this analysis;

- Meetings with SPBPs, CARB and SCAQMD on the development of appropriate protocols for the evaluation of the air quality benefits of these measures in the I-710 Corridor Communities. It will be important for the contractor to work with these agencies to ensure that all parties agree with the methodologies that are used to calculate the emission reductions of measures and to attribute a portion of those reductions to the I-710 Corridor communities.

- Development of framework for reporting the results of this analysis that will provide data in a manner most useful to the stakeholders in the I-710 program. The contractors should work with stakeholders to determine the framework and format that best suits the needs of those who will be using the information to make decisions.

- Performance of the analysis of 3rd party air quality measures. This quantitative analysis should include an evaluation of the total air quality benefit of these measures as well as the benefit in the I-710 Corridor communities; it should include an analysis of the potential Greenhouse Gas emission impacts of these measures; it should sharpen the evaluation of the value of each of these measures to the I-710 Corridor communities (i.e. is the benefits substantial, moderate, limited, or none); it should analyze and determine timetables for results and it should include an cost effectiveness analysis of the measure, particularly as it pertains to emission reductions that will take place in the I-710 Corridor.

- The draft analysis of 3rd party air quality measures should be distributed to selected peer reviewers, including key staff at local air quality public agencies, as well as to the stakeholders in the I-710 corridor for comment.
• Revisions, as appropriate, should be made by the contractor to the analysis of 3rd party air quality measures and the analysis should be finalized as a report of the contractor on the AQAP.

**Task 4: Development of Strategy to Ensure 3rd Party Air Quality Measures Benefit I-710 Corridor Communities**

The primary purpose of the analysis that is performed in Task 3 is to determine what, if any, steps I-710 Corridor cities can take to ensure that the air quality benefits of these measures accrue in their community. For instance, measures that provide a requirement that trucks be outfitted with diesel emission control devices may eventually bring emission reductions to the I-710 Corridor communities, but these reductions can both be accelerated and enhanced if local governments worked to encourage early compliance. Similarly, if authorities establish new emission standards for off-road heavy duty equipment, I-710 Corridor cities can ensure that these reductions occur quickly in their communities by developing ordinances that require the use of the cleanest technology on construction projects within their jurisdiction. Conversely, there is little that I-710 Corridor communities can do to encourage owners of ocean going vessels to comply with speed reduction or lower sulfur fuel use requirements. However, the I-710 Corridor Communities can create an advocacy program to support these measures.

Thus, part of the purpose of the AQAP will be to identify opportunities to accelerate the implementation of these 3rd party measures in I-710 Corridor communities and develop model policies that local governments can approve which would accomplish this objective. In order to achieve this, the contractors will need to implement the following scope of work:

• Work to prioritize 3rd party measures, highlighting those which both maximize the benefit in the I-710 Corridor and for which cities can implement policies that would accelerate or enhance the implementation the measures in I-710 Corridor communities. Work with stakeholders to determine which measures should be prioritized for policy development, and for the development of timelines for implementation.

• Develop draft policies and programs that can be implemented by I-710 Corridor cities that would accelerate and/or enhance the effectiveness of 3rd party air quality improvement measures in the I-710 Corridor.

• Evaluate the measures selected for cost effectiveness. It will be important for local decision makers to have information regarding which of the possible policies and programs that have been developed will result in the most local emission for the investment.
**Task 5: Development and Analysis of new Air Quality Measures for the I-710 Corridor Communities**

Although it is clear that, if fully implemented as proposed, the measures that have been developed over the last three years by the state’s air quality regulators and the San Pedro Bay Ports will achieve substantial improvements in air quality, additional steps will have to be taken to reduce emissions of harmful air pollutants in order for the region to achieve health-based air quality standards. Although most of these as of yet undefined measures are likely to be developed and implemented by the air quality agencies, there may be actions that can be taken on the local level that can contribute to cleaning up I-710 Corridor.

This task focuses the contractor on the development of new air quality improvement measures that can be implemented by I-710 Corridor communities or which can be advocated by I-710 stakeholders among air quality regulators for quick adoption or implementation. Some of the tasks that would be involved in this scope of work include:

- Meet with air quality agencies, key I-710 Corridor stakeholders, and others to brainstorm ideas for local air quality improvement measures.

- Development of concepts for new air quality measures. Circulate draft new measures to air quality agencies and key I-710 Corridor stakeholders for review and comment. Working with key I-710 Corridor stakeholders, prioritize new air quality measures. Finalize measures to be examined in greater detail.

- Analysis of new air quality measures, including estimate for potential emission reduction, cost and cost effectiveness.

- Present results to the Project Committee.

**Task 6: Development of a Health Risk Assessment**

Health risk assessments are extremely useful tools for the evaluation of both existing public health threats as well as the potential benefit of future action. They can provide both policy makers and the general public with valuable information regarding which air quality improvement measures may yield the biggest reduction in risk to public health. It is therefore important to understand what the benefit will be to the I-710 Corridor communities of the many measures discussed in Chapter IV as well as any others that might be developed in the AQAP process.

This task focuses on the performance of a health risk assessment for the subregion that evaluates the reduction in public health risk of the AQAP. The task would include:

- The development of a methodology for assessing health risk, in accordance with guidelines from appropriate public agencies;
• The creation of a public input mechanism so that discrete localized risks can be identified and evaluated and so that effective programs can be developed to communicate the results of the study to the general public.

• The development of an appropriate emissions inventory that takes into account the projected emission reductions from the air quality programs and regulations discussed herein and any others that may be developed and implemented as a result of the AQAP process;

• The development of an appropriate air dispersion model for the I-710 Corridor communities;

• Performance of the analysis and publication of the results.

Task 7: Support Implementation of Early Action Items
Section 5b provides nine recommendations from representatives of the environmental community for actions that I-710 Corridor stakeholders can take in the near term that advance the goals of the AQAP. These recommended actions will either reduce emissions directly or help prepare the community for the implementation of other important emission reduction policies.

The contractor will facilitate the implementation of those early action items which are approved by the Project Committee. This task entails:

• Working with local government to determine what support is needed to ensure the successful implementation of the approved early action items.

• Development of a plan to provide requested support, including a projected budget, menu of deliverables, and a timeline for implementation.

Task 8: Public Outreach & Communications
Central to the successful completion of this scope of work will be a program to educate and engage the public. Community participation and engagement must be encouraged for several important reasons. First, public support will be essential for the AQAP to be effective. Second, public involvement may yield ideas for emission reductions unique to the 710 Corridor. The contractor will need to maintain a public outreach program that both communicates information about the AQAP but which also encourages input from stakeholders and the community.

In order to maintain and effective public outreach effort, the scope of work should include:
• Development and maintenance of a comprehensive database of stakeholders in the I-710 Corridor AQAP. This database should include all individuals and organizations that have participated at any time in the 710 Corridor process since the inception of the Major Corridor Study. Work with GCCOG and others to ensure that current and key community leaders are in the database.

• Develop multiple mechanisms for communicating with stakeholders regarding the AQAP. These could include, but no be limited to e-mail, newsletters, websites, periodic community presentations, and regular public briefings.

• Regular contact with key stakeholders to brief them on the process; included community & environmental leaders, elected officials, key agency personnel, members of the Project Committee, Executive Committee, LAMTA board, and others.

• Arrange public meetings in which community members may communicate their ideas and concerns to the AQAP development and implementation team.

5e. Proposed Budget for Development of AQAP
The scope of work described above will likely take three years to complete. A cursory analysis of the scope of work indicates a budget of between $1.8 and $2.2 million.

5f. Conclusions
This report is the initial step toward the development of the AQAP. It initiates the work plan that was given to the GCCOG in November 2004 with the approval of the LPS. In it GCCOG has presented the background of the I-710 Corridor modernization project and the genesis of the concept of the AQAP. In order to compensate for the time lag between the approval of the LPS and the initiation of the AQAP process, GCCOG reached out to stakeholders in the I-710 Corridor process to solicit their input regarding the future of the AQAP. Given the intensity of activity in port and goods movement related air quality policy in the last three years, the GCCOG has analyzed proposed measures and estimated their value to the goal of reducing air pollution in the I-710 Corridor.

It is important to repeat that, of these 44 measures that have been developed since the approval of the LPS, 31 have either been implemented already or will be in the near term. Thus, the entire landscape for air quality in the I-710 Corridor has shifted dramatically.

This report provides an overview of the projected effectiveness of planned near-term air quality improvement programs and policies in I-710 Corridor communities. It proposes several possible new air quality improvement strategies, and establishes guidelines for their analysis. It suggests that part of the strategy for improving air quality in I-710
Corridor communities is to facilitate and accelerate the implementation of the many air quality programs and policies that have been created in the last 30 months. It provides both a projected scope of work and a budget for the development of the full AQAP. It recommends the development of a health risk assessment to evaluate the public health benefits of fully implementing all of the measures that were discussed herein. Finally, it identifies nine measures that representatives of the environmental community recommend for early action along with other recommendations to proceed with this AQAP.
Glossary of Terms

**Air Quality Action Plan (AQAP)** – Plan currently under development through the Gateway Cities Council of Governments to address the air quality impacts due to any expansion of the I-710 freeway. This plan is being developed with local community input and has emerged as a prerequisite for the modification and expansion of the I-710 Freeway before local communities will accept an increase in the freeway’s capacity.

**Air Quality Management Plan (AQMP)** – Clean air plans are the essential blueprints for action by regional air quality management districts. Every three years, the SCAQMD prepares an AQMP outlining its air quality improvement strategies and the impacts of addressing specific pollutants in specific geographic locales. Each iteration of the plan is an update of the previous plan and has a 20-year horizon.

**Alameda Corridor Transportation Authority (ACTA)** - A 20-mile railroad express line that connects the port of Long Beach and Los Angeles to the transcontinental rail network east of downtown Los Angeles. It is a series of bridges, underpasses, overpasses and street improvements that separate freight trains from street traffic and passenger trains, facilitating a more efficient transportation network.

**Alternative Maritime Power (AMP)** - Also referred to as “cold ironing,” is an alternative source of power for oceangoing vessels while at berth. Instead of running on diesel power while at berth, AMP-equipped ships “plug in” to shore side electrical power. Depending on the size of the ship, estimates are that AMP will reduce NOx by one ton and take more than half a ton of sulfur oxides (SOx) out of the air each day the ship is at berth and plugged in.

**Automated Vehicle Locator (AVL)** – devices installed in trucks purchased with the assistance of grant funds, such as the Gateway Cities Clean Air Program. The AVL allows the awarding agencies to monitor vehicle location to ensure that the trucks are operating within designated geographical boundaries, and therefore that the emissions benefits are accrued locally.

**Auxiliary Power Unit (APU)** – These systems generally consist of a small internal combustion engine (usually diesel) equipped with a generator and heat recovery system to provide electricity and heat to the truck cab even when the main engine is not in use. Auxiliary power units can help truck drivers comply with local idling ordinances, reduce emissions and noise, and save on the cost of truck fuel and maintenance. Although these units were designed to eliminate many of the harmful emissions associated with diesel truck idling, diesel-powered APUs themselves have associated emissions.

**Beneficial Cargo Owner (BCO)** – the owner or party responsible for a shipment of cargo. BCOs can include shippers, consignees or their agents.

**Best Available Control Technology (BACT)** – In order to reduce diesel particulate matter emissions from various mobile sources, the California Air Resources Board implemented a series of fleet rules requiring fleets to pursue one of several designated BACT options. BACT may include a repower, retrofit, or new vehicle purchase.
California Air Resources Board (CARB) – The state agency that regulates the air quality in California (air quality branch of the California Environmental Protection Agency.) Regulations made by the ARB are often stricter than those set by the federal government.

California Department of Transportation (Caltrans) - The state agency responsible for highway, bridge, and rail transportation planning, construction, and maintenance. Caltrans manages more than 45,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies.

Cargo Handling Equipment (CHE) - Cargo handling equipment includes the off-road vehicles and equipment used to transfer goods, and includes equipment such as yard trucks (hostlers), cranes, top handlers, side handlers, forklifts, and loaders just to name a few.

Clean Air Action Plan (CAAP) – A joint plan established by the San Pedro Bay Ports to reduce port-related goods movement emissions by 50% by 2011. The two ports intend to enforce the provisions of the plan through their role as landowners.

Diesel Particulate Trap – Diesel vehicle emission control device that traps and incinerates PM emissions after they are exhausted from the engine but before they enter the atmosphere. A type of available retrofit technology.

Environmental Protection Agency (EPA) – the Federal Agency responsible for enforcing federal environmental laws, including the Clean Air Act.

Gateway Cities Council of Governments (GCCOG) – The COG is a non profit organization which serves as an advocate in representing its members, which are 27 cities located in Southeast Los Angeles County. The region extends from coastal Long Beach to the foothill communities to the north, and includes both the San Pedro Bay Ports.

Goods Movement Action Plan (GMAP) – Report and strategy developed by the California Bureau of Transportation and Housing, CalEPA and stakeholder groups to plan for goods movement capacity expansion, mitigation of goods movement-related environmental and community effects, and to address goods movement homeland security concerns.

Grams per Brake Horsepower-Hour (g/bhp-hr) – A measurement of the amount of emissions released by an engine based on fuel use. Emission standards for heavy-duty vehicles are typically stated in g/bhp-hr.

Greenhouse Gases (GHG) - Greenhouse gases are those compounds which trap solar radiation in the earth’s atmosphere. This process acts like a greenhouse, elevating temperature and altering global climate patterns. These gases include carbon dioxide, methane, nitrous oxide, and ozone.

Gross Vehicle Weight Rating (GVWR) - The maximum allowable total weight of a road vehicle that is loaded to capacity, including the weight of the vehicle itself plus fuel, passengers, cargo, and other miscellaneous items such as extra aftermarket parts.

Health Risk Assessment (HRA) – Health risk assessment uses toxicology data collected from animal studies and human epidemiology, combined with information about the degree of
exposure, to quantitatively predict the likelihood that a particular adverse response will be seen in a specific human population exposed to specific chemicals or environmental toxins.

**Heavy Duty Vehicle** – A vehicle defined by CARB as weighing 14,000 GWVR or greater. These vehicles traditionally run on diesel and can contribute significantly to air quality concerns.

**Liquefied Natural Gas (LNG)** - Natural gas that has been condensed to a liquid typically by cryogenically cooling the gas to minus 260 degrees Fahrenheit. LNG is utilized both to transport natural gas across areas without pipeline access and can be used as a low-emission alternative vehicle fuel. As a transportation fuel, LNG is especially suited for heavy-duty applications.

**Los Angeles County Metropolitan Transportation Authority (MTA, LAMTA, Metro)** – Metro is the regional transportation planner for all of Los Angeles County. It develops and oversees transportation plans, policies, funding programs, and both short-term and long-range solutions that address the County’s increasing mobility, accessibility and environmental needs. Additionally, Metro operates the County’s transit system programs (highway, rail and bus).

**Oxides of Nitrogen or Nitrous Oxides (NOx)** - Regulated air pollutants, primarily NO and NO2 but including other substances in minute concentrations. Under the high pressure and temperature conditions in an engine, nitrogen and oxygen atoms in the air react and contribute to formation of photochemical ozone (smog).

**Parametric Emissions Monitoring System (PEMS)** – A technology utilized to predicatively monitor exhaust emissions compliance utilizing algorithms and relationships between emission rates, in place of continuous emission monitoring systems.

**Particulate Matter (PM)** - A generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes. Diesel particulate matter has been linked to serious public health and respiratory problems and has been identified by the CARB, the US EPA and by numerous international health organizations as a human carcinogen and mutagen.

**Repower** – A term describing replacing a vehicle’s existing engine with a new engine, in order to either prolong the vehicle life or reduce emissions.

**Retrofit** – A term describing adding pollution control technologies, such as particulate filters or oxidation catalysts, to an existing engine.

**San Pedro Bay Ports (SPBP)** – The Ports of Los Angeles and Long Beach. Together, these ports Move more than $260 billion a year in trade and more than 40 percent of the nation’s containerized cargo. If considered as a single SPBP complex, the adjacent ports would be the fifth-largest container port in the world.

**Selective Catalytic Reduction (SCR)** – An exhaust after treatment strategy employed to reduce NOx emissions. SCR is a technology that injects urea into the exhaust stream of a diesel engine and then utilizes a catalyst to in order to convert NOx into nitrogen and water vapor.
Smog - A mixture of pollutants, principally ground-level ozone, produced by chemical reactions when volatile organic compounds (VOCs), oxygen and NOx react in the presence of sunlight. A major portion of smog-formers come from burning of petroleum-based fuels such as diesel and gasoline. Smog can harm health, damage the environment and cause poor visibility.

South Coast Air Quality Management District (SCAQMD or AQMD) – The regional air board with air quality regulatory control over much of Los Angeles, Riverside, Orange and San Bernardino Counties. Its regulatory limits are sometimes stricter than state requirements (although CARB must grant the SCAQMD exemptions for these expanded limits.)

Southern California Association of Governments (SCAG) - Metropolitan Planning Organization for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial. As the designated Metropolitan Planning Organization, SCAG is mandated by the federal government to design plans for transportation, growth management, hazardous waste management, and air quality.

State Implementation Plan (SIP) - Federal clean air laws require areas with unhealthy levels of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide and inhalable particulate matter to develop SIPs describing how they will attain national ambient air quality standards. State law makes CARB the lead agency, while local air districts prepare SIP elements and local attainment plans which they submit to ARB for review and approval. The U.S. EPA grants final approval on local SIPs.

Sulfur Oxides (SOx) – Refers to SO, SO2 and SO3. Since petroleum contains varying amounts of sulfur compounds, its combustion generates SOx in the air which, when oxidized, can react to form acid rain. SOx emissions are of particular concern from bunker and jet fuel, as US on-road diesel fuel became compliant in 2006 with US EPA and CARB ULSD requirements.

Twenty-foot Equivalent Unit (TEU) – Container capacity is measured in TEUs. A standard TEU cargo capacity is equal to 20 ft (length) × 8 ft (width) × 8 ft 6 in (height). Most containers measure 2 TEUs are known as 40-foot containers.

Ultra Low Sulfur Diesel (ULSD) - Diesel fuel with a sulfur content not to exceed 15 ppm (parts per million). The United States now requires use of ULSD in all on-road diesel vehicles, while California requires ULSD use in all on and off-road vehicles and fixed equipment. The EPA states that ULSD will reduce both NOx and PM emissions.

Verified Diesel Emission Control System (VDECS) – A diesel emission control technology that has been verified by the California Air Resources Board. Vehicle owners may utilize verified technologies to achieve emission reductions that are officially recognized by the State of California.

Virtual Container Yard (VCY) – The use of web-based technology to coordinate activities among shipping companies, importers, exporters, trucking companies and terminal operators to effectively manage the distribution and use of full and empty containers.

Volatile Organic Compound (VOC) - Reactive gases released during combustion or evaporation of fuel and regulated by EPA. VOCs react with NOx in the presence of sunlight and form ozone.
# Acronyms and Abbreviations

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<th>Acronym</th>
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<tbody>
<tr>
<td>ACTA</td>
<td>Alameda Corridor Transportation Authority</td>
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<td>AMP</td>
<td>Alternative Maritime Power</td>
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<td>APU</td>
<td>Auxiliary Power Unit</td>
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<td>AQAP</td>
<td>Air Quality Action Plan</td>
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<td>AQMP</td>
<td>Air Quality Management Plan</td>
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<td>AVL</td>
<td>Automated Vehicle Locator</td>
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<td>BACT</td>
<td>Best Available Control Technology</td>
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<td>BCO</td>
<td>Beneficial Cargo Owner</td>
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<td>CAAP</td>
<td>Clean Air Action Plan (San Pedro Bay Ports)</td>
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<tr>
<td>CAC</td>
<td>Community Advisory Committee</td>
</tr>
<tr>
<td>CARB</td>
<td>California Air Resources Board</td>
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<td>Caltrans</td>
<td>California Department of Transportation</td>
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<td>CHE</td>
<td>Cargo Handling Equipment</td>
</tr>
<tr>
<td>DPF</td>
<td>Diesel Particulate Filter</td>
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<tr>
<td>DPM</td>
<td>Diesel Particulate Matter</td>
</tr>
<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
</tr>
<tr>
<td>EIS</td>
<td>Environmental Impact Statement</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<tr>
<td>g/bhp-hr</td>
<td>Grams per Brake Horsepower-Hour</td>
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<td>GCCOG</td>
<td>Gateway Cities Council of Governments</td>
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<tr>
<td>GHG</td>
<td>Greenhouse Gas</td>
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<td>GMAP</td>
<td>Goods Movement Action Plan</td>
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<td>HC</td>
<td>Harbor Craft</td>
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<tr>
<td>HDV</td>
<td>Heavy Duty Vehicle</td>
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<td>HOV</td>
<td>High Occupancy Vehicle</td>
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<td>Hp</td>
<td>Horsepower</td>
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<tr>
<td>HRA</td>
<td>Health Risk Assessment</td>
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<tr>
<td>LAMTA/MTA</td>
<td>Los Angeles County Metropolitan Transportation Authority</td>
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<td>LNG</td>
<td>Liquefied Natural Gas</td>
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<td>LPS</td>
<td>Locally Preferred Strategy</td>
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<tr>
<td>MATES</td>
<td>Multiple Air Toxics Exposure Studies</td>
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<tr>
<td>MDO</td>
<td>Marine Diesel Oil</td>
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<td>MGO</td>
<td>Marine Gas Oil</td>
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<td>MPO</td>
<td>Metropolitan Planning Organization</td>
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<tr>
<td>MY</td>
<td>Model Year</td>
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<tr>
<td>NOx</td>
<td>Oxides of Nitrogen</td>
</tr>
<tr>
<td>NYK</td>
<td>Nippon Yusen Kaisha (NYK Line)</td>
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<td>OGV</td>
<td>Ocean Going Vessel</td>
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<td>OPC</td>
<td>Oversight Policy Committee</td>
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<td>PEMS</td>
<td>Parametric Emissions Monitoring System</td>
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<td>PHL</td>
<td>Pacific Harbor Line</td>
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<td>PM</td>
<td>Particulate Matter</td>
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<td>POLA</td>
<td>Port of Los Angeles</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<td>POLB</td>
<td>Port of Long Beach</td>
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<tr>
<td>RL</td>
<td>Railroad Locomotives</td>
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<tr>
<td>RTGs</td>
<td>Rubber Tire Gantry Cranes</td>
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<tr>
<td>SB</td>
<td>California Senate Bill</td>
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<tr>
<td>SCAG</td>
<td>Southern California Association of Governments</td>
</tr>
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<td>SCAQMD</td>
<td>South Coast Air Quality Management District</td>
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<tr>
<td>SCR</td>
<td>Selective Catalytic Reduction</td>
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<td>SIP</td>
<td>State Implementation Plan</td>
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<tr>
<td>SOx</td>
<td>Sulfur Oxides</td>
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<td>SPBP</td>
<td>San Pedro Bay Ports</td>
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<td>TAC</td>
<td>Technical Advisory Committee</td>
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<td>TAC</td>
<td>Toxic Air Contaminant</td>
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<tr>
<td>TDM</td>
<td>Transportation Demand Management</td>
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<tr>
<td>TEU</td>
<td>Twenty-foot Equivalent Unit</td>
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<tr>
<td>TPY</td>
<td>Tons per Year</td>
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<td>TSM</td>
<td>Transportation Systems Management</td>
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<tr>
<td>ULSD</td>
<td>Ultra Low Sulfur Diesel</td>
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<td>USEPA</td>
<td>United States Environmental Protection Agency</td>
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<td>VCY</td>
<td>Virtual Container Yard</td>
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<td>VDECS</td>
<td>Verified Diesel Emission Control System</td>
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<tr>
<td>VSR</td>
<td>Vessel Speed Reduction</td>
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APPENDIX A

SUMMARY TABLE OF AIR QUALITY POLICY AND PROGRAMS SINCE APPROVAL OF LPS
<table>
<thead>
<tr>
<th>Reference Number</th>
<th>Title of Measure</th>
<th>Responsible Agency</th>
<th>Description</th>
<th>Status</th>
<th>Annual Emission Reductions</th>
<th>Cost</th>
<th>Potential Benefit to I-710 Communities</th>
<th>Contact</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards</td>
<td>CARB</td>
<td>Reduces the diesel PM and NOx emissions from diesel-fueled cargo handling equipment at California's ports and intermodal rail yards.</td>
<td>Approved December 2005</td>
<td>PM 2010: 75 TPY; 2015: 86 TPY; Average 2007-2020: 67 TPY  NOx 2010: 1,425 TPY; 2015: 1,991 TYP Average 2007-2020: 1,433 TYP</td>
<td>$71 Million</td>
<td>Substantial</td>
<td>Lisa Williams California Air Resources Board Stationary Source Division Air Pollution Specialist (916) 327-1498</td>
</tr>
<tr>
<td>2</td>
<td>Requirements to Reduce Idling Emissions from New and In-Use Trucks Beginning in 2008</td>
<td>CARB</td>
<td>Limits the amount of time sleeper berth equipped trucks operate at idle and provide other options to accommodate driver comfort during times when the truck is not being driven.</td>
<td>Approved October 2005 and modified in June 2006</td>
<td>PM 2010: 6,570 TYP  NOx 2010: 54 TYP</td>
<td>Pre-2007 model year sleeper: $5,000 to $8,000; MY 2007 and newer: $7,000 to 10,100 ¹</td>
<td>Moderate</td>
<td>Stephan Lemieux California Air Resources Board Mobile Sources Control Division (626) 450-6162</td>
</tr>
</tbody>
</table>

¹ Cost of an APS with additional PM control and, for 39 California certified trucks, an engine shutdown system for 2008 and subsequent model year engines.
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<tr>
<td>4</td>
<td>On-Road Heavy-Duty Diesel Vehicles (In-Use) Control Measure</td>
<td>CARB</td>
<td>This measure would reduce emissions from in-use heavy-duty diesel powered vehicles by requiring that owners of such equipment install in-use controls such as verified diesel emission controls to ensure engines operate as cleanly as possible.</td>
<td>In development phase with workshops planned in April 2007. Air Resources Board to consider a proposal at the end of 2007.</td>
<td>Not yet quantified</td>
<td>Not Available</td>
<td>Substantial</td>
<td>Jackie Johnson California Air Resources Board Mobile Sources Control Division (916) 323-2750</td>
</tr>
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</table>
### Table of Existing and Proposed Measures

<table>
<thead>
<tr>
<th>Reference Number</th>
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<tr>
<td>5</td>
<td>Rail Yard Emission Reductions Program</td>
<td>CARB</td>
<td>The railroads have committed to studying and reducing pollution risks at 17 designated rail yards in and around Los Angeles County. This agreement (which is a voluntary MOU, not a regulatory measure) obligates the railroads to reduce diesel emissions in and around rail yards in California. Three main provisions include: 1) a statewide idling-reduction program, 2) health risk assessments (HRA) for all major rail yards, 3) community and air district involvement in the preparation of risk assessments and enforcement of MOU provisions.</td>
<td>Measure approved by CARB in June 2005.</td>
<td>Twenty percent PM reductions (baseline 2005) expected in and around rail yards. NOx reductions are unknown at this time. A health risk assessment (HRA) is expected in Spring 2007.</td>
<td>Will vary based on company. No public information available at this time.</td>
<td>Limited</td>
<td>Harold Holmes California Air Resources Board Stationary Sources Division (916) 324-8029</td>
</tr>
<tr>
<td>6</td>
<td>Diesel Particulate Matter Control Measure for On-Road Heavy-Duty Diesel-Fueled Vehicles owned or operated by Public Agencies and Utilities</td>
<td>CARB</td>
<td>Requires public agency and utility vehicle owners reduce diesel PM emissions from their affected vehicles through the application of best available control technologies (BACT) on these vehicles by specified implementation dates. Implementation is phased-in by engine model year groups.</td>
<td>Approved by CARB in December 2005</td>
<td>PM 55 TPY by 2010</td>
<td>CARB estimates that it will cost $213 million to apply BACT to approximately 31,076 vehicles (estimated statewide fleet in 2006).</td>
<td>Moderate</td>
<td>Kathleen Mead California Air Resources Board Mobile Sources Control Division (916) 324-9550</td>
</tr>
<tr>
<td>Reference Number</td>
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<td>7</td>
<td>On-Road Heavy-Duty Diesel Engine In-Use Compliance Program</td>
<td>CARB</td>
<td>CARB, the U.S. EPA, and the EMA have developed a heavy-duty diesel engine in-use compliance program. Under this program, all 2007 and newer heavy-duty engines are subject to state and federal emissions tests to ensure that they are not exceeding emissions limits. The tests will be an in-use test using a portable emission measurement system (PEMS) device. If the engine does not pass the emissions test twice it may be subject to recall. This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H2-a.</td>
<td>This measure was adopted by the Board in September 2006.</td>
<td>Not applicable as this is a compliance regulation</td>
<td>Engine manufacturers will be required to test 25 percent of their engine families per year, with a minimum of 6 and a maximum of 10 trucks per family being tested. Each test costs $3,000-$4,000, so a minimum of $18,000 per engine family and a maximum $40,000 per engine family.</td>
<td>Limited</td>
<td>Dipak Bishnu California Air Resources Board Mobile Sources Control Division (626) 575-6696</td>
</tr>
<tr>
<td>8</td>
<td>In-Use Off-road Diesel Vehicle Rule</td>
<td>CARB</td>
<td>This rule will reduce emissions from in-use off-road vehicles such as those used in construction, mining, and industrial operations. This measure requires that each fleet must meet the fleet average requirements by March 1 of each year or demonstrate that it applied the best available control technology (BACT).</td>
<td>Air Resources Board to consider in May 2007</td>
<td>Not yet quantified</td>
<td>Not applicable</td>
<td>Potentially Substantial</td>
<td>Kim Heroy-Rogalski California Air Resources Board Mobile Sources Control Division (916) 327-2200</td>
</tr>
<tr>
<td>Reference Number</td>
<td>Title of Measure</td>
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<td>9</td>
<td>Ocean-Going Vessel Main Engine Rule</td>
<td>CARB</td>
<td>This regulation requires the use of low-sulfur fuel in the main engine of ocean-going vessels (OGVs). [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-e.]</td>
<td>Air Resources Board to consider in December 2007.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Substantial</td>
<td>Kathleen Truesdell Air Resources Engineer California Air Resources Board Stationary Sources Division (916) 327-5638</td>
</tr>
<tr>
<td>10</td>
<td>Ocean-Going Vessel Auxiliary Engines</td>
<td>CARB</td>
<td>This measure requires ships entering California’s ports to use 0.5 percent sulfur content Marine Diesel Oil (MDO) by January 1, 2007, or Marine Gas Oil for auxiliary diesel engines within 24 nautical miles of the California coast. Additionally, beginning January 1, 2010 MGO sulfur content may not exceed 0.1 percent. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-e.]</td>
<td>Measure approved by CARB in December 2005</td>
<td>PM 1,351 TPY by 2010</td>
<td>NOx 840 TPY by 2010</td>
<td>SOx 11,680 TPY by 2010</td>
<td>The typical cargo vessel operator will incur additional charges of approximately $20,000 per company per year. Ship retrofits will be required that cost between $100,000 and $500,000 per vessel.</td>
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<td>Reference Number</td>
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<td>Description</td>
<td>Status</td>
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<td>11</td>
<td>Commercial Harbor Craft Regulation</td>
<td>CARB</td>
<td>Regulation will reduce emissions from commercial harbor craft such as tugs, tows, ferries and fishing vessels through engine retrofits and repowers, as well as regulations on fuel type. Vessels would be required to repower Tier 0 vessels to a Tier 2 or cleaner, depending upon what is available. This measure excludes recreational marine craft and ocean-going vessels.</td>
<td>Public workshops occurring in 2007. Measure expected to be implemented in 2009.</td>
<td>Not yet quantified</td>
<td>Not Available</td>
<td>Significant</td>
<td>Todd Sterling California Air Resources Board Stationary Sources Division (916) 445-1034</td>
</tr>
<tr>
<td>12</td>
<td>Shore Power for Ocean-Going Vessels</td>
<td>CARB</td>
<td>This measure requires that ocean-going vessels (OGVs) use shore power (connecting to electrical power at the dock) in lieu of auxiliary engines while hotelling. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H5-c.]</td>
<td>To be presented to Board in late 2007.</td>
<td>Not yet quantified</td>
<td>Infrastructure costs vary from terminal to terminal. Preliminary estimates are about $3.5 million per terminal. A shore-side transformer is an additional $1.5 million per berth. CARB estimates ship retrofit costs for a ship with an on-board transformer to be about $500,000. Costs to retrofit a ship without an on-board transformer are about $1.5 million per ship.</td>
<td>Substantial</td>
<td>Grant Chin California Air Resources Board Stationary Sources Division (916) 327-5602</td>
</tr>
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</table>

2 A repower is the replacement of an existing engine with a newer engine.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>13</td>
<td>Regulation to Establish Allowable Speeds for OGVs in Coastal Waters</td>
<td>CARB</td>
<td>This measure is on hold until the CARB can assess the emission reduction results from the other OGV measures that have recently been implemented (such as the rules governing fuels being used in main and auxiliary engines).</td>
<td>On Hold</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Unknown</td>
<td>Hafizar Chowdhury California Air Resources Board Emissions Evaluation Section (916) 322-2275</td>
</tr>
<tr>
<td>14</td>
<td>SPBP HDV1 Performance Standards for On-Road Heavy-Duty Trucks</td>
<td>Ports of LA and Long Beach</td>
<td>By the end of 2011, all trucks calling at the ports frequently or semi-frequently will be required to meet or be cleaner than the EPA 2007 on-road PM emissions standards and be the cleanest available NOx at the time of replacement or retrofit. This measure is directed at the approximately 16,800 port trucks that make 80 percent of the calls on marine terminals. This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H2-c.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November, 2006.</td>
<td>PM 782 TPY  NOx 6,417 TPY  SOx 2.5 TPY</td>
<td>$1.8 billion</td>
<td>Substantial</td>
<td>Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160  Kevin Maggay, Environmental Specialist Port of Los Angeles, (310) 732-3947</td>
</tr>
<tr>
<td>Reference Number</td>
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<td>15</td>
<td>SPBP-HDV2</td>
<td>Ports of LA and Long Beach</td>
<td>In order to support the deployment and operations of alternative fuel port trucks called for in SPBP CAAP Measure HDV1, this measure provides for the development of an alternative fuel refueling and central maintenance facility, jointly owned by both ports, and located on Terminal Island.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November, 2006.</td>
<td>Not applicable. This measure provides for supporting infrastructure, and contributes to the ability of SPBP Measure HDV1 to generate its emission reductions.</td>
<td>$4 million as incentive funding. A large portion of this value, however, is being provided in-kind.</td>
<td>Moderate</td>
<td>Thomas Jelenic, Environmental Specialist Port of Long Beach (562) 590-4160</td>
</tr>
<tr>
<td>16</td>
<td>SPBP-OGV1</td>
<td>Ports of LA and Long Beach</td>
<td>This measure requires that 100% of the OGVs that visit the SPBPs must comply with the VSR requirement 20 nautical miles (nm) from Point Fermin, with the prospect of expanding the measure to 40 nm from Point Fermin.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006. The VSR measure is now being implemented. The extension to 40 nm will be implemented after the appropriate infrastructure is installed, which is projected to be some time in 2008.</td>
<td>NOx 1,721 TPY @ 20 nm 2006-2011 3292 TPY @ 40 nm 2010-2011</td>
<td>$22,700,000</td>
<td>Moderate</td>
<td>Thomas Jelenic, Environmental Specialist Port of Long Beach (562) 590-4160</td>
</tr>
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<td>17</td>
<td>SPBP-OGV2 Reduction of At-Berth OGV Emissions</td>
<td>Ports of LA and Long Beach</td>
<td>This measure mandates the use of shore power to reduce hotelling emissions at all container terminals and cruise terminals in the Port of Los Angeles in five years and all container terminals and one crude oil terminal in the Port of Long Beach within five to ten years. It also calls for the exploration of alternative emission reduction technologies for hotelling OGVs within the Technology Advancement Program.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006.</td>
<td>PM 34 TPY  NOx 1,495 TPY SOx 648 TPY</td>
<td>$179,100,000</td>
<td>Substantial</td>
<td>Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160  Kevin Maggay, Environmental Specialist Port of Los Angeles, (310) 732-3947</td>
</tr>
<tr>
<td>18</td>
<td>SPBP-OGV3 OGV Auxiliary Engine Fuel Standards</td>
<td>Ports of LA and Long Beach</td>
<td>Establishes a fuel standard for fuel used in on-board auxiliary power units of ≤0.2% sulfur distillate or Marine Gas Oil equivalent reduction.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006.</td>
<td>PM 4 TPY  NOx 17 TPY SOx 29 TPY</td>
<td>No costs to CAAP Partners</td>
<td>Substantial</td>
<td>Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160  Kevin Maggay, Environmental Specialist Port of LA (310) 732-3947</td>
</tr>
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| 19               | SPBP-OGV4 OGV Main Engine Fuel Standards | Ports of LA and Long Beach | Establishes a fuel standard for fuel used when ships are arriving or departing San Pedro Bay of ≤0.2% sulfur distillate or Marine Gas Oil equivalent reduction. | Measure approved by Ports of Los Angeles and Long Beach in November 2006. | PM 295 tons NOx 379 tons SOx 2,056 tons (These emission reductions will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until 2011.) | No costs to CAAP Partners | Substantial | Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160
|                  |                  |                    |             |        |                           |      | Kevin Maggay, Environmental Specialist Port of LA, (310) 732-3947 |
| 20               | SPBP-OGV5 OGV Main and Auxiliary Engine Emissions Improvements | Ports of LA and Long Beach | Provides research money for the development of new technologies that reduce emissions from both APUs and main engines. Resources will be spent through the Technology Advancement Program. The first innovation which will be supported and validated through OGV4 will be slide valve technology from ship engine manufacturer MAN B&W. | Measure approved by Ports of Los Angeles and Long Beach in November 2006. | PM 115 tons NOx 1,138 tons (These emission reductions will result when the measure is completely implemented by July 1, 2011. Emission reductions will increase annually until 2011.) | No costs to CAAP Partners | Moderate | Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160
<p>|                  |                  |                    |             |        |                           |      | Kevin Maggay, Environmental Specialist Port of LA, (310) 732-3947 |</p>
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<th>Reference Number</th>
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<th>Description</th>
<th>Status</th>
<th>Annual Emission Reductions</th>
<th>Cost</th>
<th>Potential Benefit to I-710 Communities</th>
<th>Contact</th>
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<tr>
<td>21</td>
<td>SPBP-CHE1 Performance Standards for Cargo Handling Equipment</td>
<td>Ports of LA and Long Beach</td>
<td>This measure would require that, beginning in 2007, all CHE purchases will be required to have either the cleanest available NOx alternative fueled engine or the cleanest available NOx diesel fueled engine. If there are no engines available that meet this standard, then terminal operators must buy the cleanest available engine and install the best available VDECS.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006.</td>
<td>PM 11 tons NOx 376 tons</td>
<td>No costs to CAAP Partners</td>
<td>Substantial</td>
<td>Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160 Kevin Maggay, Environmental Specialist Port of Los Angeles, (310) 732-3947</td>
</tr>
<tr>
<td>22</td>
<td>SPBP-HC1 Performance Standards for Harbor Craft</td>
<td>Ports of LA and Long Beach</td>
<td>By the end of the 2nd year of the CAAP, all SPBP harbor craft will meet EPA Tier 2 standard for harbor craft or equivalent reductions.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006.</td>
<td>Not yet quantified</td>
<td>No costs to CAAP Partners</td>
<td>Substantial</td>
<td>Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160 Kevin Maggay, Environmental Specialist Port of Los Angeles, (310) 732-3947</td>
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<td>23</td>
<td>SPBP-RL1 PHL Rail Switch Engine Modernization</td>
<td>Ports of LA and Long Beach</td>
<td>This measure would require that, by 2008, all existing switch engines in the Ports will be replaced with cleaner engines and will use emulsified fuels as available or other equivalently clean alternative diesel fuels. Additionally, any new switch engine acquired after the initial replacement must meet even cleaner standards. All switch engines will have a 15-min idle limiting device installed and operational. Lastly, Pacific Harbor Lines will conduct tests with switchers equipped with diesel emission control devices, LNG locomotives, or hybrid locomotives. If the demonstration of the technology is successful, other engines will be retrofitted with the cleanest available device. [Note: This measure addresses one of the suggestions put forth in the Tier 2 Report, specifically Recommendation H3-e.]</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006.</td>
<td>PM 3 TPY, NOx 163 TPY, SOx 0.2 TPY</td>
<td>$21,000,000</td>
<td>Moderate</td>
<td>Thomas Jelenic, Environmental Specialist Port of Long Beach (562) 590-4160 Kevin Maggay, Environmental Specialist Port of Los Angeles, (310) 732-3947</td>
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<tr>
<td>24</td>
<td>SPBP-RL2 Existing Class 1 Railroad Operations</td>
<td>Ports of LA and Long Beach</td>
<td>By 2011, all diesel-powered Class 1 switcher and helper locomotives entering port facilities will be 90% controlled for PM and NOx and will have 15-min idle restriction devices installed. In addition, after Jan. 1, 2007, all locomotives will use ultra low sulfur diesel fuel.</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Substantial</td>
<td>Thomas Jelenic, Environmental Specialist Port of Long Beach (562) 590-4160 Kevin Maggay, Environmental Specialist Port of Los Angeles, (310) 732-3947</td>
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<td>25</td>
<td>SPBP-RL3 New and Redeveloped Rail Yards</td>
<td>Ports of LA and Long Beach</td>
<td>Cleanest available technology for switcher, helper and long haul locomotives; “Green-container” transport systems; Idling shut of devices; Idling exhaust hoods; ULSD or alternative fuels; Clean CHE and HDVs</td>
<td>Measure approved by Ports of Los Angeles and Long Beach in November 2006.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Potentially Substantial</td>
<td>Thomas Jelenic Environmental Specialist Port of Long Beach (562) 590-4160 Kevin Maggay, Environmental Specialist Port of Los Angeles, (310) 732-3947</td>
</tr>
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<td>26</td>
<td>1-710 Corridor Tier 2 Report H1 a-c: Air Quality Improvements - Air Quality Improvement Action Plan</td>
<td>Gateway Cities Council of Governments</td>
<td>Establish a baseline of current levels of pollution, identify level of air quality impacts from increasing truck, rail and shipping and determine costs of health care that can be traced to pollution encountered by corridor community as a result of construction.</td>
<td>Propose for this measure to be evaluated for inclusion in the AQAP.</td>
<td>There will be no direct emission reductions from its implementation. The information that would be provided, however, would be extremely useful for the development of emission reduction measures.</td>
<td>Not available</td>
<td>Potentially Substantial</td>
<td>Gateway Cities Council of Governments (562) 663-6850</td>
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<td>Reference Number</td>
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<td>27</td>
<td>1-710 Corridor Tier 2 Report H1-d: Air Quality Improvements: Global Trade Expansion Impact Assessment</td>
<td>Gateway Cities Council of Governments</td>
<td>Perform studies to determine direct and indirect health and other economic costs on corridor communities and the region. Determine how other ports are addressing health and air quality issues.</td>
<td>Propose for this measure to be included in the AQAP</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>None</td>
<td>Gateway Cities Council of Governments (562) 663-6850</td>
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<tr>
<td>28</td>
<td>1-710 Corridor Tier 2 Report H2-a: Air Quality Improvements - Truck Inspection</td>
<td>Gateway Cities Council of Governments</td>
<td>This measure would require the increased use of enforcement and inspections to control emissions from on-road heavy-duty vehicles. CARB is partially addressing this issue through its On-Road Heavy-Duty Diesel Engine In-Use Compliance Program, but that measure only addresses MY 2007 and later heavy-duty engines.</td>
<td>Propose for this measure to be included in the AQAP</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Potentially substantial</td>
<td>Gateway Cities Council of Governments (562) 663-6850</td>
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<td>29</td>
<td>1-710 Corridor Tier 2 Report H2 b-c: Air Quality Improvements - Port Emissions Reduction</td>
<td>Los Angeles Metropolitan Transportation Agency; Caltrans; Gateway Cities Council of Governments</td>
<td>This policy would condition project approval on air quality improvements in Port operations. The other component of the policy is to encourage fleet modernization clean air programs.</td>
<td>Not yet quantified</td>
<td>CAAP Measure HDV1 outlines the projected cost to the SPBPs of their fleet modernization program.</td>
<td>Substantial</td>
<td>Gateway Cities Council of Governments (562) 663-6850</td>
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<td>30</td>
<td>1-710 Corridor Tier 2 Report H2-d: Air Quality Improvements - Container Fees</td>
<td>Gateway Cities Council of Governments</td>
<td>Impose container fees to generate revenue to enhance corridor communities and address impacts. This recommendation has been addressed in recent legislation in the California Senate.</td>
<td>Container fee legislation was approved by the Legislature in 2006, but the bill was vetoed by the Governor.</td>
<td>A container fee would not result in any direct emission reductions.</td>
<td>Potential cost to industry would be at least $473 million annually.</td>
<td>Substantial</td>
<td>Gateway Cities Council of Governments (562) 663-6850</td>
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<td>Reference Number</td>
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<td>31</td>
<td>1-710 Corridor Tier 2 Report H2-e &amp; f: Air Quality Improvements - Quantify Emissions</td>
<td>South Coast AQMD</td>
<td>Install permanent monitoring stations to measure emissions levels. Develop and implement improved air quality monitoring techniques. Discussions have taken place between key stakeholders and the SCAQMD regarding the development of a work plan to make this recommendation a realization. Propose for this measure to be evaluated for inclusion in the AQAP.</td>
<td>Not available</td>
<td>Not available</td>
<td>Substantial</td>
<td>Arun Roychowdhury Program Supervisor South Coast Air Quality Management District (909) 396-2268</td>
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<tr>
<td>32</td>
<td>1-710 Corridor Tier 2 Report H3 a-f: Diesel Emissions Reduction - Alternative Fuels</td>
<td>Yet to be determined</td>
<td>Support policies that encourage use of alternative fuels; discourage use of out-of-state fuels; subject all trucks to local, state and federal standards and require trucks using I-710 to use alternative fuels or equivalent pollution controls. Require railroad locomotives servicing the two ports to use alternative fuels or pollution controls which achieve equal or better results; require the Alameda Corridor Authority to prepare a plan to electrify locomotives involved in its operations. Propose for this measure to be included in the AQAP.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Substantial. Please see benefits to similar CARB and CAAP programs.</td>
<td>Gateway Cities Council of Governments (562) 663-6850</td>
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<td>33</td>
<td>1-710 Corridor Tier 2 Report H4 a-c: Environmental Improvements - Emissions Reduction and Mitigation</td>
<td>Yet to be determined</td>
<td>Retrofit schools, homes and parks to increase protection from noise and pollution; identify locations and develop facilities for one-stop truck inspection; provide incentives for business to accept off-peak deliveries.</td>
<td>Propose for this measure to be evaluated for inclusion in the AQAP.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Moderate</td>
<td>Gateway Cities Council of Governments, (562) 663-6850</td>
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<td>34</td>
<td>1-710 Corridor Tier 2 Report H4 d-f: Diesel Emissions Reduction - Truck emissions reduction programs</td>
<td>San Pedro Bay Ports California Air Resources Board South Coast Air Quality Management District Gateway Cities Council of Governments</td>
<td>Create programs to assist truck owners with engine/equipment upgrades; restrict Port generated traffic on I-710 until emission mitigation is in place; provide landscaping to improve air quality.</td>
<td>As noted, several programs currently exist to provide truck owners with resources to pay for retrofits or truck replacements. As for the two other elements of this recommendation, these should be included in the workplan for the AQAP.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Substantial</td>
<td>Gateway Cities Council of Governments, (562) 663-6850</td>
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<td>35</td>
<td>1-710 Corridor Tier 2 Report H5 a-b: Port Air Quality – Alternative Fuels</td>
<td>San Pedro Bay Ports, California Air Resource Board</td>
<td>Require plans for terminal operation electrification and require electrification of port gantry cranes. [Note: both CARB and the CAAP have measures requiring shore side power for ocean-going vessels.]</td>
<td>Gantry cranes, for the most part, have already been electrified. In regards to terminal electrification, both the CAAP and the CARB have measures requiring the use of shore power for hotelling ships. Additional opportunities for terminal electrification should be explored in the AQAP.</td>
<td>Since gantry crane electrification has already taken place, there will be little emission reductions achieved from this recommendation.</td>
<td>See discussion of costs to ports under shore power.</td>
<td>Gateway Cities Council of Governments, (562) 663-6850</td>
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<td>36</td>
<td>1-710 Corridor Tier 2 Report H5 c-e: Port Air Quality – Ship Operations</td>
<td>Gateway Cities Council of Governments</td>
<td>Require ships to shut down diesel engines and use shore electric power; require ports to expedite development of pollution control for ships; make low sulfur diesel fuel use mandatory. [Note: CARB has implemented a measure regulating fuels used in auxiliary engine and is drafting a measure to regulate fuel used in main engines.]</td>
<td>Both the CAAP and CARB have proposed and implemented measures to make low sulfur diesel fuel use mandatory for both auxiliary and main engines. The SPBPs are also working to develop pollution control for ocean going vessels.</td>
<td>The emission reduction benefit of shore power and of using low sulfur fuels have been discussed in the CAAP and CARB sections.</td>
<td>See discussion in CAAP and CARB rules.</td>
<td>Paul Milkey Air Pollution Specialist California Air Resources Board Stationary Sources Division (916) 327-2957</td>
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<td>Reference Number</td>
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<td>37</td>
<td>1-710 Corridor Tier 2 Report H5 f-g: Port Air Quality – Emissions Control</td>
<td>Gateway Cities Council of Governments</td>
<td>Include trucks, trains and rail yards, marine vessels and port equipment in clean air initiative; require terminal equipment at the ports to operate on alternative fuels.</td>
<td>Propose for this measure to be evaluated for inclusion in the AQAP</td>
<td>Not yet quantified</td>
<td>Substantial</td>
<td>Gateway Cities Council of Governments, (562) 663-6850</td>
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<td>38</td>
<td>1-710 Corridor Tier 2 Report H5 h: Port Air Quality – Funding</td>
<td>Gateway Cities Council of Governments</td>
<td>Establish a shipper funded emissions lowering system. Shippers would pay into a fund which provides rebates to those who adopt the use of clean engines for vehicles. Ensure that this program does not become a pay-to-pollute program.</td>
<td>Propose for this measure to be evaluated for inclusion in the AQAP</td>
<td>Propose for this measure to be evaluated for inclusion in the AQAP</td>
<td>Not yet quantified</td>
<td>Moderate</td>
<td>Gateway Cities Council of Governments, (562) 663-6850</td>
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<td>39</td>
<td>Virtual Container Yard (VCY)</td>
<td>Alameda Corridor Transportation Authority in partnership with the Ports of Los Angeles and Long Beach</td>
<td>More than twenty percent of the truck trips to and from the ports involve empty containers. When implemented, this program will matches empty containers with potential users by allowing a carrier to post the location of an empty container online.</td>
<td>The project partners are currently testing preliminary posting with the plans to be operational by mid-summer 2007.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Substantial</td>
<td>Alameda Corridor Transportation Authority, (310) 233-7480</td>
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<td>Reference Number</td>
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<td>40</td>
<td>Extended Gate Hours</td>
<td>Alameda Corridor Transportation Authority and PierPASS</td>
<td>OffPeak is the off-peak hours program implemented by PierPASS, a not for profit company created by terminal operators at the Ports of Los Angeles and Long Beach. The program provides a financial incentive for cargo owners to move freight during off-peak hours such as at night and on weekends in order to reduce truck traffic and pollution.</td>
<td>Implemented in July 2005</td>
<td>Not available</td>
<td>$160 million paid for by beneficial cargo owners</td>
<td>Moderate</td>
<td>Alameda Corridor Transportation Authority, (310) 233-7480</td>
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<tr>
<td>41</td>
<td>Increased On-Dock Rail</td>
<td>Alameda Corridor Transportation Authority</td>
<td>On-dock is any rail yard located within the marine terminal. On-dock rail yards are currently handling over 20 percent of Port cargo. Due to cargo growth, it has been proposed that existing yards be expanded and new yards be developed over the next 20 years.</td>
<td>Not yet quantified</td>
<td>Not Available</td>
<td>Substantial</td>
<td>-</td>
<td>Ports of Los Angeles and Long Beach Alameda Corridor Transportation Authority (310) 233-7480</td>
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<td>42</td>
<td>Increased Near Dock Rail Yard</td>
<td>Alameda Corridor Transportation Authority</td>
<td>Near-dock is defined as a rail yard located within five miles of the marine terminals. These yards can combine cargo from multiple marine terminals and utilize trains that efficiently transport cargo throughout the U.S. The only existing near-dock rail yard for the SPBP is the Intermodal Container Transfer Facility (ICTF) which is operated by Union Pacific Railroad. The Ports are contemplating other near-dock facilities such as the BNSF Southern California International Gateway (SCIG) project, as well as expansion of the existing ICTF facility. Other near-dock expansion and improvement projects are also being considered.</td>
<td>Not yet quantified</td>
<td>Not available</td>
<td>Moderate to Substantial</td>
<td>Ports of Los Angeles and Long Beach Alameda Corridor Transportation Authority (310) 233-7480</td>
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<tr>
<td>43</td>
<td>Shuttle Trains</td>
<td>Alameda Corridor Transportation Authority</td>
<td>This program would shuttle containers on rail between the Ports of Los Angeles and Long Beach, and the Inland Empire, for a six to nine month demonstration project. The containers would be moved by rail to the Inland Empire intermodal facility and then trucked the remaining distance to warehouses for outbound distribution. Empties would be transported back to the inland rail center and transported via rail back to the ports.</td>
<td>Under consideration</td>
<td>Not yet quantified</td>
<td>Not Available</td>
<td>Unknown</td>
<td></td>
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<td>44</td>
<td>SCAQMD Chairman’s Clean Port Initiative</td>
<td>South Coast AQMD</td>
<td>7 Action items as outlined by AQMD Chairman</td>
<td>Not available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Limited</td>
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South Coast AQMD, (909) 396-2000
APPENDIX B

KATZ RESOLUTION (JUNE 22, 2006)
Amending Motion by Director Richard Katz

Planning & Programming Committee

Item 5 – I-710 EIR/EIS

I MOVE THAT the MTA Board direct the CEO to present the following recommendations to the I-710 Executive Committee and the I-710 Project Committee for consideration in the development of the I-710 Environmental process:

1. Provide for future freight mobility and air quality improvement by fully examining an alternative that that uses advanced technology for the movement of goods.

2. Ensure that public and community participation includes a "Tier 2-like" stakeholder advisory committee(s) for the I-710 Corridor project, that the committee(s) convene quarterly at minimum, and include representatives of the affected communities, business, the environmental community and other groups.

3. Request that the Executive Committee submit to the MTA Planning and Programming Committee a quarterly status update of the "Compendium of Existing and Proposed Near-Term Air Quality Improvement Strategies for the I-710 Corridor", Exhibit 2 (March 2006).

4. Allocate $75,000 from the fiscal year 2006-2007 “Proposition A, C, TDA Administration” fund balance to the Gateway Council of Governments to complete the “short-term air quality plan” that addresses near-term mitigations of emissions.
APPENDIX C

I-710/MAJOR CORRIDOR STUDY: MAJOR OPPORTUNITY/STRATEGIC RECOMMENDATIONS AND CONDITIONS (AUGUST 2004)
I-710/MAJOR CORRIDOR STUDY
Tier 2 Community Advisory Committee

Major Opportunity/Strategy Recommendations and Conditions

August, 2004
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Acknowledgements

TIER 2 COMMITTEE MEMBERS

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Harold Arsenian*  
City of Vernon
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USC School of Medicine
Hamid Bahadori  
Automobile Club of Southern California
Gerald Burgess*  
City of Paramount
Victor Caballero*  
City of Huntington Park
Gustavo Camacho*  
East Los Angeles
Malcolm Carson  
Legal Aid Foundation of Los Angeles
Roberto Chavez*  
City of Compton
Louis Diaz  
International Brotherhood of Teamsters
Clifford Dunbar*  
City of Bell Gardens
Bob Eula*  
City of Commerce
Belinda Faustinos  
San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy
Larry Galvan*  
City of Cudahy
Julie C. Gonzalez*  
City of Bell
Steve Goodling  
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Patricia Herrera*  
City of Long Beach
Roger Holman*  
City of Long Beach
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City of Long Beach
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City of Compton
Randy Kendrick  
City of Bell
Bobbi Kimble*  
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Angela Logan  
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Dr. Domenick Miretti  
Marine Clerks Association
Dr. Elisa Nicholas  
Long Beach Alliance for Children with Asthma
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Note: Some communities had a change in representatives during the process

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Final I-710 Tier 2 Committee  
Findings, Strategies, Policies and Conditions  
August, 2004  
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Executive Summary

INTRODUCTION

This report presents the final consensus resulting from nine months of deliberations by a broad-based group appointed by I-710 corridor communities and the I-710 Oversight Policy Committee. Known as the Tier 2 Committee, this group represented a broad base of interests, including local communities, academic, environmental, business, community and environmental justice. The most directly impacted communities in the corridor were invited to form community-level committees (known as the Tier 1 Committees). The chairs of these committees were also represented on the Tier 2 Committee, along with a representative named by each City Council in the remaining corridor cities.

The following guiding principles define the priorities of the Tier 2 Committee and reflect the consensus that emerged during this process:

1. This is a corridor – considerations go beyond the freeway and infrastructure.
2. Health is the overriding consideration.
3. Every action should be viewed as an opportunity for repair and improvement of the current situation.

The Committee recognizes that something must be done to address the current congestion and design of the I-710 freeway. The high number of trucks on the freeway uses up capacity and the mix of cars and trucks poses a serious safety concern. The committee agrees that the hybrid design concept presented could accomplish maximum build out in a manner that reflects the Tier 1 CACs’ concerns and recommendations for their communities, with the exception of the City of Commerce and East Los Angeles area, which require further study. However, the I-710 corridor is more than just a place for trucks to pass through on their way to their final destination. It is the location of our homes, businesses, schools, parks, and lives. Today, particulates and other pollutants from diesel truck traffic in the I-710 Corridor and the ports of Long Beach and Los Angeles are our communities’ primary air-quality-related health concern. Therefore, the conditions for major infrastructure improvements must be as follows:

1. Implement a corridor level action plan to improve community air quality.
2. Major infrastructure improvements must be conditioned on achieving air quality goals to protect public health; corridor air quality must comply with county, state and federal standards prior to the start of mainline construction
and the entire project taken as a whole must result in a net reduction in criteria pollutants.

3. Prior to the initiation of the environmental review process, all Tier 1 Community Advisory Committees must have formally endorsed the freeway improvement design concept.

4. Prior to adopting a preferred alternative the OPC must conduct a study and cost benefit analysis of potential goods movement alternatives as an alternative to increasing the capacity of the I-710 Freeway.

5. A study of the impact of construction on air quality, traffic, congestion, noise and impact on surrounding communities must be conducted, and if construction does go forward, specific mitigation plans must be developed and put into effect during the construction process to minimize and mitigate the impact of construction on the surrounding communities.

6. Major infrastructure improvements must be conditioned on achieving a net decrease in noise impacts upon the affected communities.

The Committee recognizes that certain aspects of the design concepts, particularly for designated on-ramps, may be appropriate for implementation prior to addressing the “mainline” issues. However, these improvements cannot be constructed in isolation from all of the other recommendations such as public health, community enhancement, and noise abatement. The I-710 design must take into account the safety and quality of life of the communities in the corridor, including provisions for greenbelts and open space.

This Executive Summary presents a synopsis of our committee’s findings and recommendations, which are presented, in eight topic areas. (Greater detail is provided in the full report.)

HEALTH

Air quality is the number one public health issue. Poor air quality has had significant negative impacts on public, economic, environmental and community health in the corridor. Particulates and other pollutants from diesel truck traffic in the I-710 Corridor and the ports of Los Angeles and Long Beach are our communities’ primary air-quality-related health concern. The first consideration for approval of any improvements within the I-710 corridor must be the project’s ability to reduce air quality impacts. Therefore, these steps must be taken before construction can begin on the “mainline” project to reduce air pollution.

The Tier 2 Committee recommends the following air quality improvement strategies:
1. Develop an action plan to improve air quality in the corridor.
2. Implement a corridor level action plan to improve community air quality.
3. Implement local alternative fuels/electrification and/or hydrogen policies and programs to reduce diesel emissions.
4. Pursue opportunities for incremental improvements.
5. Implement port-specific air quality improvement strategies.

JOBS AND ECONOMIC DEVELOPMENT
The twin ports of the San Pedro Bay generate significant economic benefits for the region as a whole. However, the cost associated with the movement of goods is primarily borne by local communities. These external costs, including increased levels of pollution, have reduced the attractiveness and livability of these communities. To address this imbalance, local residents and businesses must become net beneficiaries of the continued growth in international trade through the local ports. Improvement of air quality and the environment are essential for the area to take advantage of and capitalize on the area’s assets. In addition, an investment in education is necessary to continue to diversify the economy and provide economic opportunity for residents.

The Tier 2 Committee recommends the following economic development strategies:

1. Position the I-710 corridor and Gateway communities for a post-oil economy.
2. Create a community environment that attracts and retains businesses and residents who can support a new gateway cities economy.
3. Enable the I-710 corridor and Gateway communities to become more proactive in today’s economy.
4. Institute corridor-wide programs and partnerships to equip area residents with the skills needed to move into higher-paying jobs in this new economy.
5. While promoting the importance of all business, specifically recognize small business as an economic driver and foster its growth within the communities.
6. Consistent with current law, advocate policies at the national, state, regional and local levels to require businesses that benefit from any potential I-710 improvements to pay living wages.
SAFETY
The I-710 corridor is one of the most unsafe freeways in the State. Increasing truck traffic, conflicts between cars and trucks, aging infrastructure, and outdated design are all contributing causes to accidents in and around the freeway. The high concentration of older trucks, which frequently become disabled, poses a significant safety hazard, as do truck intrusions into nearby communities and neighborhoods. Just as the Alameda Corridor helped reduce conflicts between trains and automobiles, any improvements to the I-710 corridor must resolve the inherent conflicts between automobiles and trucks.

The Tier 2 Committee recommends the following safety improvement strategies:

1. Continue support and implementation of safety programs.
2. Increase enforcement of traffic and vehicle safety laws and regulations.
3. Increase public and trucker education on safety and neighborhood issues.
4. Implement infrastructure improvements.
5. Separate trucks and cars.

NOISE
Excessive noise is a serious public health concern in the corridor and cannot be resolved by simply building more sound walls. A comprehensive analysis of noise along the corridor must lead to a plan that recognizes the health impacts to our communities and seeks to resolve those impacts by providing appropriate relief. Major infrastructure improvements must be conditioned on achieving a net decrease in noise impact upon the affected communities.

The Tier 2 Committee recommends the following noise control strategies:

1. Provide appropriate and effective sound walls to reduce noise impacts to neighborhoods and schools adjacent to the freeway.
2. Implement noise mitigation programs.
3. Conduct a study to assess how truck traffic from extended gate hours for trucks and 24/7 port operations will impact communities, and assess what mitigations may be appropriate.
CONGESTION AND MOBILITY
The major purpose of congestion relief must be to improve the quality of life and economic vitality of the corridor rather than simply to accommodate port growth. The current corridor capacity is not adequate even for the existing demands in the area. The current conditions along the corridor are simply not acceptable. The Committee suggests an approach that provides multiple options for personal mobility – auto, pedestrian, bike and transit – within the corridor. Likewise, goods movement requires a comprehensive, regional approach that reduces bottlenecks in all segments – ship, truck, and rail.

The Tier 2 Committee recommends the following congestion and mobility strategies:

1. Maximize use of existing infrastructure
2. Implement expanded public transit solutions.
3. Provide a comprehensive bicycle and pedestrian network with connectivity throughout the area.
4. Develop a consistently implemented plan with cities and residents to mitigate construction impacts and maintain access.
5. Support cooperative planning among all ports along the West Coast.

COMMUNITY ENHANCEMENTS
The I-710 corridor is more than just a place for trucks to pass through on their way to their final destination. It is the location of our homes, businesses, schools, parks, and lives. Plans for future improvements to the I-710 are not intended to solely address congestion and mobility problems. Instead a revitalized I-710 must be the catalyst to enhance local communities along the corridor, creating an even more desirable place to live, work, and play. Major infrastructure improvements must also be conditioned on conclusion of satisfactory agreements with the neighboring communities to fully mitigate negative aesthetic impacts and to mitigate the impacts of any increased light and glare.

The Tier 2 Committee recommends the following community enhancement strategies:

1. Preserve existing parks, open space, and natural areas.
2. Develop and implement community enhancement projects.
3. Provide programs to minimize construction impacts.
4. Develop and implement a plan for arterial streetscapes.
5. Mitigate light and glare in surrounding communities.
DESIGN CONCEPTS

A new design concept for I-710 and/or alternative transportation modes for vehicles and goods movement is needed that responds to the specific design recommendations developed by the Tier 1 CACs to minimize or limit take of homes within their communities along I-710. The hybrid design, as developed to date, does a credible job of accomplishing this goal. However, final decisions on project configuration can only be made subsequent to incorporation of the further study of East Los Angeles and City of Commerce and upon completion of cost benefit and environmental studies. The I-710 design must take into account the safety and quality of life of the communities located next to the freeway, including provisions for greenbelts and open space.

The Tier 2 Committee recommends the following design concept strategies:

1. Endorse the specific Tier 1 CAC recommendations included in the Appendix.
2. Support capacity enhancement improvements for the I-710 Freeway upon meeting the conditions recommended in this report, including those recommended by both Tier 1 and Tier 2 CACs.
3. If economic and environmental studies show that expansion of the freeway is necessary, develop new transportation infrastructure for I-710 that separates cars from trucks.
4. If economic and environmental studies show that expansion of the freeway is necessary, locate the new truck lanes in such a way as to minimize community impacts.
5. Redesign unsafe and congested interchanges on I-710.
6. Consider future needs and requirements in implementing any new I-710 design.
7. If economic and environmental studies show that expansion of the freeway is necessary, upgrade of the existing freeway must satisfy criteria detailed in this report.

ENVIRONMENTAL JUSTICE

In the fifty years since the freeway was first built, the corridor has become home to minority and low-income populations. For many years, the people who live within the corridor have shouldered an unfair burden in health, economic, and quality of life issues. Environmental justice requires a mechanism for the meaningful involvement of all people in the transportation decision-making process and to ensure that the low-income and
minority communities receive equitable distribution of the benefits from transportation activities without suffering disproportionate adverse impacts.

The Tier 2 Committee recommends the following environmental justice strategies:

1. Include the corridor communities in the planning process in a meaningful way, including provision of appropriate language translation.

2. Ensure that impacts do not disproportionately fall on low-income people or people of color.

3. Ensure that the benefits from the projects flow to the corridor communities.

ORGANIZATION AND PROCESS

To ensure that the work of the Tier 2 Committee is carried forward as set forth in the full report, a task force of representatives from the Tier 2 CAC, the OPC and the TAC should be established to plan and oversee the implementation of the conditions and recommendations of the Tier 2 CAC.

The Tier 2 Committee recommends the following organization and process strategies:

1. This Tier 2 Report will be formally “agendized” and presented to the OPC when it convenes in September 2004 for its consideration and decision. All Tier 2 members will be invited to the OPC meeting, and the presentation of the Tier 2 report will be delivered by a representative group of Tier 2 spokespersons.

2. Following the OPC’s meeting, there will be a follow-up meeting(s) of the Tier 2 Committee to discuss actions taken by the OPC.

3. Prior to the beginning of any formal EIR for the I-710 Major Corridor Study, Metro (MTA) and the Gateway Cities COG will work with the communities, appropriate agencies, organizations and community groups in developing a collaborative process for community participation in the environmental review process. This process will continue to work collaboratively throughout the EIR process.

CONCLUSIONS AND NEXT STEPS

This report is hereby presented by the Tier 2 CAC to the I-710 Oversight Policy Committee. The Committee expects that its recommendations will be carried forward by the OPC, the Gateway Cities COG, the Los Angeles County Metropolitan Transportation Authority (Metro), the Southern California Association of Governments (SCAG) and the
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California State Department of Transportation (Caltrans). Further, we expect our recommendations to be used as required guidance in the planning and development of future corridor improvements. The Committee and the communities we represent expect to have continued formal and meaningful participation in the I-710 corridor improvement process and look forward to working with the OPC and future project sponsors toward an improved and revitalized I-710 Corridor.
I. Introduction

This report documents the recommendations for policies, strategies and conditions developed by the Tier 2 Committee to address I-710 issues, paving the way for a consensus-based corridor solution. The Tier 1 Community Advisory Committee (CAC) chairs represented the Tier 1 Committees on the Tier 2 Committee to ensure that community concerns and recommendations were represented. The Oversight Policy Committee (OPC) will review the findings and recommendations outlined in this report and will use the information to make recommendations for potential action. The Technical Advisory Committee (TAC) will review the recommended strategies generated by the process and consider the implications to the local preferred strategy. This report will also be included in the Major Corridor Study.

Strategic discussions among Tier 2 Committee members occurred over a series of twelve facilitated meetings held from February through August 2004. Building on a foundation of understanding of their own community issues and particular concerns, Tier 2 Committee members began to examine corridor-wide issues and shared their viewpoints with each other in open and thought-provoking dialogues. Experts were available to answer questions and to add clarity to specific concerns.

GUIDING PRINCIPLES

The Foundation of Our Findings
The guiding principles set forth below affirm the Tier 2 Committee’s concerns and encompass the values that are important to the communities along the corridor. These principles define the priorities of the Tier 2 Committee and reflect the consensus that emerged during this process. The recommendations in this report support these principles:

1. This is a corridor – considerations go beyond the freeway and infrastructure.

2. Health is the overriding consideration:
   • Public Health (the people)
   • Environmental and Community Health (the place)
   • Economic Health (the resources)

3. Every action should be viewed as an opportunity for repair and improvement of the current situation.
II. Financial Considerations

The Committee recognizes that the strategies, recommendations and conditions in this report will be costly. In order to implement the strategies and policies identified by the Tier 2 Committee it will be necessary to establish appropriate lead agencies and funding sources for these programs. This Committee expects that the project lead agency will be responsible for directing mitigation funds to implement these recommendations. While it is expected that mitigation funds and fees may fund all or portions of these programs, the issues of funding and program implementation are generally beyond the scope of these recommendations and must continue to be addressed by the Tier II CAC and OPC. The Committee also expects that our public officials will bring to bear all available means to implement the community’s vision including existing and new regulations, incentives, and funding sources, including appropriate contributions from the goods movement industry.
III. Conditions

1. Implement a corridor level action plan to improve community air quality. The State shall levy fees on containers to fund environmental improvements and community programs to address hidden costs attributable to goods movement impacts, including the funding of community health care clinics.

2. Major infrastructure improvements must be conditioned on achieving air quality goals to protect public health. Based on air monitoring data collected by regional air quality agency stations (including, but not limited to, South Coast Air Quality Management District (AQMD) stations in Lynwood and North Long Beach), corridor air quality must be in compliance with State and National Ambient Air Quality Standards prior to the start of freeway construction. Furthermore, the entire 710 corridor improvement project must from inception result in a reduction in criteria pollutants (particulate matter, ozone, nitrogen dioxide, and carbon monoxide) in the corridor and rail and port communities, as compared to 2002 baseline values according to the SCAQMD, State standards, or National Ambient Air Quality Standards, whichever are lower, and that reduction must be maintained. The lowering of emissions shall include those from the ports of Long Beach and Los Angeles. No construction project on the mainline shall move forward until credible, acceptable plans for achieving this reduction are received and approved by the OPC and Tier 2 CAC.

3. Prior to the initiation of the environmental review process, all Tier I Community Advisory Committees (CACs) must have formally endorsed (signed off on) the freeway improvement design concept.

4. Prior to adopting a preferred alternative, the OPC must conduct a study of potential goods movement alternatives (such as the use of maglev system for freight movement) as an alternative to increasing the capacity of the I-710 Freeway; this study must include a cost benefit analysis.

5. A study of the impact of construction on air quality, traffic, congestion, noise and impact on surrounding communities must be conducted, and if construction does go forward, specific mitigation plans must be developed and put into effect during the construction process to minimize and mitigate the impact of said construction of the surrounding communities.

6. Major infrastructure improvements must be conditioned on achieving a net decrease in noise impacts upon the affected communities.
IV. Health

SYNOPSIS OF FINDINGS:
Air quality is the number one public health issue. Poor air quality has significant negative impacts on public, economic, environmental and community health in the corridor. Other parts of the environment, such as water quality, are also negatively impacted by goods movement.

Particulates and other pollutants from diesel truck traffic in the I-710 Corridor and the ports of Long Beach and Los Angeles are our communities’ primary air-quality-related health concern. Ports and all associated transportation such as trucks, trains, ships, and yard equipment are the major sources of pollution along the I-710 corridor. Cars continue to be a source of air quality and health concerns in the corridor as well, but the continuing increase in port activities has focused corridor community attention on cargo movement-related emissions (ships, trucks, trains, and yard equipment). Noise is also a significant health issue, but because this issue has additional ramifications, it is treated in depth in a separate section of this report.

RECOMMENDED STRATEGIES
1. Develop an action plan to improve air quality in the corridor, including the following steps:
   a. Establishing a baseline of current levels of pollution from each contributing source using the best available technology.
   b. Identify the level of air quality impacts from increasing trucking, rail and shipping.
   c. Determine the approximate costs of health care that can be traced to the differential levels of air pollution to be encountered by corridor community members as a result of the construction effort, if it goes forward as envisioned.
   d. Study the direct and indirect health and other economic costs on communities and the region caused by global trade and its associated pollution impacts.

2. Implement a corridor level action plan to improve community air quality
   a. Use enforcement, truck inspections and incentives to control emissions.
   b. Require air quality improvements in port operation as a condition of project approval.
c. Encourage the development and expansion of fleet modernization clean air programs.
d. Levy fees on containers to fund environmental improvements and community programs to address hidden costs attributable to goods movement impacts including:
   – Health care
   – Alternative fuels
   – Improvements/construction of I-710 infrastructure
   – Beautification of the corridor
e. Develop infrastructure that quantifies emission reductions:
   – Permanent monitoring stations to measure emissions levels in the corridor
f. Develop and implement improved air quality monitoring techniques.

3. **Implement local alternative fuels/electrification and/or hydrogen policies and programs to reduce diesel emissions.**
   a. Make the use of alternative fuels a priority.
   b. Discourage use of out-of-state fuel.
   c. All trucks, regardless of origin, must be subject to local, state and federal standards
d. Require all trucks using the truck lanes on the I-710 to use alternative fuels as defined above, or pollution controls which achieve equal or better results.
e. Require all railroad locomotives servicing the two ports, or any rail yards connected with port container traffic, to use alternative fuels as defined above, or pollution controls which achieve equal or better results.
f. Require the Alameda Corridor Authority to prepare a plan to electrify all locomotives involved in its operations.

4. **Pursue opportunities for incremental improvements**
   a. Retrofit schools, homes and parks to increase protection from noise and pollution.
   b. Identify location and develop facility for one-stop truck inspection.
   c. Provide incentives for businesses to accept off-peak deliveries.
   d. Create programs to assist truck owners with engine/equipment upgrades and retrofits.
e. Restrict Port-generated traffic onto I-710 until improved fuels programs or other pollution emissions mitigation programs are implemented.
f. Provide landscaping, specifically including tree planting, to improve air quality.
5. **Implement Port-specific strategies**
   a. Require ports to develop plans to electrify other terminal operations as a priority.
   b. Require all rubber tired gantry cranes to be electrified.
   c. Require all ships docking in the Ports of Los Angeles and Long Beach to shut down all diesel engines and use shore electric power.
   d. Require the ports to expedite development of effective pollution controls for ships.
   e. Make mandatory the proposal of CARB to require that ships entering the coastal waters of California switch to low sulfur diesel fuel. Require the ports to provide financial subsidy if necessary to implement this requirement.
   f. Include trucks, trains and rail yards, marine vessels, and port equipment in clean air initiatives.
   g. Require all terminal equipment at the ports to operate on alternative fuel as defined by CARB. This includes Liquid Petroleum Gas, Compressed Natural Gas, or Liquid Natural Gas. As an alternative, require all engines to be equipped with pollution control technology, which achieves equal or less emissions.
   h. Establish a fund that shippers must pay into, that provides rebates to those who adopt the use of clean air engines for vehicles. Ensure that this program accomplishes the goals of decreasing pollution rather than a pay-to-pollute program.

**POLICY CONSIDERATIONS**

The first consideration for approval of any improvements within the I-710 corridor must be the project’s ability to reduce air quality impacts. Air quality in the corridor must be better at the time of construction than it is today. Therefore, these steps to reduce air pollution must be taken before construction can begin on the “mainline” project.
V. Jobs and Economic Development

SYNOPSIS OF FINDINGS

The central location of the Gateway communities and proximity to ports, waterfronts, airports, downtown, Orange County and the Inland Empire has been undercapitalized. The ports provide economic benefit but statistics do not exist that can track these benefits back to specific communities. Therefore, communities are not convinced of the specific level of benefit provided by the ports in comparison to the cost caused by port and freight operation. In recent years, the area has been in transition from high-quality, high-paying manufacturing and aerospace jobs to lower-pay manufacturing and logistics jobs. Improvement of air quality and the environment are essential for the area to take advantage of and capitalize on the area’s assets. In addition, an investment in education is necessary to continue to diversify the economy and provide economic opportunity for residents. Finally, there is some measure of competition among the ports, resulting in lack of cooperative planning at the regional, state, national and international levels.

RECOMMENDED STRATEGIES

1. **Position the I-710 corridor and Gateway communities as leaders in the post-oil economy**
   a. Develop and sponsor job training programs for alternative fuel vehicle retrofit and manufacturing, which will fit into a retrofit program implemented by the lead agency.
   b. Re-think and re-organize alternative/non-oil methods and operations for goods movement throughout the region.
   c. Conduct a feasibility study for an alternative transportation system such as Maglev.

2. **Create a community environment that attracts and retains businesses and residents who can support a new gateway cities economy**
   a. Improve health, air quality and infrastructure.
   b. Provide economic incentives for industries, and especially environmentally friendly industries, which offer the greatest multiplier effect and improve the region’s quality of life.
   c. Use the experience of other waterfront cities, such as Boston, New York, London, and Melbourne, as models for redevelopment.

3. **Enable the I-710 corridor and Gateway communities to become more proactive in today’s economy**
a. Conduct a cost/benefit analysis of the international goods movement industry to determine the economic impact of international trade on the corridor communities.

b. Reduce the communities’ over-reliance on jobs that damage the quality of life by supporting the development of other, more community-friendly industries.

c. Create or support regional mechanisms for sustainable economic development.

4. **Institute corridor-wide programs and partnerships to equip area residents with the skills needed to move into higher-paying jobs in this new economy**

   a. Develop and promote education, training and internship opportunities for youth and young adults.

   b. Build on existing adult education and vocational training programs.

   c. Establish strategic partnerships between corridor cities, the Gateway Cities COG, community colleges, regional occupational programs, and local business.

   d. Dedicate an incremental percentage of container fees to partially fund job training and development programs.

   e. Provide training to allow employees to transition from traditional truck, port and train jobs to alternative transportation systems such as maglev.

5. **While promoting the importance of all business, recognize small business, as an economic driver, and foster its growth within the communities**

   a. Encourage land use and economic policies that support small business development.

   b. Promote fee structures and amenities that attract and encourage small business growth.

6. **Consistent with current law, advocate policies at the national, state, regional and local levels to require businesses that benefit from any potential I-710 improvements to pay living wages. (Note: Consensus was not reached on this specific recommendation. Dissent included, “the concept of living wages is unrealistic and unenforceable.”)**

**POLICY CONSIDERATIONS**

The twin ports of the San Pedro Bay generate significant economic benefits to the Southern California region and the nation as a whole by facilitating the rapid growth in international trade. However, the cost associated with the movement of goods, whether through the ports or the region’s arterial highway, freeway or rail corridors, is primarily
borne by local communities. The cities adjacent to the ports as well as the cities bordering the major transportation corridors, especially the I-710, experience increased levels of pollution. These external costs have reduced the attractiveness and livability of these communities. To address this imbalance, local residents and businesses must be net beneficiaries of the continued growth in international trade. Not only must programs be earmarked for local residents and businesses, but companies who locate in corridor communities must also be encouraged to hire locally. In addition, major construction projects should be structured to incorporate effective programs to provide local residents with jobs. At the same time, there is a clear obligation to implement mitigation measures to reduce the adverse effects associated with goods movement.
VI. Safety

SYNOPSIS OF FINDINGS
The I-710 corridor is one of the most unsafe freeways in the State. Increasing truck traffic, conflicts between cars and trucks, aging infrastructure and outdated design are all contributing causes to accidents in and around the freeway. In addition, the high concentration of older trucks is a significant contributing factor to the frequency of disabled big rigs, which pose a significant safety hazard. Truck intrusion into nearby communities and neighborhoods also negatively impacts street safety in these areas.
While the Alameda Corridor grade separations have improved the safety of street crossings within the corridor, other freight and rail operations continue to be a source of concern for the communities. Furthermore, the current sub-standard design features of the I-710 significantly contribute to the traffic safety problems associated with the corridor, and demand safety design upgrades and improvements.

RECOMMENDED STRATEGIES
1. Continue support and implementation of safety programs
   a. Support the Gateway Cities Council of Governments (COG) Safety Initiatives.
   b. Support implementation of MTA Big Rig Tow program.
   c. Encourage goods movement industry to revise its rate structure in order to support truck upgrades.

2. Increase enforcement of traffic and vehicle safety laws and regulations
   a. Establish permanent truck inspection station(s).
   b. Monitor vehicle speeds and enforce speed limits.
   c. Support safe driving of trucks through added enforcement.
   d. Support safe driving of vehicles in the presence of trucks through added enforcement.
   e. Enforce a truck certification program for all trucks

3. Increase public and trucker education on safety and neighborhood issues
   a. Utilize CHP materials to increase public awareness.
   b. Educate drivers about truck stopping speed and distances and truck driver blind spots.

4. Implement infrastructure improvements
VI. Safety

a. Ensure that median barriers are in place along the full length of the freeway, and that they are high enough to increase protection, minimize traffic delays created by glare and drivers slowing to view accidents.
b. Improve lighting while fully mitigating light pollution from all sources including port and rail yards.
c. Improve existing informational signage.
d. Link signage to Intelligent Transportation Systems (ITS).
e. Re-surface the I-710 Freeway, making no assumptions that doing so should necessarily add capacity.
i. If there is a major corridor improvement on the mainline, provide separate lanes for trucks and vehicles.

POLICY CONSIDERATIONS

Any improvements to the I-710 corridor must resolve the inherent conflicts between automobiles and trucks. Just as the Alameda Corridor helped reduce the conflicts between trains and automobiles, improvements to the I-710 corridor should lead to a safe highway infrastructure that resolves the truck/auto conflict, provides the opportunity to remove unsafe vehicles from the road, and creates a more efficient transportation corridor based on good information and safer geometric design features using the most current highway design standards, while minimizing and mitigating the impacts to the surrounding neighborhoods.
VII. Noise

SYNOPSIS OF FINDINGS

Excessive noise is a serious concern in the corridor. Noise has been shown to impact learning ability, skills development and quality of life. While not all noise can be eliminated, noise can be controlled through design and operational strategies, sound walls and retrofit of homes, schools and equipment. Noise must be controlled and we must find the means to do so.

RECOMMENDED STRATEGIES

1. **Provide appropriate and effective sound walls to reduce noise impacts to neighborhoods and schools adjacent to the freeway**
   a. Make sound walls along the freeway consistent in appearance, attractive and well designed. Plant native vines on walls to discourage graffiti.
   b. Ensure that sound walls and noise abatement treatments are designed, budgeted and installed before construction begins, and take into account steps necessary to shield residents from the noise of construction itself.
   c. Ensure that additional sound buffers, such as sound walls and landscaping are installed where double decking occurs, to ensure no increase in overall levels in residential areas.

2. **Implement noise mitigation programs**
   a. Retrofit homes and schools near the freeway, freight routes and rail yards with double-paned glass and air conditioning or other sustainable methods for reducing noise such as landscaping and window shades.
   b. Trucks using the corridor must utilize the latest noise reduction technology, including retrofitting of old trucks to decrease noise.
   c. Implement train noise mitigation for communities near rail yards and rail ways.
   d. Aggressively enforce train switching and truck engine brake laws.
   e. Ensure noise mitigation during construction, including mitigation related to truck diversion on all detour routes and “hot spots” in the corridor.
   f. Design the freeway system so that there is a lower ambient noise level in communities.
   g. Choose road surfaces that result in lower noise levels. Noise levels associated with any improvements must not exceed CNELs in local land use plans.
3. **Conduct a study to assess how truck traffic from extended gate hours for trucks and 24/7 port operations will impact communities, and assess what mitigations may be appropriate.**
   a. Designate special truck routes through communities, and create them, if needed, utilizing designs that will result in lower noise and pollution levels in residential neighborhoods.
   b. Adopt policies and enforcement mechanisms to reduce and prevent truck idling on city streets, and encourage new technologies in this endeavor.
   c. Consider a mini-truck stop in designated areas to reduce and eliminate truck idling on city streets.

**POLICY CONSIDERATIONS**

Noise issues go beyond simply building more soundwalls. A comprehensive analysis of noise along the corridor must lead to a plan that recognizes the health impacts to our communities and seeks to resolve those impacts by providing appropriate relief. Future improvements must consider noise as a primary public health issue and find ways to mitigate those impacts.
VIII. Congestion and Mobility

SYNOPSIS OF FINDINGS
Congestion is a significant quality of life issue for area residents and businesses. The major purpose of congestion relief must be to improve the quality of life and economic vitality of the corridor rather than simply to accommodate ports growth. Although the port’s growth is a major contributing factor to the increased traffic on the I-710 corridor, the ambient background growth must be considered and mitigated as well. The current corridor capacity is not adequate even for the existing demands in the area. It is necessary to identify multi-modal capacity enhancements along the I-710 corridor and the region to address congestion and mobility. Alternative transportation has been an underdeveloped asset in the corridor, especially mass transportation, bicycle and pedestrian options. Since many corridor and freeway improvements may require construction, we must recognize potential negative impacts from this construction and aggressively plan ahead to deal with them. While expanded hours for the ports can decrease congestion during daytime hours, this policy can also increase nighttime impacts on neighborhoods. Measures are needed to anticipate, plan for and mitigate these impacts.

RECOMMENDED STRATEGIES
1. Maximize use of existing infrastructure
   a. Synchronize signals along major arterials.
   b. Consider extended gate hours for trucks and 24/7 port operations if ways can be found to ensure that there will be no impact on adjacent residential areas.
   c. Encourage full utilization of the Alameda Rail Corridor and vigorously pursue additional use possibilities.
   d. Support policies that support near dock facilities.
   e. Regulate port- and rail-generated traffic onto I-710 based on I-710 capacity.
   f. Encourage use of mass transit.
   g. Encourage alternative business hours by employers to distribute commuter traffic to non-peak hours.
   h. Encourage alternative business hours to accommodate trucks during off-peak commuter hours, so long as the impact to the community is minimal.

2. Transit
   a. Create links to other forms of public transportation.
b. Close gaps in bus service.
c. Expand light rail system.
d. Make use of alternative transportation such as maglev for port use and people moving.
e. Provide incentives for use of mass transit, including rideshare and other modes.

3. **Provide a comprehensive bicycle and pedestrian network that provide connectivity throughout the area**
   a. Utilize existing bike and pedestrian trails and provide new ones along the Los Angeles River Corridor.
   b. Establish east-west connections across the freeway to unite communities and provide access to the Los Angeles River bike trail.
   c. Provide for bike lanes and sidewalks in all aspects of arterial improvements to the I-710 corridor.

4. **Develop a consistently implemented plan with cities and residents to mitigate construction impacts and maintain access**
   a. Examine truck destinations to create alternate routes.
   b. Mitigate impacts in all areas that are in proximity to local schools.
   c. Restrict the construction hours to off-peak hours, and maximize the nighttime construction activities with full consideration for its noise and light impacts.
   d. Support legislation (such as original language contained in AB2041) to encourage extended gate hours and to help mitigate truck traffic.

5. **Support cooperative planning among all ports along the West Coast**
   a. Address impacts and develop consistent fee structures and policies with regard to containers.
   b. Expand cooperative port efforts beyond Los Angeles/Long Beach to West Coast, national and international policies. Support a common fee structure among ports so that there is not an incentive to move freight operations based on fees paid.
   c. Support legislation (such as in the original AB 2043) to develop and maintain a long-range plan for West Coast port planning and general transportation and distribution. Future port planning must take into account roadway and rail capacity not just terminal capacity.

6. **Create additional options to address long-term capacity needs.**
   a. Consider long-term impacts of elevated roadways on the local economy and environment.
b. Study the use of underground truckways to relieve congestion of surface traffic when surface truckways approach “design capacity”.

7. **Address and Manage Impact of National Goods Movement Trends on Local Facilities.**
   a. Set a goal to redirect a portion of imports destined outside Southern California to other West Coast ports.

**POLICY CONSIDERATIONS**

The goal of congestion and mobility relief is to improve the movement of goods and people significantly reducing health impacts and enhancing quality of life. The strategies suggest an approach that provides multiple options for personal mobility – auto, pedestrian, bike and transit – within the corridor. Likewise, the outcome for goods movement must be a comprehensive approach towards a regional network that reduces bottlenecks in all segments – ship, truck, and rail – but is not primarily to promote port growth. The current conditions along the corridor are simply not acceptable.
IX. Community Enhancements

SYNOPSIS OF FINDINGS
The I-710 corridor is more than just a place for trucks to pass through on their way to their final destination. It is the location of our homes, businesses, schools, parks, and lives. A significant consideration for all projects is how they enhance and upgrade the natural and built environment along the corridor. A revitalized I-710 must be the catalyst that improves the region’s quality of life and makes the area an even more desirable place to live, work, and play.

RECOMMENDED STRATEGIES

1. **Preserve existing parks, opens space and natural areas**
   a. The design must accommodate additional planned park, open space and wetlands projects in the corridor.
   b. All mitigation funding for this project related to the impacts on open space, parklands or habitat will be used to implement Los Angeles River and tributary, or other open space, habitat restoration, recreational and educational opportunities within the corridor.
   c. There must be no net decrease in the amount of permeable surface as a result of the I-710 corridor project.
   d. Design ramp abandonment and other corridor-related infrastructure improvements to make maximum use of these areas for community open space and enhancement projects.
   e. There must be no negative impacts to the Los Angeles River, Compton Creek or other open channels in the corridor as a result of this project.
   f. To the maximum extent possible, landscaping materials used for this project should be local native plants.

2. **Develop and implement community enhancement projects**
   a. Coordinate with local city redevelopment departments to identify priority enhancement areas.
   b. Utilize input from CAC to develop community enhancement priorities.
   c. Emphasize landscaping and aesthetic improvements to major arterial routes within the corridor.

3. **Provide programs to minimize construction impacts**
   a. Establish construction staging areas in locations with the least amount of impact on local circulation.
b. Establish a community forum to identify and rectify impacts during construction.

4. Develop and implement a plan for arterial streetscapes
   a. Landscape medians, using native plants and recycled water where possible.
   b. Utilize signage, which identifies communities and connections to local rivers, i.e., LA, Compton Creek, Rio Hondo, bikeways, parks and historical landmarks.

5. Mitigate light and glare in surrounding communities

POLICY CONSIDERATIONS
As the import/export industry continues to grow and generate traffic in the ports, the corridor communities continue to be burdened without any significant gain. The inherent potential of these communities cannot be fully realized until their perception as unattractive and economically challenged communities is changed. Plans for future improvements to the I-710 are not intended to solely address congestion and mobility problems but to enhance local communities along the corridor. Major infrastructure improvements must also be conditioned on conclusion of satisfactory agreements with the neighboring communities to fully mitigate negative aesthetic impacts and to mitigate the impacts if any increased light and glare.
X. Design Concepts

SYNOPSIS OF FINDINGS
The Committee recognizes that something must be done to address the current congestion and design of the I-710 freeway. The high number of trucks on the freeway uses up capacity and the mix of cars and trucks poses a serious safety concern. Measures must be taken to separate cars from trucks. In addition, the design of the freeway is outdated and contributes to the safety and congestion problem. A new design concept for I-710 and/or alternative transportation modes for vehicles and goods movement is needed that responds to the specific design recommendations developed by the Tier 1 CACs to minimize or limit take of homes within their communities along I-710. The Committee further recognizes that certain aspects of the design concepts, particularly for designated on-ramps, may be appropriate for implementation prior to addressing the “mainline” issues. The Committee further recognizes that in addition to addressing air quality goals, prior to implementation of any mainline major infrastructure improvements there must be a definitive cost benefit analysis and environmental review to determine if there are alternative methods for addressing the capacity and safety deficiencies of the I-710 corridor. Therefore, these recommended strategies are premised on meeting those conditions.

RECOMMENDED STRATEGIES

1. Support capacity enhancement improvements for the I-710 Freeway upon meeting the conditions recommended in this report.
   a. Actively pursue and finalize the cost benefit and environmental studies required in the above synopsis of findings.
   b. Advocate the inclusion of the I-710 corridor improvements for special earmark consideration in the federal transportation finance bills. To the extent possible, it is the committee’s desire that truck-related improvements and mitigations be financed by truck and port fees.
   c. Actively pursue and develop creative funding alternatives to finance the design and capacity enhancement improvements for the I-710 corridor.

2. If economic and environmental studies show that expansion of the freeway is necessary, develop new transportation infrastructure for I-710 that separates cars from trucks.
   a. Add lanes for trucks that are separate from the I-710 freeway lanes.
b. Build truck ramps that lead directly from I-710 to the railroad yards to take truck traffic out of neighborhoods and off of local streets.
c. Improve the Atlantic and Bandini intersection in the City of Vernon.
d. Improve the Atlantic and Bandini interchange to the south (Garfield to I-5 South).

3. **If economic and environmental studies show that expansion of the freeway is necessary, locate the new truck lanes in such a way as to minimize community impacts**
   a. Utilize property between the existing freeway and the Los Angeles River to minimize taking of residences, local businesses and parks.
b. Truck lanes should be located in those lanes that are at the greatest distance from homes, parks and schools to limit noise and emissions impacts on the community.
c. Keep trucks at or below grade to reduce potential for noise and visual impacts.

4. **Redesign unsafe and congested interchanges on I-710**
   a. Implement diamond interchange modifications as recommended by Tier 1 communities.
b. Maintain and improve local access to I-710 for residents and businesses.
c. Widen bridges that cross and parallel the I-710 to provide sufficient space for cars, bicyclists, and pedestrians.

5. **Consider the future in implementing new I-710 design**
   a. Provide for future mobility in the long run by preserving options to use advanced technologies for moving goods as these are developed.
b. Use utility right-of-way to minimize community impacts.
c. Future port planning must take into account roadway and rail capacity, not just terminal capacity.

6. **If economic and environmental studies show that expansion of the freeway is necessary, upgrade of the existing freeway must:**
   a. Ensure that sufficient capacity is provided for the general public by making improvements to the existing freeway (mainline) as presented by the Tier 1 design concepts.
b. The mainline portion of I-710 will be upgraded to modern design standards.
c. Continue working with those communities north of the rail yards to finalize design concepts in that area.
POLICY CONSIDERATIONS

We cannot entirely build our way out of congestion. Therefore, any freeway improvements project must be accompanied by other policies and programs such as those described in the congestion and mobility strategies. At the same time, the current status of the I-710 is not acceptable to the communities that depend on it and are affected by it. The hybrid design does a credible job of showing that maximum build out may be accommodated while incorporating community concerns about land use. However, further study is required to determine if there are other feasible alternatives that would substantively address the local communities’ concerns. Final decisions on project configuration can only be made subsequent to the cost benefit and environmental studies required in the synopsis of findings. These improvements cannot be constructed in isolation from all of the other recommendations such as public health, community enhancement, and noise abatement. The I-710 design must take into account the safety and quality of life of the communities located next to the freeway, including provisions for greenbelts and open space.
XI. Environmental Justice

SYNOPSIS OF FINDINGS
In the fifty years since the freeway was first built, demographics have changed within the corridor. Today the corridor is home to low-income populations and minority groups, including African American, Asian, Latino, Pacific Islander and Native American communities. For many years, these communities have shouldered an unfair burden in health, economic, and quality of life issues in comparison with residents in other parts of the region. While the I-710 freeway is a critical factor in the region’s economy, the localized negative impacts resulting from past transportation projects have more than offset their benefits in the corridor communities. Freeways have dissected some communities, and the operations of the logistics industry have compounded these impacts.

RECOMMENDED STRATEGIES
1. Include the corridor communities in the planning process in a meaningful way, including provision of appropriate language translation.
2. Ensure that impacts do not disproportionately fall on low-income people or people of color.
3. Ensure that the benefits from the projects flow to the corridor communities.

POLICY CONSIDERATIONS
The requirement of the environmental justice is to provide a mechanism for the meaningful involvement of all people in the transportation decision-making process and to ensure that the low-income and minority communities receive equitable distribution of the benefits from transportation activities without suffering disproportionate adverse impacts. In order to ensure equitable outcomes, future I-710 corridor projects must include “implementable” environmental justice policies and procedures that are developed by the locally affected communities. The communities’ expectation is that transportation projects in their communities will meet modern standards of safety, design and aesthetics and that all negative environmental impacts will be fully mitigated. The mitigations must be, at a minimum, determined by the Tier 1 communities and other communities which might be impacted by negative environmental impacts.
XII. Organization and Process

SYNOPSIS OF FINDINGS

To ensure that the work of the Tier 2 Committee is carried forward as set forth in this document, a task force of representatives from the Tier 2 CAC, the OPC and the TAC should be established to plan and oversee the implementation of the conditions and recommendations of the Tier 2 CAC.

RECOMMENDED STRATEGIES

1. **This Tier 2 Report (Major Opportunity/Strategy Recommendations and Conditions)** will be formally "agendized" and presented to the Oversight Policy Committee when it convenes in September 2004 (or as soon as possible thereafter) for its consideration and decision. All Tier 2 members will be invited to the OPC meeting, and the presentation of the Tier 2 report will be delivered by a representative group of Tier 2 spokespersons.

2. Following the OPC’s meeting, there will be a follow-up meeting(s) of the Tier 2 Committee to discuss actions taken by the OPC.

3. Prior to the beginning of any formal EIR for the I-710 Major Corridor Study, Metro (MTA) and the Gateway Cities COG will work with the communities, appropriate agencies, organizations and community groups in developing a collaborative process for community participation in the environmental review process. This process will continue to work collaboratively throughout the EIR process.
Appendix A
Strategies Summary Matrix
GUIDE TO INTERPRETING THE STRATEGIES SUMMARY MATRIX

The Strategies Summary Matrix lists the strategies recommended by the Tier 1 and Tier 2 Community Advisory Committees. The purpose of the Summary Matrix is to synopsize these strategies and to track the source of the recommended strategies.

The strategies are organized by the themes developed by the Tier 2 CAC and are referenced as follows:

H – Health
J - Jobs and Economic Development
S -- Safety
N -- Noise
M -- Congestion and Mobility
E -- Community Enhancements
D -- Design Concepts
EJ -- Environmental Justice
P -- Organization and Process

Guide to ID# Column Interpretation:

  e.g. H1-a:
  H = Located in the Health Section of the Tier 2 Report
  1 = Strategy #1 in this Section
  a = Designation of the specific recommendation under this Strategy

Source Column
Identifies the source of the recommendation:

  • Tier 2
  • Tier 1 & Tier 2
  • Tier 1 only (note: These appear in italics and are strategies that were recommended by many Tier 1 communities, but not specifically called out in the Tier 2 Committee’s final report.)

Programs/Policies
Strategies that relate to programmatic and policy recommendations

MCS Transportation Actions
Recommended Major Corridor Study (MCS) construction or mitigation activities to complement improvements to the I-710 mainline.

I-710 Design Concepts
Infrastructure improvement recommendations on the I-710 mainline interchanges.
### I-710 Major Corridor Study
#### Strategies Summary Matrix

**August 04**

<table>
<thead>
<tr>
<th>ID#</th>
<th>Strategy Type</th>
<th>Recommendation</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1-a</td>
<td>Air Quality Improvements</td>
<td>AQ Improvement Action Plan</td>
<td>Establish a baseline of current levels of pollution.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H1-b</td>
<td></td>
<td></td>
<td>Identify level of air quality impacts from increasing truck, rail, and shipping.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H1-c</td>
<td></td>
<td></td>
<td>Determine costs of health care that can be traced to pollution encountered by corridor community members as a result of construction.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>H1-d</td>
<td></td>
<td>Global Trade Expansion: Impact Assessment</td>
<td>Perform studies to determine direct and indirect health and other economic costs on corridor communities and region.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>H2-a</td>
<td></td>
<td>Truck Inspection</td>
<td>Determine how other ports are addressing health and air quality issues.</td>
<td>Tier 1</td>
</tr>
<tr>
<td>H2-b</td>
<td></td>
<td>Port Emissions Reduction</td>
<td>Use enforcement and increase inspections to control emissions.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H2-e</td>
<td></td>
<td>Quantify Emissions</td>
<td>Install permanent monitoring stations to measure emissions levels.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H2-f</td>
<td></td>
<td></td>
<td>Develop and implement improved air quality monitoring techniques.</td>
<td></td>
</tr>
<tr>
<td>H3-a</td>
<td>Diesel Emissions Reduction</td>
<td>Alternative Fuels</td>
<td>Support policies that encourage use of alternative fuels.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H3-b</td>
<td></td>
<td></td>
<td>Discourage use of out-of-state fuel.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H3-c</td>
<td></td>
<td></td>
<td>Subject all trucks to local, state and federal standards.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H3-d</td>
<td></td>
<td></td>
<td>Require trucks using I-710 to use alternative fuels or equivalent pollution controls.</td>
<td></td>
</tr>
<tr>
<td>H3-e</td>
<td></td>
<td></td>
<td>Require railroad locomotives servicing the two ports to use alternative fuels.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H3-f</td>
<td></td>
<td></td>
<td>Require the Alameda Corridor Authority to prepare a plan to electrify locomotives involved in its operations.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H4-a</td>
<td>Environmental Improvements</td>
<td>Emissions Reduction and Mitigation</td>
<td>Retrofit schools, homes and parks to increase protection from noise and pollution.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H4-b</td>
<td></td>
<td></td>
<td>Identify location and develop facility for one-stop truck inspection.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H4-c</td>
<td></td>
<td></td>
<td>Provide incentives for business to accept off-peak deliveries.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H4-d</td>
<td></td>
<td>Truck emissions reduction programs</td>
<td>Create programs to assist truck owners with engine/equipment upgrades.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H4-e</td>
<td></td>
<td></td>
<td>Restrict Port generated traffic on I-710 until emission mitigation is in place.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H4-f</td>
<td></td>
<td></td>
<td>Provide landscaping to improve air quality.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>H5-a</td>
<td>Port Air Quality</td>
<td>Alternative Fuels</td>
<td>Require plans for terminal operation electrification.</td>
<td>Tier 2</td>
</tr>
</tbody>
</table>

**Guide to ID# Column Interpretation**
- **e.g. H1-a**: H = Located in the Health Section of the Tier 2 Report
- **= Strategy #1 in this Section**: 1 = Designation of the specific recommendation under this Strategy

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<table>
<thead>
<tr>
<th>ID#</th>
<th>Strategy Type</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H5-b</td>
<td></td>
<td>Require electriification of port gantry cranes.</td>
</tr>
<tr>
<td>H5-c</td>
<td>Ship Operations</td>
<td>Require ships to shut down diesel engines and use shore electric power.</td>
</tr>
<tr>
<td>H5-d</td>
<td></td>
<td>Require ports to expedite development of pollution control for ships.</td>
</tr>
<tr>
<td>H5-e</td>
<td></td>
<td>Make low sulfur diesel fuel use mandatory.</td>
</tr>
<tr>
<td>H5-f</td>
<td>Emissions Control</td>
<td>Include trucks, trains, and rail yards, marine vessels and port equipment in clean air initiative.</td>
</tr>
<tr>
<td>H5-g</td>
<td></td>
<td>Require terminal equipment emissions controls.</td>
</tr>
<tr>
<td>H5-h</td>
<td>Funding</td>
<td>Establish snapper-funded emissions-lowering incentives.</td>
</tr>
</tbody>
</table>

**Jobs and Economic Development**

<table>
<thead>
<tr>
<th>ID#</th>
<th>Strategy Type</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1-a</td>
<td>Local Economic Development</td>
<td>Create New Corridor Economy Provide job training programs for alternative fuel retrofit and manufacturing.</td>
</tr>
<tr>
<td>J1-b</td>
<td></td>
<td>Reorganize and re-think alternative methods and operations for goods movement through the corridor that are not reliant on oil.</td>
</tr>
<tr>
<td>J1-c</td>
<td></td>
<td>Conduct a feasibility study for alternative transportation system.</td>
</tr>
<tr>
<td>J2-a</td>
<td>Support New Corridor Economy</td>
<td>Improve health, air quality and infrastructure to retain businesses and residents.</td>
</tr>
<tr>
<td>J2-b</td>
<td></td>
<td>Provide economic incentives for industries which contribute to improving the region's quality of life.</td>
</tr>
<tr>
<td>J2-c</td>
<td></td>
<td>Create local jobs to avoid commuting out of the corridor for better paying jobs.</td>
</tr>
<tr>
<td>J3-a</td>
<td>Job Development</td>
<td>Conduct a cost benefit/analysis of the international goods movement industry to determine impact on corridor communities.</td>
</tr>
<tr>
<td>J3-b</td>
<td>Industry Development</td>
<td>Support more community-friendly industries to reduce communities' over-reliance on jobs that damage quality of life.</td>
</tr>
<tr>
<td>J3-c</td>
<td></td>
<td>Create or support regional mechanisms for sustainable economic development.</td>
</tr>
<tr>
<td>J4-a</td>
<td>Job Training</td>
<td>Develop and promote education, training and internships opportunities for youth and young adults.</td>
</tr>
<tr>
<td>J4-b</td>
<td>Education</td>
<td>Build on existing adult education and vocational training programs.</td>
</tr>
<tr>
<td>J4-c</td>
<td></td>
<td>Establish strategic partnerships between corridor cities, Gateway COG, education and local business.</td>
</tr>
<tr>
<td>J4-d</td>
<td>Funding</td>
<td>Dedicate an incremental percentage of container fees to fund job training/development programs.</td>
</tr>
<tr>
<td>J4-e</td>
<td></td>
<td>Provide training to transition employees from traditional logistics jobs to jobs in alternative transportation systems.</td>
</tr>
<tr>
<td>J5-a</td>
<td>Small Business Development</td>
<td>Encourage land use and economic policies that support small business development.</td>
</tr>
<tr>
<td>J5-b</td>
<td></td>
<td>Promote free structures and amenities that attract and encourage small business growth.</td>
</tr>
<tr>
<td>J6</td>
<td></td>
<td>Encourage policies that promote &quot;living wages&quot; for area logistics businesses.</td>
</tr>
</tbody>
</table>

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- **H** = Located in the Health Section of the Tier 2 Report
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<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1-a</td>
<td>Safety Programs</td>
<td>Advocacy</td>
<td>Support the Gateway Cities Council of Governments (CCG) Safety Initiatives.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>S1-b</td>
<td>Road Assistance</td>
<td>Support MTA &quot;Big Rig Tow&quot; program.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>S1-c</td>
<td>Truck Upgrades</td>
<td>Encourage goods movement industry to revise its rate structure in order to support truck upgrades.</td>
<td>Tier 2</td>
<td></td>
</tr>
<tr>
<td>S2-a</td>
<td>Enforcement</td>
<td>Truck Inspection</td>
<td>Establish permanent truck inspection station(s).</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>S2-b</td>
<td>Speed Monitoring</td>
<td>Monitor vehicle speeds and enforce speed limits.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>S2-c</td>
<td>Increased Enforcement</td>
<td>Support safe driving of trucks through added enforcement.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>S2-d</td>
<td></td>
<td>Support safe driving of vehicles in the presence of trucks through added enforcement.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>S2-e</td>
<td></td>
<td>Truck Certification</td>
<td>Enforce a truck certification program for all trucks.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>S3-a</td>
<td>Education</td>
<td>Public/Trucker Education Campaign</td>
<td>Build on existing CHF campaign to increase public awareness.</td>
<td>Tier 1</td>
</tr>
<tr>
<td>S3-b</td>
<td></td>
<td>Educate drivers about truck stopping speed and distance and truck driver blind spots.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>S4-a</td>
<td>Infrastructure Improvements</td>
<td>Median Barriers</td>
<td>Provide median barriers along the full length of the I-710 freeway.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>S4-b</td>
<td></td>
<td>Lighting</td>
<td>Improve lighting while fully mitigating light pollution from all sources.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>S4-c</td>
<td></td>
<td>Signage</td>
<td>Improve existing informational signage.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>S4-d</td>
<td>Technology</td>
<td>Link signage to Intelligent Transportation Systems (ITS)</td>
<td>Utilize intelligent message boards to post traffic alerts.</td>
<td>Tier 1</td>
</tr>
<tr>
<td>S4-e</td>
<td></td>
<td>Resurfacing</td>
<td>Re-surface the I-710 Freeway (Provide separate lanes for trucks and vehicles if there is a major corridor improvement to the mainline).</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID#</th>
<th>Noise Reduction</th>
<th>Sound Walls</th>
<th>Provide sound walls along the corridor that are consistent in appearance, attractive and well designed.</th>
<th>Tier 1 &amp; Tier 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1-b</td>
<td></td>
<td>Ensure sound walls are installed before any construction and are designed to mitigate construction impact.</td>
<td>Tier 2</td>
<td></td>
</tr>
<tr>
<td>N1-c</td>
<td></td>
<td>Provide additional sound buffers where double decker occurs.</td>
<td>Tier 2</td>
<td></td>
</tr>
<tr>
<td>N2-a</td>
<td>Noise Mitigation Programs</td>
<td>Retrofit homes near the freeway, freight routes and rail yards.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>N2-b</td>
<td></td>
<td>Provide ac conditioning and window programs for residents along the freeway edge.</td>
<td>Tier 1</td>
<td></td>
</tr>
<tr>
<td>N2-c</td>
<td></td>
<td>Trucking the corridor must use latest noise reduction technologies.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>N2-d</td>
<td></td>
<td>Provide train noise mitigation for communities near rail yards.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>N2-e</td>
<td>Construction Mitigation</td>
<td>Ensure noise mitigation during construction.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>N2-f</td>
<td></td>
<td>Design the freeway system to lower ambient noise levels in communities.</td>
<td>Tier 2</td>
<td></td>
</tr>
<tr>
<td>N2-g</td>
<td></td>
<td>Use road surfaces that result in lower noise levels.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>N3-a</td>
<td>Alternate Routes</td>
<td>Designate special truck routes through communities and use designs that will result in lower noise pollution.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
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<th>Strategy Type</th>
<th>Recommendation</th>
<th>Description</th>
<th>Source</th>
</tr>
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<tbody>
<tr>
<td>N3-b</td>
<td>Truck Noise Reduction</td>
<td>Adopt policies and enforcement mechanisms to reduce and prevent truck idling on city streets.</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>N3-c</td>
<td></td>
<td>Consider a mini-truck stop in designated areas to reduce and eliminate truck idling on city streets.</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
</tr>
</tbody>
</table>

**CONGESTION & MOBILITY**

<table>
<thead>
<tr>
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<th>Strategy Type</th>
<th>Recommendation</th>
<th>Description</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>M1-a</td>
<td>Infrastructure Management</td>
<td>Technology</td>
<td>Synchronize signals at arterials along corridor.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M1-b</td>
<td></td>
<td>Improved Port Operations</td>
<td>Consider extended gate hours for trucks and 24/7 port operations while minimizing residential impacts.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M1-c</td>
<td></td>
<td>Freight Rail</td>
<td>Encourage full use of the Alameda Rail Corridor.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M1-d</td>
<td></td>
<td>Support building near dock-rail facilities.</td>
<td>Tier 1 &amp; Tier 2</td>
<td></td>
</tr>
<tr>
<td>M1-e</td>
<td></td>
<td>Traffic Reduction</td>
<td>Regulate port- and rail-generated traffic and link to I-710 capacity.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M1-f</td>
<td></td>
<td>Demand Management</td>
<td>Encourage use of mass transit.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M1-g</td>
<td></td>
<td>Logistics Operations</td>
<td>Encourage alternative business hours to accommodate trucks during off-peak business hours.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M1-h</td>
<td></td>
<td>Transit Mass Transit Improvements</td>
<td>Create links to other forms of public transportation.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M2-a</td>
<td></td>
<td>Alternative Transportation</td>
<td>Make use of alternative transportation such as maglev for port use and people moving.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M2-b</td>
<td></td>
<td>Incentives</td>
<td>Provide incentives for use of mass transit, including rideshare and other modes.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M2-c</td>
<td></td>
<td>Connectivity Bike and ped trails</td>
<td>Use existing bike and pedestrian trails and provide new ones along the LA River Corridor.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>M3-a</td>
<td></td>
<td>Construction Mitigation</td>
<td>Establish east-west connections across the freeway.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>M3-b</td>
<td></td>
<td></td>
<td>Provide for bike lanes and sidewalks in all aspects of arterial improvements to I-710 corridor.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>M4-a</td>
<td></td>
<td>Port Planning West coast port cooperative planning</td>
<td>Examine truck destinations to create alternate routes.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M4-b</td>
<td></td>
<td></td>
<td>Mitigate all areas that are in proximity to schools.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M4-c</td>
<td></td>
<td></td>
<td>Restrict construction to off peak hours.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M4-d</td>
<td></td>
<td></td>
<td>Support legislation to encourage extended gate hours to mitigate truck traffic.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M5-a</td>
<td></td>
<td></td>
<td>Address impacts and develop consistent fee structures and policies with regard to container.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M5-b</td>
<td></td>
<td></td>
<td>Expand cooperative port efforts beyond Los Angeles/Long Beach.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M5-c</td>
<td></td>
<td></td>
<td>Support legislation to develop and maintain a long-range plan for West Coast port planning and general transportation and distribution.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
</tbody>
</table>

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<th>Description</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>M6-a</td>
<td>Alternative Options</td>
<td>Elevated Roadways</td>
<td>Consider long-term impacts of elevated roadways on the local economy and environment.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M6-b</td>
<td>Alternative Options</td>
<td>Underground Roadways</td>
<td>Study the use of underground truckways to relieve congestion of the surface traffic when surface truckways approach “design capacity”.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>M7-a</td>
<td>Alternative Options</td>
<td>Redirect Imports</td>
<td>Redirect a portion of imports destined outside Southern California to other West Coast ports.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
</tbody>
</table>

### COMMUNITY ENHANCEMENTS

<table>
<thead>
<tr>
<th>E1-a</th>
<th>Preservation</th>
<th>Parks and Open Space &amp; Natural Areas</th>
<th>Accommodate additional planned park, open space and wetlands projects in corridor.</th>
<th>Tier 1 &amp; Tier 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1-b</td>
<td></td>
<td></td>
<td>Use open space-related mitigation funds to implement Los Angeles River and community projects.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>E1-c</td>
<td></td>
<td></td>
<td>There must be no net decrease in the amount of permeable surface as a result of the I-710 corridor project.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>E1-d</td>
<td></td>
<td>Community Open Space</td>
<td>Design ramp abandonment and other corridor-related infrastructure improvements to make maximum use of these areas for community open space and enhancement projects.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>E1-e</td>
<td></td>
<td>Water Quality Protection</td>
<td>Any project should not have any negative impacts to the LA River, Compton Creek or other open channels in the corridor.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>E1-f</td>
<td></td>
<td>Native Plants</td>
<td>Encourage the use of native plants as landscaping materials used for this project.</td>
<td>Tier 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provide extensive landscaping along 18-mile corridor to improve community aesthetic and image.</td>
<td>Tier 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E2-a</th>
<th>Community Enhancement Projects</th>
<th>Agency Coordination</th>
<th>Coordinate with local city redevelopment departments to identify priority enhancement areas.</th>
<th>Tier 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>E2-b</td>
<td>Prioritization</td>
<td></td>
<td>Develop community enhancement priorities using CAC input.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>E2-c</td>
<td>Landscaping</td>
<td></td>
<td>Emphasize landscaping and aesthetic improvements to major arterial routes within the corridor.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>E3-a</td>
<td>Mitigation</td>
<td>Construction Staging</td>
<td>Establish construction staging areas in locations with the least amount of impact on local circulation.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>E3-b</td>
<td>Community Consultation</td>
<td></td>
<td>Establish community forum to identify and rectify impacts during construction.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>E4-a</td>
<td>Arterial Streetscapes</td>
<td>Landscape medians.</td>
<td></td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>E4-b</td>
<td>Signage</td>
<td></td>
<td>Provide signage which identifies communities and connections to local natural areas and landmarks.</td>
<td>Tier 2</td>
</tr>
<tr>
<td>E5</td>
<td>Light Mitigation</td>
<td></td>
<td>Mitigate light glare in surrounding communities.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
</tbody>
</table>

### DESIGN CONCEPTS

<table>
<thead>
<tr>
<th>D1-a</th>
<th>Capacity Enhancement</th>
<th>Studies/Assessment</th>
<th>Pursue and finalize the cost benefit and environmental studies required.</th>
<th>Tier 1 &amp; Tier 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1-b</td>
<td></td>
<td></td>
<td>Finance truck related improvements through federal funds and truck and port fees.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>D1-c</td>
<td></td>
<td></td>
<td>Actively pursue and develop creative funding alternatives to finance the design and capacity enhancement improvements for the I-710 corridor.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>D2-a</td>
<td></td>
<td>Separate Trucks From Cars</td>
<td>Add lanes for trucks that are separate from the I-710 freeway lanes.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>D2-b</td>
<td></td>
<td></td>
<td>Build truck ramps that lead directly from I-710 to the railroad yards to take truck traffic out of neighborhoods and off local streets.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>D2-c</td>
<td></td>
<td></td>
<td>Improve the Atlantic Boulevard intersection in the City of Vernon.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
</tbody>
</table>

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<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2-d</td>
<td>Improve the Atlantic Banddri intersection to the south (Garfield to I-5 south).</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D3-a</td>
<td>Minimized Impacts</td>
<td>Right of Way</td>
<td>Utilize the property between the existing freeway and the LA River to minimize taking of residences, local businesses and parks.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>D3-b</td>
<td>Design and Congestion</td>
<td>Truck lanes should be located in those lanes that are the greatest distance from homes, parks and schools to limit noise and emissions impacts on the community.</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>D3-c</td>
<td>Design and Congestion</td>
<td>Keep trucks at or below grade to reduce potential for noise and visual impacts.</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>D4-a</td>
<td>Improvements</td>
<td>Interchanges and Access</td>
<td>Redesign unsafe and congested interchanges.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>D4-b</td>
<td>Bridges</td>
<td>Maintain and improve local access to the freeway for residents and businesses.</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>D4-c</td>
<td>Technology</td>
<td>Widen bridges that cross and parallel the freeway to provide space for cars, bikes and pedestrians.</td>
<td>Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>D5-a</td>
<td>Right of Way</td>
<td>Preserve options to advanced technologies for moving goods as these are being developed.</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>D5-b</td>
<td>Port Planning</td>
<td>Use utility right-of-way to minimize community impacts.</td>
<td>Tier 1 &amp; Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>D5-c</td>
<td>Capacity Enhancements</td>
<td>Local Improvements</td>
<td>Future port planning must take into account roadway and rail capacity, not just terminal capacity.</td>
<td>Tier 1 &amp; Tier 2</td>
</tr>
<tr>
<td>D6-a</td>
<td>Carpool Lanes</td>
<td>Dedicated one carpool lane for vehicles with 2 or more persons on the I-710 freeway.</td>
<td>Tier 1</td>
<td>X</td>
</tr>
<tr>
<td>D6-c</td>
<td>Management</td>
<td>Include present plans for greater mobility &amp; provide increasing for those</td>
<td>Tier 1</td>
<td>X</td>
</tr>
<tr>
<td>D6-b</td>
<td>Design</td>
<td>Upgrade mainline portion of the I-710 freeway to modern design standards.</td>
<td>Tier 2</td>
<td>X</td>
</tr>
<tr>
<td>-</td>
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</tr>
</tbody>
</table>

**ENVIRONMENTAL JUSTICE**

| EJ1 | Process | Community Engagement | Involve corridor communities and provide appropriate language translation. | Tier 2 | X |
| EJ2 | Implementation | Community Impacts | Ensure that impacts do not disproportionately fall on low-income people or people of color. | Tier 2 | X |
| EJ3 | Project Benefits | Benefit Assessment | Ensure that the project benefits flow to the corridor communities. | Tier 2 | X |

**ORGANIZATION AND PROCESS**

| P1 | Presentation to OPC | Tier 2 Report will be presented to the OPC by Tier 2 representatives. | Tier 2 | X |
| P2 | Tier 2 Follow-up | Tier 2 CAC will meet following OPC action. | Tier 2 | X |

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<tbody>
<tr>
<td>P3</td>
<td></td>
<td>Develop Collaborative Process</td>
<td>Metro and the Gateway Cities COG will develop collaborative community</td>
<td>Tier 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>participation process prior to formal EIR process.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Create a Task Force to allow for community participation and oversight.</td>
<td>Tier 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Create a governing body such as the JPA with membership from community and</td>
<td>Tier 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>agencies.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B
Tier 1 CAC Community Ideas Matrices
## City of Bell

<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3-a</td>
<td>Our community needs to support pending legislation to address pollution.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Improve the Florence exit and fix the cloverleaf.</td>
</tr>
<tr>
<td>D4-c</td>
<td>Widen bridges over the I-710 freeway.</td>
</tr>
<tr>
<td>E2-a, b</td>
<td>Improve sidewalk in the City.</td>
</tr>
<tr>
<td>E1-f</td>
<td>Implement a beautification program that includes graffiti removal and landscaping from I-91 to the I-60.</td>
</tr>
<tr>
<td>N1-a</td>
<td>Provide sound walls.</td>
</tr>
<tr>
<td></td>
<td>i Seek opportunities to underground utilities.</td>
</tr>
<tr>
<td>N2-g</td>
<td>Repair potholes along the freeway.</td>
</tr>
<tr>
<td>EJ-3</td>
<td>City should be compensated for loss in revenue from construction impacts.</td>
</tr>
<tr>
<td>M3-a, c</td>
<td>Include bike trails in any potential projects.</td>
</tr>
<tr>
<td>D3-c</td>
<td>Improve intersection at Florence and Atlantic.</td>
</tr>
<tr>
<td>S4-d</td>
<td>Use Caltrans marquee to alert drivers when accidents occur.</td>
</tr>
<tr>
<td>H2-d</td>
<td>Assess surcharge fees on logistics industry to pay for improvements.</td>
</tr>
<tr>
<td>E3-a</td>
<td>Provide construction mitigation measures.</td>
</tr>
<tr>
<td>H1-d</td>
<td>Conduct study (funded by the ports) to determine the increased health impacts that port growth will cause.</td>
</tr>
<tr>
<td>H4-b</td>
<td>Increase inspection points to monitor and enforce compliance.</td>
</tr>
<tr>
<td>D6-a</td>
<td>Add carpool/bus lanes.</td>
</tr>
<tr>
<td>M1-b</td>
<td>Support 24/7 port operations.</td>
</tr>
<tr>
<td>M7-a</td>
<td>Encourage use of other ports.</td>
</tr>
<tr>
<td></td>
<td>ii Cap port growth and rail yard expansion.</td>
</tr>
</tbody>
</table>
City of Bell Gardens

<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4-c</td>
<td>Encourage trucks to use I-710 during off-peak hours. Levy higher fees/charge premium fees on companies who transport during peak hours.</td>
</tr>
<tr>
<td></td>
<td>ii Build an elevated four-lane truck-dedicated express roadway, within the LA River, with minimal off-ramps to access distribution facilities with no off-ramp to Bell Gardens.</td>
</tr>
<tr>
<td>H3-a</td>
<td>Provide incentives for use of alternative fuels: Levy higher fees/tolls on trucks using diesel fuel and make allowances for trucks using alternative fuels. Use technology to monitor compliance.</td>
</tr>
<tr>
<td>D3-a</td>
<td>Relocate transmission lines between the river and I-710 freeway and use transmission right-of-way for a truck-dedicated expressway.</td>
</tr>
<tr>
<td></td>
<td>ii Build a truck-dedicated roadway over the river channel that runs along the freeway.</td>
</tr>
<tr>
<td></td>
<td>ii Develop additional rail distribution facilities to support out-of-state hauls to help alleviate congestion at rail yards in Commerce and Vernon.</td>
</tr>
<tr>
<td>N1-a</td>
<td>Sound walls should be built along the freeway in Bell Gardens to mitigate noise pollution, particularly from heavy trucks.</td>
</tr>
<tr>
<td>N1-a</td>
<td>Ivy should be planted on the sound walls to discourage graffiti.</td>
</tr>
<tr>
<td>H2-a</td>
<td>Truck inspections should be conducted regularly to ensure trucks on the road comply with safety and emission standards.</td>
</tr>
<tr>
<td>N2-d</td>
<td>Alameda Corridor operators should provide quieter operations for the trains.</td>
</tr>
<tr>
<td>H4-f</td>
<td>Create a beautification program that provides landscaping and improved aesthetics along the freeway.</td>
</tr>
</tbody>
</table>
# I-710 Major Corridor Study

## Tier 1 Community Advisory Committee (CAC)

August-04

## City of Carson

<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-a</td>
<td>Provide East West Access for trucks and autos for other regional freeways.</td>
</tr>
<tr>
<td>D2-a, b</td>
<td>Get trucks onto freeway more directly and quickly.</td>
</tr>
<tr>
<td>i</td>
<td>Examine the Terminal Island Freeway extension to 405 and its potential impacts on Carson.</td>
</tr>
<tr>
<td>ii</td>
<td>Use LA River for truck access.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Provide interchange improvements.</td>
</tr>
<tr>
<td>D2-a</td>
<td>Consider dedicated truck lanes with transponders along I-710 next to the river and provide incentives for trucks to adopt use.</td>
</tr>
<tr>
<td>M6-b</td>
<td>Underground proposed improvements, if possible.</td>
</tr>
<tr>
<td>M1-d</td>
<td>Create a near dock facility.</td>
</tr>
<tr>
<td>M1-c</td>
<td>Provide incentives to ship by rail.</td>
</tr>
<tr>
<td>H4-e</td>
<td>Regulate truck hours.</td>
</tr>
<tr>
<td>i</td>
<td>Consider possibility of building below grade along Alameda Street.</td>
</tr>
<tr>
<td>i</td>
<td>The community does not support the Terminal Island Freeway proposal extension to Alameda Street because of the possibility of increasing the amount of truck traffic on Alameda Street traveling through Carson.</td>
</tr>
<tr>
<td>H2-b</td>
<td>Reduce air pollution emissions from the Port and the rail systems and support federal legislation for more stringent air quality improvements.</td>
</tr>
<tr>
<td>D1-a</td>
<td>Tie improvements to I-710 to air quality improvements.</td>
</tr>
<tr>
<td>H3-a</td>
<td>Use new clean burning fuels a soon as possible - trucks and trains.</td>
</tr>
<tr>
<td>H1-d</td>
<td>Perform medical studies (cancer, asthma, etc.) for the community residents along the freeway to determine the extent of the air pollution problems to these communities.</td>
</tr>
<tr>
<td>H2-d</td>
<td>Provide funding for the air quality impacts the residents have had to suffer from the Port and truck diesel pollution.</td>
</tr>
<tr>
<td>H4-2</td>
<td>Provide incentives or other financial assistance to replace older diesel truck engines.</td>
</tr>
<tr>
<td>N1-a</td>
<td>Provide decorative sound walls along the freeway.</td>
</tr>
</tbody>
</table>

Xx-x - reference to the ID number found in the Strategies Summary Matrix
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<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2-d</td>
<td>Alameda Corridor operators should provide quieter operations for the trains</td>
</tr>
<tr>
<td>H4-f</td>
<td>Create a beautification program that provides landscaping and improved aesthetics along the freeway, including trees.</td>
</tr>
<tr>
<td>E1-f</td>
<td>There should be equity of impacts spread among all corridor communities</td>
</tr>
<tr>
<td>E2-c</td>
<td>Ports should provide more efficient loading and unloading at the ports</td>
</tr>
<tr>
<td>H1-d</td>
<td>Look at other ports (San Diego, San Francisco, etc.) to determine how they are dealing with similar issues such as air quality and transportation</td>
</tr>
<tr>
<td>M7-a</td>
<td>Shift as much cargo to other ports as much as possible (Baja, Seattle, Ventura, etc.)</td>
</tr>
<tr>
<td>M1-b</td>
<td>24/7 Port operations (extended hours)</td>
</tr>
<tr>
<td>i</td>
<td>Reversible lanes</td>
</tr>
<tr>
<td>M5-b</td>
<td>Establish a second port in LA</td>
</tr>
<tr>
<td>H2-e</td>
<td>Provide a permanent, local air quality monitoring station</td>
</tr>
<tr>
<td>D2-a</td>
<td>Use tolls during peak hours</td>
</tr>
<tr>
<td>D2-a</td>
<td>Double deck the freeway starting at Port to avoid bottleneck at the Port and have it drop into a dedicated truck lane</td>
</tr>
<tr>
<td>M6-a</td>
<td>Add extra lanes between PCH and Willow</td>
</tr>
<tr>
<td>D5-a</td>
<td>Utilize TDM and TSM technologies.</td>
</tr>
<tr>
<td>H2a</td>
<td>Provide for truck inspection, including emissions, and increased enforcement.</td>
</tr>
<tr>
<td>N3-a</td>
<td>Examine other freeways in the region in addition to the I-710, provide interagency coordination and create truck routes along other freeways.</td>
</tr>
<tr>
<td>E1-a</td>
<td>Use the Los Angeles River green belt area.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Provide separate truck interchanges to accommodate short-term hauling, where only limited truck access is needed.</td>
</tr>
<tr>
<td>ID#</td>
<td>Community Ideas</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------</td>
</tr>
<tr>
<td>H1-d</td>
<td>Reduce diesel emissions and other pollutants that damage air quality. The impact to our community's children is intolerable. The health of our community must become a priority! In the short-term deploy stronger enforcement; in the long-term, address the cumulative impacts that the growth in the number of trucks will have, and provide increased restrictions, insures to reduce the related increased levels of toxic emissions.</td>
</tr>
<tr>
<td>D2-c, d</td>
<td>Support the Bandini Alternative. It shows promise as a viable and community-supported solution. Include truck lanes on Bandini Boulevard and improving the I-5 at the Garfield interchange so trucks may go south on the I-5.</td>
</tr>
<tr>
<td>E3-a</td>
<td>Minimize construction impacts as much as possible, especially private property acquisition, and impacts to parks and public spaces.</td>
</tr>
<tr>
<td>M1-c</td>
<td>Improve public understanding through education about the purpose of the Alameda Corridor and its long-term potential as an effective and efficient transportation option.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Explore solutions to resolve problems on both the I-5 freeway and the I-710 concurrently. It is important to recognize that these systems are dynamic and interrelated.</td>
</tr>
<tr>
<td>J3-a</td>
<td>Analyze the impacts on the quality of life in our community, along with possible financial impacts, of potential expanded 24/7 Port operation. Explore the local goods movement and truck route solutions that can help mitigate the impacts to our community. (This item is still subject to more community input)</td>
</tr>
<tr>
<td>H1-d</td>
<td></td>
</tr>
<tr>
<td>N1-a</td>
<td>Determine the need and priority for sound walls, particularly in conjunction with other potential transportation and traffic improvements. Possible priority location could be the Brislow area, and both sides of the Washington Boulevard off-ramp.</td>
</tr>
<tr>
<td>D3-c</td>
<td>Oppose the proposed Slauson Avenue improvements because of the impacts in our City. The Bandini Alternative would make the Slauson improvements unnecessary.</td>
</tr>
<tr>
<td>ii</td>
<td>Explore the riverbed as a potential heavy-rail corridor to alleviate truck traffic related to goods movement from the ports.</td>
</tr>
</tbody>
</table>

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i - Local city issues to be addressed with the city during the environmental phase
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D2-c, d  Improve the Atlantic Bandini interchange, including truck ramps from the I-710 truck lanes and the southbound I-710 freeway, directly into the rail yards and truck ramps from the I-710 truck lane onto elevated truck lanes on Bandini Blvd. between I-710 and I-5 to Garfield Ave. at the I-5 freeway.
## City of Compton

<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>D4-a</td>
<td>Ensure that on-and off-ramps and adjacent streets are safe for both cars and pedestrians.</td>
</tr>
<tr>
<td>D6-a</td>
<td>Conduct a Pedestrian Analysis to determine the safety measures that may be needed on streets that lead to (or connect to) on-and off-ramps in Compton -- particularly near schools.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Improve the safety of the I-710 and 91 Interchange near Alondra. The west-bound 91 Freeway must be addressed.</td>
</tr>
<tr>
<td>H3-a</td>
<td>Fuel technology should be used to decrease air pollution.</td>
</tr>
<tr>
<td>E1-e</td>
<td>Ensure that Compton Creek will not be harmed from additional run-off resulting from freeway improvements. Provide stringent measures to against any potential pollution. Wildlife and plant life are vulnerable and must be protected.</td>
</tr>
<tr>
<td>N1-a</td>
<td>Sound walls should be provided to alleviate sound pollution.</td>
</tr>
<tr>
<td></td>
<td>Any widening and other improvements should take place on the east side of the I-710 through Compton. There should be no housing takes on the west side.</td>
</tr>
<tr>
<td>M4-a</td>
<td>Provide a by-pass for Compton and improve arterial highways that feed into the I-710.</td>
</tr>
<tr>
<td>D3-c</td>
<td>Analyze whether improvements are needed to improve the traffic flow on Atlantic, Alameda, Alondra, and Santa Fe, as all are important arterials in Compton.</td>
</tr>
<tr>
<td>D3-c</td>
<td>Consider placing restrictions for use of arterials that run through Compton. If use of these arterials are linked to I-710 improvements, there should be financial incentives provided to the city of Compton.</td>
</tr>
<tr>
<td>EJ2,3</td>
<td>The Port should provide financial incentives to the City of Compton for future proposed I-710 impacts that accommodate their growth.</td>
</tr>
<tr>
<td>D3-b</td>
<td>Ensure that truck-dedicated lanes on the freeway are located away from residential neighborhoods to avoid increased air pollution near homes.</td>
</tr>
<tr>
<td>D3-b</td>
<td>Keep elevated roadways away from residential neighborhoods.</td>
</tr>
<tr>
<td>M6-a</td>
<td>If elevated roadways are used, truck-designated roadways should be located on the lower level (to muffle the sound).</td>
</tr>
<tr>
<td>M2-c</td>
<td>Provide a light rail system along the I-710 with stops in Compton.</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>D6-a</td>
<td>Provide carpool lanes that lead more directly to Long Beach as it is a major destination.</td>
</tr>
<tr>
<td></td>
<td>Explore the use of the riverbed for I-710 improvements.</td>
</tr>
<tr>
<td>E3-a</td>
<td>When construction is underway, provide advance warnings of detours and closures.</td>
</tr>
<tr>
<td>H4-b</td>
<td>Locate a truck facility in Compton—if it generates revenue for the City.</td>
</tr>
<tr>
<td>S4-d</td>
<td>Designate and identify specific alternate routes through Compton for drivers who must exit the freeway when accidents occur. Encourage use of these routes as much as possible to protect neighborhoods.</td>
</tr>
<tr>
<td>H4-f</td>
<td>Ensure that ramps are &quot;green&quot; Landscaping should be planted and maintained to beautify the area along the freeway. Establish a committee to monitor maintenance and accountability.</td>
</tr>
<tr>
<td>E1-f</td>
<td>For I-710 improvements, establish a requirement that Compton youth and adults must be hired on projects.</td>
</tr>
<tr>
<td>P3</td>
<td>Establish an ad hoc partnership, such as a Joint Powers Authority, between the City of Compton, and other I-710 Corridor Cities, Caltrans, and other public agencies involved with the I-710 improvements.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Improve the safety of the I-710 and 91 Interchange at Alondra. Redesign the interchange to provide safer merging conditions.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Provide an exit ramp to Rosecrans Avenue from the I-105 ramps.</td>
</tr>
<tr>
<td>H1-a-d</td>
<td>Addressing air quality and its improvement is a top priority for Compton.</td>
</tr>
<tr>
<td>EJ3</td>
<td>Explore using Compton residents to work on I-710 construction projects and provide training if needed.</td>
</tr>
</tbody>
</table>

---

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ii - Ideas considered by Tier 1 CACs but not carried forward to Tier 2 CAC

Final I-710 Tier 2 Committee Findings, Strategies, Policies and Conditions

August, 2004 Page 68 of 80
I-710 Major Corridor Study  
Tier 1 Community Advisory Committee (CAC)  

August-04  

Note: The East Los Angeles Tier 1 CAC is still evaluating various ideas and options for the I-710 and I-5 freeways and have not yet made any decisions on improvements to those freeways until further studies are completed.

<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2-c</td>
<td>Build a light rail system along the I-710 to relieve some of the auto congestion.</td>
</tr>
<tr>
<td>H3-f</td>
<td>Provide incentives, such as reduced fees, to encourage increased use of the Alameda Corridor and disincentives, such as increased fees/taxes, for truckers using the I-710.</td>
</tr>
<tr>
<td>H4-f</td>
<td>Beautify the I-710. Caltrans should maintain trash pick-ups, at a minimum, and provide landscaping.</td>
</tr>
<tr>
<td>D2-a</td>
<td>Double-deck the I-710 with truck-dedicated lanes.</td>
</tr>
<tr>
<td>EJ2</td>
<td>Encourage policy-makers to stress that San Gabriel Valley and South Pasadena must accept a more equitable share of the burden of traffic.</td>
</tr>
<tr>
<td>EJ2</td>
<td>Finish the I-710 through South Pasadena before making changes in our neighborhoods.</td>
</tr>
<tr>
<td>i</td>
<td>Build a subterranean tunnel dedicated to truck traffic.</td>
</tr>
<tr>
<td>H4-c</td>
<td>Provide incentives for businesses to accept delivery during non-peak hours.</td>
</tr>
<tr>
<td>EJ1</td>
<td>Implement policies that encourage &quot;land-use&quot; trade-offs and partnerships to allow shared parking or innovative solutions to eliminate truck parking in neighborhoods.</td>
</tr>
<tr>
<td>N1-a</td>
<td>Seek on-going funding for mitigation along the freeway, including soundwalls and concrete median barriers.</td>
</tr>
<tr>
<td>S4-a</td>
<td></td>
</tr>
<tr>
<td>ii</td>
<td>Solutions must seek to resolve problems concurrently on both the I-710 and the 60 Interchange, as well as, the I-5 and I-710.</td>
</tr>
<tr>
<td>H3-a</td>
<td>Encourage technology that decreases toxic diesel emissions, such as the use of alternative fuels.</td>
</tr>
<tr>
<td>S4-b</td>
<td>Improve lighting along the corridor.</td>
</tr>
<tr>
<td>ID#</td>
<td>Community Ideas</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>M1-b</td>
<td>Encourage the Ports to implement 24/7 operations, including negotiating with the Teamsters Union.</td>
</tr>
<tr>
<td>M1-g</td>
<td>Limit truck traffic during rush hours and provide incentives to encourage more driving at night.</td>
</tr>
<tr>
<td>M1-h</td>
<td>Leave the Freeway as it is from Telegraph Road to the I-60 Freeway.</td>
</tr>
<tr>
<td>E1-a</td>
<td>Loss of open space due to freeways is a major concern.</td>
</tr>
<tr>
<td></td>
<td>Tunnel under the freeway to provide truck dedicated lanes. Make it a toll-road to fund it.</td>
</tr>
<tr>
<td></td>
<td>Interchange improvements are needed at the I-5 to I-710 southbound. Improve the on-ramp.</td>
</tr>
<tr>
<td></td>
<td>Use a double-decker system within an existing right-of-way all the way to the I-210.</td>
</tr>
<tr>
<td>M1-f</td>
<td>Incorporate mass transit as alternatives to the freeway.</td>
</tr>
<tr>
<td>S2-b</td>
<td>Increase enforcement of speeding trucks.</td>
</tr>
<tr>
<td>S2-c</td>
<td>Trucks should use slow lanes only and second lane for passing only.</td>
</tr>
<tr>
<td>D2-a</td>
<td>Allow trucks to travel on dedicated lanes only.</td>
</tr>
<tr>
<td>S2-a</td>
<td>Increase enforcement of vehicles that don't meet regulations.</td>
</tr>
<tr>
<td>D2-a</td>
<td>Need to improve safety through design on Freeways.</td>
</tr>
<tr>
<td>S4-a</td>
<td>Add concrete barriers in the middle of the freeway.</td>
</tr>
<tr>
<td>M7-a</td>
<td>Disseminate goods through other ports--not just LA and Long Beach.</td>
</tr>
<tr>
<td>M1-c</td>
<td>Alameda corridor must be more widely used.</td>
</tr>
<tr>
<td>H3-a</td>
<td>Shift to alternative fuels.</td>
</tr>
<tr>
<td>H3-d, e, f</td>
<td>Require the use of alternative fuel for shipping.</td>
</tr>
<tr>
<td>H1-a</td>
<td>Conduct a study to evaluate air quality around schools. With a baseline established, change can be monitored.</td>
</tr>
<tr>
<td>H3-a</td>
<td>Outlaw use of diesel fuels.</td>
</tr>
<tr>
<td>EJ2, 3</td>
<td>Our community needs to have representation such as wealthier communities facing facing similar issues (101 freeway).</td>
</tr>
<tr>
<td>E1-a</td>
<td>Freeway improvements should result in community improvements such as parks, community facilities, local transit improvements.</td>
</tr>
<tr>
<td>EJ3</td>
<td></td>
</tr>
<tr>
<td>D2-b</td>
<td>Provide off-ramps at rail yards.</td>
</tr>
</tbody>
</table>

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### East Los Angeles

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<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1-a</td>
<td>Provide attractive and tall enough sound walls.</td>
</tr>
<tr>
<td>i</td>
<td>Address the area between Third and Sixth and McDonnell. There is dangerous double parking.</td>
</tr>
<tr>
<td>D3-a</td>
<td>East Los Angeles does not want any net loss in housing as a result of improvements to the freeway.</td>
</tr>
<tr>
<td>M2-a, b, c</td>
<td>Expand public transportation.</td>
</tr>
<tr>
<td>D3-c</td>
<td>Local streets that parallel the freeway need to be studied and improved.</td>
</tr>
<tr>
<td>H1-a - H2-f</td>
<td>Improvement in air quality is the number one priority for East Los Angeles.</td>
</tr>
<tr>
<td>ii</td>
<td>Examine other alternatives along I-5 (eliminate carpool lane or tunnel car pool lanes) to reduce property impacts in East Los Angeles.</td>
</tr>
<tr>
<td>ii</td>
<td>Determine impacts in East Los Angeles of proposed closure of I-710 Washington Boulevard interchange and mitigating impacts.</td>
</tr>
</tbody>
</table>

*XX-X - reference to the ID number found in the Strategies Summary Matrix*

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*ii - Ideas considered by Tier 1 CACs but not carried forward to Tier 2 CAC*
# City of Long Beach

<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Approved Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Community Ideas</strong></td>
</tr>
<tr>
<td>i</td>
<td>Involve federal elected officials in the Freeway major corridor study.</td>
</tr>
<tr>
<td>i</td>
<td>The City of Long Beach should support Congress-member Rohrabacher's legislation to impose a fee on each container that enters the Port.</td>
</tr>
<tr>
<td>i</td>
<td>Do not move forward with the 710 Freeway project.</td>
</tr>
<tr>
<td>M2-d, e</td>
<td>Find an alternative to 710 Freeway expansion.</td>
</tr>
<tr>
<td>M3-b</td>
<td>Sound walls need to be included into the final budget for the 710 Freeway improvements, and they must be built at the time of construction of any improvements.</td>
</tr>
<tr>
<td>N1-c</td>
<td>MTA and Caltrans should conduct a walk thru the Long Beach segment of the 710 Freeway where proposed improvements might take place.</td>
</tr>
<tr>
<td></td>
<td>EJ1 Minutes of all workshops should be translated in Spanish and Khmer.</td>
</tr>
<tr>
<td></td>
<td>i No double decking of the 710 Freeway.</td>
</tr>
<tr>
<td>M4-b</td>
<td>School Bus traffic flow should not be impacted by future construction on the 710 Freeway.</td>
</tr>
<tr>
<td>S1-b</td>
<td>Center dividers must be built taller in the future.</td>
</tr>
</tbody>
</table>

### Health and Environment

| H1-b | The Long Beach Health Department should conduct air quality studies near the intersection of the 710 Freeway and the 47 Freeway. |
| H3-a | School buses should use alternative fuels to reduce diesel emissions. |
| H3-a | The performance of alternative fuels on air pollution should be verified prior to commercial use. |
| i    | City of Long Beach should review impacts of ICTF terminal to community ad local schools. Truck idling levels at the ICTF terminal should be reduced to the level of the Ports. |

Xx-x - reference to the ID number found in the Strategies Summary Matrix

i - Local city issues to be addressed with the city during the environmental phase

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| E1-f | Increase tree plantings in Long Beach by threefold. |
| E2-c |  |
| E4-a |  |
| H4-f |  |
| H1-d | Future health studies must include data about deaths related to pollution. |
| H1-d | The City of Long Beach should conduct research into the health impacts on the community stemming from local refinery emissions. |
| H1-d | The City of Long Beach should conduct research into the health impacts of diesel and other vehicle emission to children. |
| H1-d | The research should include asthma and other health ailments, including respiratory problems, cancer, allergies, etc. |
| H3-a, e, f | Trains should use cleaner fuels. |
| i | Signage should be visible to traffic at all times in the design of the 710 freeway. |
| H1-d | The City of Long Beach should conduct research regarding the impacts of pollution to local residents from Port operations, the 710 Freeway, local petroleum refineries, and the proposed Liquid Natural Gas station. |
| H4-d | Give incentive funding to truck operators to use bio-diesel. |
| H2-c |  |
| N1-a, b, c | Noise pollution should be mitigated for any I-710 Freeway improvements. |
| N2-a - g |  |
| H2-b, c | Trucks and ships delivering and hauling cargo from the Port of Long Beach should use particulate matter traps. |
| H3-a | A pilot project for the use of bio-diesel should be implemented. |

**Port Operation and the I-710**

| H4-e | A limit on Port expansion should be discussed. |
| M5-c |  |
| M7-a |  |
| M5-a | Tariffs should be imposed on businesses that use the port. The funds gathered through the tariffs should be utilized for programs to clean air pollution. |
| H2-b | Trucks operating at the Port should use bio-diesel or alternative fuels. |
| H2-a |  |
| H3-d |  |
| H4-d |  |
| i | Shipping companies should hire independent truck drivers as employees and they should treat them fairly. |
| M1-d | On-dock rail capabilities should be expanded. |

---

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</thead>
<tbody>
<tr>
<td>H2-d</td>
<td>The Port should pay for any impacts to the community, including any improvements to the 710 Freeway and impacts to the health of residents in the community.</td>
</tr>
<tr>
<td>i</td>
<td>All empty containers should be shipped to the place of origin and they should be allowed to remain empty in the Port.</td>
</tr>
<tr>
<td>i</td>
<td>The City of Long Beach should research the impacts of Port expansion to the local tourism industry.</td>
</tr>
<tr>
<td>H2-d</td>
<td>Extra fees should be charged to Port tenants and companies hauling cargo from the Port to cover expenses related to local healthcare costs.</td>
</tr>
<tr>
<td>M5-a</td>
<td>The Port should support the use of green diesel and compressed natural gas for trucks hauling cargo from the Port.</td>
</tr>
<tr>
<td>H2-b</td>
<td>The Port should develop aggressive idling legislation to limit diesel truck idling to a maximum of five minutes.</td>
</tr>
<tr>
<td>N3-b</td>
<td>Cargo should be distributed to other regional Ports.</td>
</tr>
<tr>
<td>M7-a</td>
<td>The Port of Long Beach should be downsized.</td>
</tr>
<tr>
<td>H4-e, i</td>
<td>The City of Long Beach should define the maximum capacity of the Port of Long Beach.</td>
</tr>
<tr>
<td>M1-b, c, d</td>
<td>The Alameda Corridor Transportation Authority’s initiatives should be implemented immediately.</td>
</tr>
<tr>
<td>H1-d</td>
<td>The Port should not extend to a 24-hour operation until further air quality research is conducted on the potential impacts to Long Beach residents.</td>
</tr>
<tr>
<td>H2-b</td>
<td>Governing agencies should make it mandatory for ships to slow down as they prepare to dock at the Port of Long Beach.</td>
</tr>
<tr>
<td>H2-b</td>
<td>By 2006, offshore shipping companies should be equipped to use shore power while docked at the Port.</td>
</tr>
<tr>
<td>i</td>
<td>Cargo containers should be standardized which would allow multiple companies to use the containers and reduce the number of empty containers at the Port.</td>
</tr>
<tr>
<td>i</td>
<td>The Port of Los Angeles should participate at the next workshop related to Port Operations.</td>
</tr>
<tr>
<td>H2-b</td>
<td>Local Ports should coordinate the use of alternative fuels strategies.</td>
</tr>
<tr>
<td>H1-c</td>
<td>The Port should conduct research on the cost of pollution to local healthcare.</td>
</tr>
<tr>
<td>M1-c, d</td>
<td>Identify alternative methods to haul cargo from the Port - other than diesel trucks.</td>
</tr>
<tr>
<td>M2-d</td>
<td>Ships should be made to slow down when entering the Port.</td>
</tr>
<tr>
<td>H2-b</td>
<td>Diesel emissions from sea vessels and trains need to be addressed by regulatory agencies.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>H2-b</th>
<th>Ships should use alternative fuels when docking at the Port of Long Beach.</th>
</tr>
</thead>
</table>

**Preserving Neighborhoods**

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>i</td>
<td>Residents should have free and competent legal advice provided to them to assist them with the property acquisition process.</td>
</tr>
<tr>
<td>EJ-3</td>
<td>Residents whose property is not taken but impacted by 710 Freeway improvements should be compensated by Caltrans.</td>
</tr>
<tr>
<td>EJ1</td>
<td>The City of Long Beach and Caltrans should inform residents about any property acquisition plans in advance and a timely manner.</td>
</tr>
<tr>
<td>i</td>
<td>The public should be provided an opportunity to view and comment on the new 710 Freeway designs at various public meetings.</td>
</tr>
<tr>
<td>M2-d, e</td>
<td>Do not take any businesses or homes until all other alternatives and options for improving the 710 Freeway are exhausted.</td>
</tr>
<tr>
<td>i</td>
<td>Caltrans should better maintain the properties they currently own in Long Beach.</td>
</tr>
<tr>
<td>EJ3</td>
<td>Caltrans should establish a performance bond for any improvements to the 710 Freeway that would allow for residents to recoup any damages during construction.</td>
</tr>
<tr>
<td>EJ1</td>
<td>Residents should be encouraged to attend meetings about the 710 Freeway and they should continue applying pressure and giving input on this process.</td>
</tr>
<tr>
<td>EJ1</td>
<td>Properties should be referred to as &quot;homes&quot; and not &quot;houses&quot; during discussions about 710 Freeway improvements.</td>
</tr>
<tr>
<td>EJ1, 3</td>
<td>Caltrans should provide contact information to residents about whom to contact regarding damages done to properties because of construction to the 710 Freeway.</td>
</tr>
<tr>
<td>E3-b</td>
<td>An appraisal should be conducted at the time of the final design for the 710 Freeway improvements and a second appraisal should be conducted at the time that Caltrans begins the property acquisition process.</td>
</tr>
<tr>
<td>i</td>
<td>Conduct community meetings in the first district to make it easier for residents in that district to attend meetings.</td>
</tr>
</tbody>
</table>

**Truck Congestion and Safety**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M5-a</td>
<td>A toll on diesel trucks should be imposed to offset the cost of utilizing the Alameda Corridor.</td>
</tr>
<tr>
<td>D1-b</td>
<td>Study spillover traffic and the 710 Freeway. The spillover traffic may create safety issues for pedestrians.</td>
</tr>
<tr>
<td>D1-c</td>
<td>A shuttle trail system should be developed to haul cargo to local distribution centers in Southern California.</td>
</tr>
<tr>
<td>S1-c</td>
<td></td>
</tr>
<tr>
<td>D3-b</td>
<td></td>
</tr>
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<thead>
<tr>
<th>M3-b</th>
<th>Use the Terminal Island Freeway and the Alameda Corridor to haul cargo and divert diesel trucks away from the 710 Freeway.</th>
</tr>
</thead>
<tbody>
<tr>
<td>M4-a</td>
<td>The 103 Freeway should be expanded and should proceed left on Sepulveda and Willow and connect to the Alameda Corridor.</td>
</tr>
<tr>
<td>M4-a</td>
<td>Encourage the use of the 110 Freeway to divide truck traffic equally with the 710 Freeway.</td>
</tr>
<tr>
<td>M4-a</td>
<td>The City of Long Beach should establish a transportation policy to divert truck traffic to routes other than the 710 Freeway.</td>
</tr>
<tr>
<td>M5-a</td>
<td>A toll shall be implemented on trucks hauling cargo from the Port and shipping companies should pay a toll.</td>
</tr>
<tr>
<td>D1-a, d, c</td>
<td>A new truck inspection site should be built on Port of Long Beach Property.</td>
</tr>
<tr>
<td>i</td>
<td>Truck drivers should be considered when developing new cargo hauling methods.</td>
</tr>
</tbody>
</table>
## City of Lynwood

<table>
<thead>
<tr>
<th>ID#</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>Install surveillance cameras at areas known to be unsafe in order to reduce hit-and-run accidents and dangerous, illegal driving behavior.</td>
</tr>
<tr>
<td>D2-a</td>
<td>Minimize trucks accidents by separating truck/auto traffic.</td>
</tr>
<tr>
<td>S3-b</td>
<td>Improve safety by implementing public education campaigns aimed at increasing awareness of how to share the road safely with trucks, and through greater enforcement and emphasis on adequate truck driver training and licensing.</td>
</tr>
<tr>
<td>ii</td>
<td>Explore the possibility of constructing a truck-dedicated elevated roadway above the riverbed that runs parallel to the I-710.</td>
</tr>
<tr>
<td>ii</td>
<td>Double-deck the I-710 freeway with truck-dedicated lanes.</td>
</tr>
<tr>
<td>M2-c</td>
<td>Support a light rail system that follows the course of the I-710. Provide stations that are easily accessible for Lynwood residents.</td>
</tr>
<tr>
<td>E1-f</td>
<td>Provide landscaping along the freeway in Lynwood. Ensure that landscaping creates an aesthetically-pleasing, safe environment.</td>
</tr>
<tr>
<td>S4-a</td>
<td>Extend the median barriers along the entire stretch of the freeway.</td>
</tr>
<tr>
<td>M1-h</td>
<td>Limit truck traffic hours.</td>
</tr>
<tr>
<td>D4-b</td>
<td>Improve access to Lynwood by creating more off-on ramps.</td>
</tr>
<tr>
<td>ii</td>
<td>Explore utilizing Alameda and Imperial as the major mobility corridors for through-truck traffic.</td>
</tr>
<tr>
<td>M1-h</td>
<td>Limit the hours of operation of trucks and increase fees during peak hours.</td>
</tr>
<tr>
<td>ii</td>
<td>Build a truck-designated roadway within the LA River.</td>
</tr>
<tr>
<td>M1-e</td>
<td>Lower fees to promote increased use of the Alameda Corridor for goods movement.</td>
</tr>
<tr>
<td>N1-b</td>
<td>Build sound walls along the entire I-710 to buffer noise in residential areas. Where necessary, use similar sound mitigation measures that airports employ.</td>
</tr>
<tr>
<td>S4-b</td>
<td>Improve existing lighting/add new lighting on the I-710.</td>
</tr>
<tr>
<td>i</td>
<td>Study Josephine, Rosecrans, Martin Luther King Boulevard, Abbott, and Carlin to determine traffic flow improvements that are needed (as part of the EIR process.)</td>
</tr>
<tr>
<td>H3-a</td>
<td>Provide more stringent air quality standards that address the excessive pollution generated by diesel-using trucks.</td>
</tr>
</tbody>
</table>

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<tbody>
<tr>
<td>E2-b</td>
<td>Beautification of areas through landscaping and maintenance of landscaping should take place, particularly beneath the cloverleaf portion of the I-710 (in Lynwood) that may be reconfigured as a future improvement (see Jerry Wood's concept drawings)</td>
</tr>
<tr>
<td>D4-a</td>
<td>Provide more on/off ramps from the I-105 to Lynwood at Atlantic Ave. and also Alameda St.</td>
</tr>
<tr>
<td>i</td>
<td>Conduct a pavement analysis of city streets before and after construction of arterial and I-710 improvements to assess whether damage has occurred. If streets have been damaged, the responsible agency/entity shall pay for and undertake repair in a timely manner.</td>
</tr>
</tbody>
</table>
# City of South Gate

<table>
<thead>
<tr>
<th>ID</th>
<th>Community Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1-a</td>
<td>Synchronize traffic signals along arterials and major streets for better mobility and to less congestion.</td>
</tr>
<tr>
<td>D4-a</td>
<td>Reconstruct Imperial/I-710 interchange to establish diamond lanes similar to Firestone/I-710.</td>
</tr>
<tr>
<td>N2-e</td>
<td>Mitigate noise and dust during construction.</td>
</tr>
<tr>
<td>S4-c</td>
<td>Adequately mark and provide signage for truck routes.</td>
</tr>
<tr>
<td>N1-a</td>
<td>Construct decorative sound wall and safety shields along the freeway adjacent to affected residents and businesses.</td>
</tr>
<tr>
<td>E2-c</td>
<td>Include landscaping along the (I-710) freeway especially at interchanges and soundwalls.</td>
</tr>
<tr>
<td>i</td>
<td>Provide a three dimensional model of the proposed I-710 Freeway improvement in the City of South Gate.</td>
</tr>
<tr>
<td>i</td>
<td>Provide a time schedule that includes sequence of construction work in South Gate.</td>
</tr>
<tr>
<td>M4-c</td>
<td>Establish ways to minimize inconvenience to residents and businesses during construction.</td>
</tr>
<tr>
<td>EJ2</td>
<td>Provide incentives to residents and businesses that have been and will be suffering depreciation and (loss of) income during construction of the freeway.</td>
</tr>
<tr>
<td>M1-h</td>
<td>Install ramp metering for trucks at the port of Long Beach.</td>
</tr>
<tr>
<td>ii</td>
<td>Establish a (800) number with a bilingual live person responding throughout this project so anyone can call with questions. Consider using television, internet, radio and other media for keeping the community informed of the project status through completion.</td>
</tr>
<tr>
<td>P3</td>
<td>Continue including Tier 2 on the corridor improvements through project completion including but not limited to design, construction staging (especially establishing detour routes during construction).</td>
</tr>
<tr>
<td>D3-c</td>
<td>Extend Southern Avenue under or over the freeway and increase Southern Ave. Lane width to four lanes (two lanes each direction) for better mobility and to reduce local traffic from Firestone.</td>
</tr>
</tbody>
</table>

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## City of South Gate

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<tr>
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<tbody>
<tr>
<td>D4-c</td>
<td>Widen Garfield Avenue Bridge over the Rio Hondo River and associated sidewalk along Garfield.</td>
</tr>
<tr>
<td>M2-b</td>
<td>Consider using additional bus transportation on Garfield between Firestone and Imperial.</td>
</tr>
<tr>
<td>EJ2</td>
<td>Provide fair and expedient negotiations with property owners that must move due to the proposed project. In the event of partial takes, efforts should be made to replace the property taken with property contiguous with that remaining.</td>
</tr>
<tr>
<td>i</td>
<td>Avoid impacts to local businesses including Security Public Storage South Gate Facility, Scully-Miller and Rockview Farms.</td>
</tr>
<tr>
<td>ii</td>
<td>Prior to major freeway construction surface street repairs, upgrades and improvements should be scheduled and completed. This work should be undertaken on all surface streets within the corridor that will be impacted traffic diverted from the I-710 during construction and should include refinement of the traffic control system.</td>
</tr>
<tr>
<td>D2-a</td>
<td>Rockview supports the inclusion of &quot;truck only&quot; lanes as part of the project.</td>
</tr>
<tr>
<td>D4-c</td>
<td>Include the installation of a Southern Ave. Bridge over the I-710 thereby connecting east with west South Gate. This bridge would relieve traffic on Firestone Blvd. and provide a second exit on for the Thunderbird Mobile Home Park.</td>
</tr>
<tr>
<td>M4-a</td>
<td>Provide advance and continuous public notice of road closures, detours and other changes to traffic flow. Include accommodations for emergency services, truck and business traffic signage directing customer traffic to businesses.</td>
</tr>
<tr>
<td>E1-f</td>
<td>Develop a freeway design that includes beautification of the right of way with a separate identity for each city through which the freeway passes.</td>
</tr>
<tr>
<td>i</td>
<td>Maintain access to Sully-Miller Construction by providing the same number of driveways.</td>
</tr>
<tr>
<td>D3-c</td>
<td>Study parallel arterial highway and determine needed improvements prior to major construction of the freeway.</td>
</tr>
<tr>
<td>i</td>
<td>Improve air quality and reduce diesel emissions.</td>
</tr>
<tr>
<td>M1-b</td>
<td>Support extended hours of operation at the ports and moving more cargo by rail, potentially the Alameda corridor.</td>
</tr>
</tbody>
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APPENDIX D

I-710 OVERSIGHT POLICY COMMITTEE-ADOPTED
LOCALLY PREFERRED STRATEGY
(NOVEMBER 18, 2004)
I-710 Oversight Policy Committee
Adopted Locally Preferred Strategy
November 18, 2004

EXECUTIVE SUMMARY
EXECUTIVE SUMMARY

Page 3 CONSIDERATION OF THE RECOMMENDATIONS FROM THE I-710 TECHNICAL ADVISORY COMMITTEE, TIER 1 COMMUNITY ADVISORY COMMITTEES, AND TIER 2 COMMUNITY ADVISORY COMMITTEE

Page 5 Locally Preferred Strategy
Action: Voted unanimously to adopt The Locally Preferred Strategy described in attached report and illustrated in the attachments for purposes of environmental analysis, incorporate the results of the sub-area “mini” study upon its completion, and seek funding to initiate an EIR/EIS.

Page 9 Tier 2 Report and Recommendations for Health and Air Quality
Action: Voted unanimously to request the Gateway Cities Council of Governments to return with suggested steps for initiating the development and implementation of a corridor level Air Quality Action Plan to include not only technical, but also funding, institutional structure and legislative strategies as well as an approach to holding public agencies with jurisdiction in the Corridor accountable for progress in meeting air quality and public health objective in the Corridor and Region.

Page 11 Tier 2 Report and Recommendations for EIR/EIS
Action: Voted unanimously to forward the Tier 2 report in its entirety to be accepted as pre-scoping guidance to the preparation of the EIR/EIS.

Page 13 Tier 2 Report and Recommendations for Community Improvements Independent of the EIR/EIS
Action: Voted unanimously to request the Gateway Cities Council of Governments to identify and pursue appropriate avenues to implement those Tier 2 recommendations that prove to exceed the scope of any I-710 transportation improvement project and report back to the community.

Page 15 Tier 1 and Tier 2 Community Outreach Process
Action: Voted unanimously to request MTA and COG staff to suggest a process and structure for continuing community participation throughout the environmental analysis.
Consideration of the Recommendations from the I-710 Technical Advisory Committee, Tier 1 Community Advisory Committees, and Tier 2 Community Advisory Committee

As you know, extensive energy and cooperation has occurred in the coming together of this set of recommendations. The participants of the Tier 1, Tier 2, and Technical Advisory Committees are to be applauded for their tremendous time and dedication to this worthwhile exercise. They are truly working in the public interest.

Structure

The I-710 Oversight Policy Committee (OPC) is advised by a Technical Advisory Committee (TAC) and a series of Community Advisory Committees. The TAC was directed by the OPC in May 2003 to develop a hybrid design alternative. The Tier 1 committees were recommended by the OPC and implemented by each interested city. The Tier 2 committee was created by the OPC to include the Tier 1 committees and a broad base of stakeholder interests up to a maximum membership of 46 persons.

Overview

In September 2004, the TAC presented its recommendations on the Hybrid Design to the OPC. The TAC voted to support the Tier 2 recommendations, “in broad concepts.”

In September 2004, the Tier 2 Committee presented its recommendations to the OPC. The Tier 2 Corridor Level Community Advisory Committee also considered the design developed by and with the Tier 1 Committees.

The recommendations of the Tier 1 Committees are incorporated in the design, and in large part in the Tier 2 report.

The Tier 2 committee recommendations address a range of subjects relating to the future of the I-710 corridor with emphasis on public health.

Current Status

These various sets of recommendations have been synthesized into a number of subject areas for OPC consideration and action with the goal of directing the recommendations to an appropriate venue for further action. On the following pages you will find these agenda items for your consideration:
A. The Locally Preferred Strategy

B. Tier 2 Report and Recommendations for Health and Air Quality

C. Tier 2 Report and Recommendations for the Environmental Impact Report/Environmental Impact Statement


E. Tier 1 and Tier 2 Community Outreach Process
Locally Preferred Strategy

Background

In May 2003, the OPC adopted the following guiding principles for the I-710 Major Corridor Study.

1. Minimize right-of-way acquisitions with the objective being to preserve existing houses, businesses and open space.

2. Identify and minimize both immediate and cumulative exposure to air toxics and pollution with aggressive advocacy and implementation of diesel emissions reduction programs and use of alternative fuels, as well as in project planning and design.

3. Improve Safety by considering enhanced truck safety inspection facilities and reduced truck/car conflicts and improved roadway design.

4. Relieve congestion and reduce intrusion of traffic into communities and neighborhoods by employing a comprehensive regional systems approach that includes adding needed capacity as well as deploying Transportation Systems Management (TSM) and Transportation Demand Management (TDM) technologies and strategies to make full use of freeway, roadway, rail and transit systems.

5. Improve public participation in the development and consideration of alternatives and provide technical assistance to facilitate effective public participation.

At the same time, the OPC passed the following motion:
“Direct the Technical Advisory Committee (TAC) to start with Alternative B and create a “hybrid” alternative that combines appropriate elements from all 5 alternatives. These elements must be acceptable to each affected city with the purpose of minimizing right-of-way acquisitions and the objective of preserving existing housing stock, yet work together as an integrated strategy consistent with adopted guiding principles.”

Findings

- The OPC finds that the community based hybrid design developed in close cooperation with the Tier 1 committees accomplishes these objectives and is consistent with these guiding principles by minimizing right-of-way, locating truck lanes at the greatest possible distance away from residences, improving safety, separating cars from trucks, and relieving congestion.

- The OPC finds that the TAC recommendations further accomplish these objectives and are consistent with the guiding principles by incorporating Transportation System Management/Transportation Demand Management, improvement of arterial highways and truck inspection facilities.
• The OPC further notes that these elements are reflected in the Tier 2 recommendations on safety, congestion and mobility, and design concepts.

**Future Direction**

1. The OPC approves the following as the Locally Preferred Strategy for purposes of environmental analysis:
   - The hybrid design concept, which consists of ten (10) mixed flow lanes, specified interchange improvements, and four (4) truck lanes between the inter-modal rail-yards in Vernon/Commerce and Ocean Boulevard in Long Beach (illustration attached.)
   - Alternative B Transportation System Management/Transportation Demand Management
   - Improvement of arterial highways within the I-710 Corridor
   - Construction of truck inspection facilities to be integrated with the selected overall design concept

2. The OPC recognizes that the locally preferred improvements serving general purpose traffic in the sub-area between Atlantic-Bandini and SR-60 remain undefined and require further study. The OPC commits that this “mini” study will be completed and its results incorporated into the Locally Preferred Strategy prior to beginning the environmental analysis. The results of this study will be reviewed by all impacted Tier 1 Committees, the Tier 2 Committee, all impacted City Councils and the Technical Advisory Committee. Recommendations will be made by the advisory committees to the OPC for its determination on any proposed improvements in the northern sub-area of the Corridor before being forwarded to the transportation agencies for inclusion in the Locally Preferred Strategy.

3. The OPC and its members commit themselves to work collaboratively with agencies and other stakeholders to seek funding for an I-710 EIR/EIS. The OPC recognizes that the location of the Ports of Long Beach and Los Angeles in this region contributes to the congestion, health and safety issues we face. The location of these international trade gateways also means that the I-710 is an issue of national significance. The OPC believes that federal funding and funds from the goods movement industry must each have a role in the development of this project.
Recommended Action

It is recommended that the OPC adopt the Locally Preferred Strategy described above and illustrated in the attachment for purposes of environmental analysis, incorporate the results of the sub-area “mini” study upon its completion, and seek funding to initiate an EIR/EIS.

ACTION TAKEN

Voted unanimously to adopt The Locally Preferred Strategy described in above report and illustrated in the attachments for purposes of environmental analysis, incorporate the results of the sub-area “mini” study upon its completion, and seek funding to initiate an EIR/EIS.

Has No route mini study been conducted?

Need minutes of TAC meetings to get sense of community wants.

Need to meet with members of TAC, OPC to hear from them what community strategies to consider.
I-710 Major Corridor Study
Hybrid Design Concept

- 10 General Purpose Lanes
- 4-Lane Truckway
- Interchange Improvements
- Direct Truck Ramps

LEGEND

Add One Mixed Flow Lane (Each Direction)
Add Two Mixed Flow Lanes (Each Direction)
Exclusive Truck Facility
Interchange Improvement
New Interchange
Eliminate Interchange
Truck Ramps
Truck Ingress/Egress

Preliminary Concept Subject to Change

Source: Jerry Wood, Consultant, in association with MMA, Inc. and Nolan Consulting, Inc., April 2004
November 18, 2004

Tier 2 Report and Recommendations for Health and Air Quality

**Background**

In May 2003, the OPC adopted five guiding principles including:

*Guiding Principle #2*
Identify and minimize both immediate and cumulative exposure to air toxics and pollution with aggressive advocacy and implementation of diesel emissions reduction programs and use of alternative fuels, as well as in project planning and design.

The Tier 2 Report prominently states that in the I-710 Corridor “health is the overriding consideration” and that “Air quality is the number one public health issue.”

The Tier 2 Report finds that the first strategies in improving air quality, and thereby public health must be:
1. Develop an action plan to improve air quality in the corridor; and
2. Implement a corridor level action plan to improve community air quality.

**Findings**

The OPC agrees with the Tier 2 Committee that air quality is the number one public health issue in the I-710 Corridor.

The OPC agrees with the Tier 2 Committee that a first step must be the development of an action plan to improve air quality in the Corridor.

The OPC finds that the development of such a Plan must begin at once.

**Future Direction**

Request Gateway Cities COG to provide recommendations for implementing a corridor level Air Quality Action Plan to include the following objectives:

1. Determine and quantify existing air and health quality setting;
2. Determine effectiveness of planned near-term air quality improvements;
3. Analyze and determine possible new (or emerging) air quality improvements or strategies, including estimating costs, time-lines and responsibilities;
4. Develop conceptual plan to implement and measure air quality improvements for the region; and
5. Work with Regional, State and Federal Agencies responsible for air pollution control and enforcement and industry stakeholders along with local communities to develop consensus for this plan.
Recommended Action

It is recommended that the OPC request the Gateway Cities Council of Governments to return with suggested steps for initiating the development and implementation of a corridor level Air Quality Action Plan.

ACTION TAKEN

Voted unanimously to request the Gateway Cities Council of Governments to return with suggested steps for initiating the development and implementation of a corridor level Air Quality Action Plan to include not only technical, but also funding, institutional structure and legislative strategies as well as an approach to holding public agencies with jurisdiction in the Corridor accountable for progress in meeting air quality and public health objective in the Corridor and Region.

Is the first step to write an implementation plan?
November 18, 2004

Tier 2 Report and Recommendations for Environmental Impact Report / Environmental Impact Statement (EIR/EIS)

Background

In May 2003, the OPC adopted five guiding principles including:

Guiding Principle #5
improve public participation in the development and consideration of alternatives
and provide technical assistance to facilitate effective public participation.

To implement this principle, the Tier 1 Community Level Community Advisory Committees
and the Tier 2 Corridor Level Community Advisory Committee were established and
provided with technical assistance in both highway design and meeting facilitation.

Findings

The OPC finds that the members of the Tier 1 and Tier 2 Committees far exceeded
expectations in the strength of their commitment and dedication and the depth of their
analysis. The OPC sincerely thanks the Tier 1 and Tier 2 members for their outstanding
efforts and contributions to their communities.

Future Direction

1. The OPC requests that the Tier 2 report be forwarded in its entirety to the entity
conducting the environmental scoping to be accepted as guidance to the preparation of

2. The OPC recommends that the environmental analysis include at a minimum the
following elements called for by Tier 2: detailed review of air quality impacts of the
proposed I-710 improvements, their health effects and potential mitigations; detailed
review of noise impacts of the I-710 improvements and potential mitigations; detailed
review of construction impacts of proposed I-710 improvements and potential
mitigations; and analysis of the feasibility of alternative technologies for movement of
goods in the corridor, including containerized cargo.

3. The OPC requests particular attention be paid to low-income communities and persons
of color to ensure that they do not bear disproportionate impacts of the project and that
benefits of the project accrue to Corridor communities.

4. The OPC advises any and all entities involved in conducting the EIR/EIS that it expects
a full, objective and open-minded investigation of transportation needs and options and
of environmental concerns, solutions and mitigations.
Recommended Action

It is recommended that the OPC forward the Tier 2 report in its entirety to be accepted as pre-scoping guidance to the preparation of the EIR/EIS.

ACTION TAKEN

Voted unanimously to forward the Tier 2 report in its entirety to be accepted as pre-scoping guidance to the preparation of the EIR/EIS.
November 18, 2004

Tier 2 Report and Recommendations for Community Improvements Independent of the Environmental Impact Report/Environmental Impact Statement

Background

In May, 2003, the OPC adopted five guiding principles to focus its efforts to fulfill its mission to complete an I-710 Major Corridor Study in accordance with state and federal rules and regulations governing major transportation investments.

In this process the OPC convened the Tier 1 and Tier 2 Community Advisory Committees.

The Tier 2 Committee in its final report summarized its priorities that:
1. This is a corridor—considerations go beyond infrastructure
2. Health is the overriding concern; and
3. Every action should be viewed as an opportunity for repair and improvement of the current situation

Findings

- The OPC embraces the Tier 2 Committee’s broad vision for community improvement and renewal.

- At the same time, the OPC finds that numerous recommendations exceed the scope of the OPC’s guiding principles and the scope of any transportation study or project that may result from the I-710 Major Corridor Study.

- In addition to transportation, health and air quality, the Tier 2 Final Report contains recommendations relating to economic development and job training, economic studies, cooperative planning among west coast ports, open space, landscaping and beautification, among others.

- While some aspects of these recommendations can be associated with any I-710 improvement project, the broader application of the recommendations should be incorporated into a separate document entitled “Additional Prospective I-710 Corridor Goals and Objectives”

Future Direction

In order to capitalize on those recommendations that prove to exceed the scope of any I-710 transportation improvement project, and ensure that the community vision they represent is not lost, the OPC urges the Gateway Cities Council of Governments to identify appropriate agencies, partnerships and vehicles to pursue these recommendations through advocacy, program development and other means and to periodically report to the community on these efforts.
Recommended Action

It is recommended that the OPC request the Gateway Cities Council of Governments to identify and pursue appropriate avenues to implement those Tier 2 recommendations that prove to exceed the scope of any I-710 transportation improvement project and report back to the community.

ACTION TAKEN

Voted unanimously to request the Gateway Cities Council of Governments to identify and pursue appropriate avenues to implement those Tier 2 recommendations that prove to exceed the scope of any I-710 transportation improvement project and report back to the community.
November 18, 2004

Tier 1 and Tier 2 Community Outreach Process

Background

In May 2003, the OPC adopted five guiding principles including:

Guiding Principle #5

Improve public participation in the development and consideration of alternatives and provide technical assistance to facilitate effective public participation.

To implement this principle, the Tier 1 Community Level Community Advisory Committees and the Tier 2 Corridor Level Community Advisory Committee were established and provided with technical assistance in both highway design and meeting facilitation.

Findings

- The OPC believes that its Tier 1 and Tier 2 process proved to be an effective method of community participation that recognized the importance of engaging the most impacted communities as well as a broader group of interests and that moved beyond community outreach to meaningful participation.
- The OPC believes that the recommendations of Tier 1 and Tier 2 were of great value to the major corridor study and provided insights and solutions that could not have been achieved without them.

Future Direction

1. The OPC recommends that a collaborative and participative process for community engagement be developed to continue throughout the environmental analysis.

2. The OPC recommends that particular attention be paid to inclusion of low-income communities and persons of color in the process, including appropriate language translation.

Recommended Action

It is recommended that the OPC request MTA and COG staff to suggest a process and structure for continuing community participation throughout the environmental analysis.

ACTION TAKEN

Voted unanimously to request MTA and COG staff to suggest a process and structure for continuing community participation throughout the environmental analysis.
APPENDIX E

LETTER SENT TO STAKEHOLDERS (2006)
Ms. Gienna Amos  
City of South Gate  
1001 West Fror  
South Gate, CA  90280  

Dear Ms. Amos:

Air Quality Action Plan Stakeholder Input

The Gateway Cities Council of Governments (GCCOG) has initiated the Air quality Action Plan (AQAP) for the I-710 Corridor as previously directed during the Major Corridor Study.

The initial efforts in developing the plan will include meaningful outreach to numerous stakeholders. You have been identified as one of these key stakeholders.

We are looking forward to hearing your ideas, concerns and expectations regarding the AQMP. It is envisioned that with the input of persons such as yourself, the Gateway Cities AQAP will become a useful and important document for improving the air quality of the I-710 Corridor Communities and beyond.

Mr. Cliff Gladstein of the firm Gladstein, Neandross and Associates, on behalf of the Gateway Cities COG will be contacting you soon to arrange a convenient time and date to discuss this with you.

Thank you in advance for your time and interest and dedication in improving the quality of life in our region.

Sincerely,

Larry R. Nelson, President  
Board of Directors, Gateway Cities Council of Governments
APPENDIX F

LIST OF QUESTIONS FOR STAKEHOLDERS (2006)
Gateway Cities Council of Governments  
Air Quality Action Plan  
Input/Feedback Questionnaire

As part of the development of the Gateway Cities Council of Governments Air Quality Action Plan (AQAP), meetings will be held with the previous members of the Tier 1 and Tier 2 Community Advisory Committees. At this meeting, input and feedback on the development of the AQAP will be requested from attendees.

The following is a list of typical questions that will be discussed at these meetings:

- What was your role in the I-710 Major Corridor Study process?
- Do you have any comments about the previous recommendations of the Oversight Policy Committee or the Community Advisory Committee processes or recommendations?
- Are there specific air quality programs would you like to see addressed in the COG's AQAP?
- What programs do you believe are absolutely essential for the AQAP to be successful?
- Are there air quality programs or projects, rules or regulations that you consider to be detrimental to the improvement of air quality along the corridor?
- Is there anything that you would absolutely not want to see in the AQAP?
- As you are aware, the Ports of LA and Long Beach Clean Air Action Plan (CAAP) will likely have a significant impact on the I-710 corridor. What programs in the CAAP do you consider to be the most beneficial to air quality along the I-710 corridor?
- After review of the CAAP, what programs might you consider to be the least beneficial to air quality along the I-710 corridor from the CAAP?
- What concerns do you have about the COG's AQAP?
- What should be the role of the Health Risk Assessments analyses in the COG AQAP?
- What are your expectations for the AQAP?
- What future role would you like to play in the development of the AQAP?
- Do you have any concerns about how the AQAP process has been handled so far?
- Do you have any suggestions or comments about the overall process of creating the AQAP?
- Additional comments or suggestions?
APPENDIX G

COMPENDIUM OF EXISTING AND PROPOSED NEAR-TERM AIR QUALITY IMPROVEMENT STRATEGIES FOR THE I-710 CORRIDOR
MARCH 2006
DRAFT

Compendium of
Existing and Proposed Near-Term Air Quality
Improvement Strategies
for the
I-710 Corridor

Prepared for the I-710 Executive Committee

Prepared by Metro, March 2006
# Compendium of Existing and Proposed Near-Term Air Quality Improvement Strategies for the I-710 Corridor

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## Appendix

| Exhibit 1: Action of the Los Angeles County Metropolitan Transportation Authority at its Regular Board Meeting of January 27, 2005 with Regard to the I-710 Major Corridor Study |
| Exhibit 2: I-710 Freeway Corridor Summary of Existing Air Quality Programs | 26 |
Compendium of Existing and Proposed Near-Term Air Quality Improvement Strategies for the I-710 Corridor

1.0 Preamble

1.1 Background

On January 27, 2005, the Board of Directors of the Los Angeles County Metropolitan Transportation Authority (Metro) approved a motion to adopt the Draft Final Report on the I-710 Major Corridor Study between the Ports of Los Angeles/Long Beach and the SR-60 Pomona Freeway. In addition, the Metro Board of Directors authorized the Chief Executive Officer to proceed with preparation of a scope of work and funding plan for the environmental phase of the project. Directors Burke and Molina amended the motion to include, among other things, the formation of a “multi-jurisdictional entity [which upon formation would] be tasked with identifying strategies for achieving near-term improvements to the corridor’s air quality and that the strategies be identified prior to initiation of the EIR/EIS request for proposals.” The full text of the motion is set forth in Exhibit 1 of the Appendix.

This compendium is intended to be an informational baseline to help frame the initial work of the Executive Committee of the multi-jurisdictional entity that is overseeing the EIR/EIS process.

1.2 Terminology

The “corridor” is defined as it is in the I-710 Major Corridor Study, encompassing 18 miles of freeway between the ports and SR 60 and the following jurisdictions: cities of Bell, Bell Gardens, Carson, Commerce, Compton, Cudahy, Downey, Huntington Park, Long Beach, Lynwood, Maywood, Paramount, South Gate, Vernon, County of Los Angeles, Port of Long Beach, and Port of Los Angeles.

“Near-term” is defined as 0 to 10 years for air quality improvement measures that could be at least partially implemented within that time frame. Further refinement divides near-term into “short-term (0 to 5 years)” and “mid-term (6 to 10 years).” A “long-term” program is one that takes longer than 10 years to be at least partially implemented.

For purposes of this document, “strategies” refer to proposed air quality measures and emission control measures. This document is not “a strategy” to improve air quality, nor is it “a plan” to improve air quality; it is an identification of strategies/measures/mechanisms that have been proposed by a number of entities, including those with jurisdictional responsibilities or mandates to improve air quality, as well as community groups and associations which may not have any legal authority to implement proposed strategies/measures to improve air quality.
1.3. Methodology

Staff identified nine public documents most relevant in the identification of near-term strategies/mechanisms/proposals for improving the air quality in the corridor, as follows:

1) I-710 MCS Tier 2 Community Advisory Committee: Strategy Recommendations
2) Gateway Cities Council of Governments Clean Air Program
3) Gateway Cities Council of Governments Safety Action Initiative
4) Ports/Alameda Corridor Transportation Authority (ACTA) Truck Trip Reduction Program
5) Port of Long Beach (POLB) Green Port Policy
6) Port of Los Angeles (POLA) Clean Air Program
8) South Coast Air Quality Management District (SCAQMD) Chairman’s Clean Port Initiative
9) Harboring Pollution: Strategies to Clean Up U.S. Ports, Natural Resources Defense Council and Coalition for Clean Air

Metro staff worked with staff of the Port of Los Angeles, the Port of Long Beach, California Air Resources Board (CARB), South Coast Air Quality Management District (SCAQMD), Gateway Cities Council of Governments (GCCOG), Southern California Association of Governments (SCAG), and Caltrans to cull the above documents and compile a list of the actions being pursued or considered to reduce emissions in the corridor and at the ports as part of other initiatives. In preparing this compendium, staff also reviewed air quality improvement programs outlined in the recently published report of the California Marine and Intermodal Transportation System Advisory Council (CALMITSAC) to the California State Legislature.¹

Exhibit 2 in the Appendix broadly summarizes the air quality measures/programs and corresponding implementation time frames and status. The exhibit is formatted to facilitate periodic updates.

1.4. Limitations of this Compendium

The objective of this collaborative effort was to develop a compendium of existing strategies that are currently helping to improve the air quality along the I-710 corridor, as well as those that are new or in the development stage and could conceivably be implemented within the near term. This compendium does not endorse any of the proposed measures; the document is intended to present strategies that may be analyzed as part of or in addition to the effort to reduce air quality impacts in the I-710 corridor.

This compendium does not presume to prejudge the outcome of the EIR/EIS for the I-710 project or in any way limit EIR/EIS-generated proposals for mitigating the impacts of the proposed project. Specific mitigations for air quality impacts of the I-710 Freeway modifications will be identified through the upcoming CEQA/NEPA process for that project. The EIR/EIS will require a thorough analysis of project impacts, alternatives and mitigation measures and continued full public participation in the process. The EIR/EIS will address, among other things, estimated exposure to emissions and resulting health impacts, including impacts on schools and neighborhoods in close proximity to the freeway.

This compendium of emission reduction strategies demonstrates that a great deal of effort is being made by several agencies to reduce emissions. However, the compendium should not create the impression that there are currently binding mechanisms in place which will fully resolve the serious local and regional air quality problems. Upcoming air quality planning processes may identify additional or refined emission reduction strategies needed to achieve healthful air quality. The strategies in the compendium are in varying stages of development; many of them are conceptual in nature and are awaiting identification of a sponsoring agency, funding or endorsement.

Specific benefits of the strategies included in this compendium, in terms of reduced emissions or health risk, have not been quantified. The Gateway Cities Council of Governments will quantify benefits and costs, however, in the subsequent I-710 Corridor Air Quality Action Plan that will be developed concurrently with the EIR/EIS.

2.0 Major Air Quality Initiatives

2.1 Tier 2 Community Advisory Committee: Strategy Recommendations

In August of 2004, the I-710 Tier 2 Community Advisory Committee adopted a variety of recommendations related to the I-710 project. These recommendations covered the following major topics:

- Health and Air Quality
- Jobs and Economic Development
- Safety
- Noise
- Congestion and Mobility
- Community Enhancements
- Design Concepts
- Environmental Justice
- Process.
The I-710 Tier 2 Committee’s recommendations on health and air quality are shown in Table 1. Central to the Committee’s recommendations is that “air quality in the corridor must be better at the time of construction than it is today. Therefore, these steps to reduce air pollution must be taken before construction can begin on the ‘mainline’ project."

Table 1
Tier 2 Committee Recommendations on Health and Air Quality

<table>
<thead>
<tr>
<th>1. Develop an action plan to improve air quality in the corridor, including the following steps:</th>
</tr>
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<tbody>
<tr>
<td>a. Establishing a baseline of current levels of pollution from each contributing source using the best available technology.</td>
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<tr>
<td>b. Identify the level of air quality impacts from increasing trucking, rail and shipping.</td>
</tr>
<tr>
<td>c. Determine the approximate costs of health care that can be traced to the differential levels of air pollution to be encountered by corridor community members as a result of the construction effort, if it goes forward as envisioned.</td>
</tr>
<tr>
<td>d. Study the direct and indirect health and other economic costs on communities and the region caused by global trade and its associated pollution impacts.</td>
</tr>
<tr>
<td>2. Implement a corridor level action plan to improve community air quality.</td>
</tr>
<tr>
<td>a. Use enforcement, truck inspections and incentives to control emissions.</td>
</tr>
<tr>
<td>b. Require air quality improvements in port operation as a condition of project approval.</td>
</tr>
<tr>
<td>c. Encourage the development and expansion of fleet modernization clean air programs.</td>
</tr>
<tr>
<td>d. Levy fees on containers to fund environmental improvements and community programs to address hidden costs attributable to goods movement impacts including:</td>
</tr>
<tr>
<td>• Health care</td>
</tr>
<tr>
<td>• Alternative fuels</td>
</tr>
<tr>
<td>• Improvements/construction of I-710 infrastructure</td>
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<tr>
<td>• Beautification of the corridor</td>
</tr>
<tr>
<td>e. Develop infrastructure that quantifies emission reductions; i.e., permanent monitoring stations to measure emissions levels in the corridor</td>
</tr>
<tr>
<td>f. Develop and implement improved air quality monitoring techniques.</td>
</tr>
<tr>
<td>3. Implement local alternative fuels/electrification and/or hydrogen policies and programs to reduce diesel emissions.</td>
</tr>
<tr>
<td>a. Make the use of alternative fuels a priority.</td>
</tr>
<tr>
<td>b. Discourage the use of out-of-state fuel.</td>
</tr>
<tr>
<td>c. All trucks, regardless of origin, must be subject to local, state and federal standards.</td>
</tr>
<tr>
<td>d. Require all trucks using the truck lanes on the I-710 to use alternative fuels as defined above, or pollution controls which achieve equal or better results.</td>
</tr>
<tr>
<td>e. Require all railroad locomotives servicing two ports, or any rail yards connected with port container traffic, to use alternative fuels as defined above, or pollution controls which achieve equal or better results.</td>
</tr>
</tbody>
</table>

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f. Require the Alameda Corridor Transportation Authority to prepare a plan to electrify all locomotives involved in its operations.

4. **Pursue opportunities for incremental improvements.**
   a. Retrofit schools, homes and parks to increase protection from noise and pollution.
   b. Identify location and develop facility for one-stop truck inspection.
   c. Provide incentives for businesses to accept off-peak deliveries.
   d. Create programs to assist truck owners with engine/equipment upgrades and retrofits.
   e. Restrict port-generated traffic onto I-710 until improved fuels programs or other pollution emissions mitigation programs are implemented.
   f. Provide landscaping, specifically including tree planting, to improve air quality.

5. **Implement port-specific strategies.**
   a. Require ports to develop plans to electrify other terminal operations as a priority.
   b. Require all rubber-tired gantry cranes to be electrified.
   c. Require all ships docking in the Ports of Los Angeles and Long Beach to shut down all diesel engines and use shore electric power.
   d. Require the ports to expedite development of effective pollution controls for ships.
   e. Make mandatory the proposal of CARB to require that ships entering the coastal waters of California switch to low sulfur diesel fuel. Require the ports to provide financial subsidy if necessary to implement this requirement.
   f. Include trucks, trains and rail yards, marine vessels, and port equipment in clean air initiatives.
   g. Require all terminal equipment at the ports to operate on alternative fuel as defined by CARB. This includes Liquid Petroleum Gas, Compressed Natural Gas, or Liquid Natural Gas. As an alternative, require all engines to be equipped with pollution control technology, which achieves equal or less emissions.
   h. Establish a fund that shippers must pay into, that provides rebates to those who adopt the use of clean air engines for vehicles. Ensure that this program accomplishes the goals of decreasing pollution rather than a pay-to-pollute program.

(It is noted that proposals above for container fees are funding measures rather than independent air quality strategies.)

2.2 Gateway Cities Council of Governments' (COG) Clean Air Program

The COG’s Clean Air Program is premised on the belief that investing in cleaner trucks would be one of the quickest and most tangible methods to achieve meaningful emissions reductions in the I-710 Corridor. In operation since September 2002, the Clean Air Program’s main focus is to reduce emissions from in-use heavy-duty vehicles (HDVs) in the Gateway Cities sub-region and around the Port of Los Angeles and Port of Long Beach. The Program has received national recognition and awards for efficiency in achieving a significant reduction in harmful emissions from in-use heavy-duty diesel vehicles and equipment.

The Clean Air Program has two primary components – The Fleet Modernization Program (FMP) and the Port of Long Beach Diesel Emissions Reduction Program (DERP). The FMP provides grants to replace 1986 and older diesel HDVs with a 1999 or newer,
cleaner burning model. The older trucks are scrapped and never used again. The newer truck emits about 40% less NOx and 90% less PM than the old truck it replaces. At the funding agency's discretion, many of the trucks are also retrofitted with a diesel oxidation catalyst (DOC), further reducing PM emissions. To date, the program has spent about $8 million to replace approximately 373 trucks, resulting in significant, immediate decreases in both diesel PM and NOx.

While replacing 373 trucks is significant, there are thousands of older port drayage trucks that could be replaced. Additional funding and incentives -- as well as a firm schedule -- would be needed to increase the rate of replacement and to discourage them from entering the port drayage market. Additional useful analyses would include an economic analysis to determine the costs to replace all of the older trucks within 10 years and an analysis of the operating costs for newer trucks versus older trucks.

More aggressive Level III after-treatment could be performed on all replacement trucks as soon as ultra-low sulfur diesel fuel becomes widely available. The COG expects Level III devices to become viable in late 2006 or early 2007. The COG is currently implementing a pilot project on a small fleet of 4 to 5 trucks under EPA grant funding. In addition, the newly adopted Fleet Modernization category will require replacement trucks under Carl Moyer Program Moyer funding to be retrofitted with a diesel emissions control system that meets "Best Available Control Technology"; i.e., a DOC now and a Level III device as soon as practicable.

The Port of Los Angeles has expressed an interest in developing a progressive LNG truck program within the larger Gateway Cities program. This program would encourage the switch from diesel trucks to alternative fuel trucks in addition to the existing model of diesel fleet modernization. The Port of Los Angeles's proposed plan would be based on performance standards and would follow both clean diesel and alternative fuel paths to achieve such standards. The Port of Los Angeles's goal is to encourage diesel particulate emissions reductions by accelerating the turnover of the existing Port fleet to cleaner diesel (certified at or below 0.01 g/htp-hr PM and 0.20 g/htp-hr NOx) and alternative fuel (including LNG and CNG) engines. The Port of Los Angeles, through Gateway Cities, would continue funding clean diesel technology as well as the alternative fuel technology. Additional funding for both paths may also be available directly from the Port. Through its Air Quality Program, the Port of Los Angeles would also invest in research and development, and demonstration programs to test new truck technologies including hybrids, and alternative fuels.

As part of the Gateway Cities Clean Air Program, the Port of Long Beach has taken a leadership role by facilitating efforts to install new emissions reduction technology on off-road heavy-duty vehicles operated within port boundaries. This Diesel Emissions Reduction Program introduces "clean diesel technology" to port terminal operators by retrofitting their cargo-handling equipment with devices such as diesel oxidation catalysts (DOCs), which replace mufflers and can provide cost-effective emissions reductions. On nearly 200 off-road HDVs, Port of Long Beach tenants are using a DOC and emulsified diesel fuel (a diesel-water blend) combination that has been verified by the California Air Resources Board to provide a 50% reduction in diesel PM emissions and a 20% reduction in NOx emissions. On approximately 400 off-road pieces of cargo-handling equipment, POLB tenants are using a DOC combined with a crankcase emissions filtration system
that has been verified by CARB to reduce diesel particulate emissions by 25% (actual reductions are believed to be higher). Of those, approximately 100 are fueled with an ethanol-blended diesel fuel verified by CARB to further reduce PM emissions by 20%.

The Port of Long Beach’s efforts through the Diesel Emission Reduction Program, coupled with the efforts of terminal operators to modernize equipment and transition to cleaner on-road equipment, has resulted in total cargo-handling equipment emissions declining. From 2002 to 2005, cargo-handling NOx emissions declined by approximately 570 tons per year and cargo-handling PM emissions by approximately 70 tons per year.

2.3 Gateway Cities Council of Governments Safety Action Initiative

Gateway Cities Council of Governments has adopted a number of Safety Action Initiatives. Some of these contribute to near-term air quality improvement. These include constructing one or more truck inspection and weighing facilities in the I-710 corridor and/or near the ports. The ability to inspect trucks at such facilities would address pollution control equipment and encourage better maintenance of trucks.

Also, the deployment of advanced traffic management and logistics technologies could contribute to improved air quality. These Intelligent Transportation System (ITS) programs would improve air quality by allowing the highways to operate more efficiently, by reducing congestion on the freeways and local arterial highways, and by reducing truck idling times. The application of ITS could also reduce the number of truck trips and result in other operational efficiencies that would result in air quality improvements. These Intelligent Transportation System (ITS) improvements would include but not be limited to:

1. Tracking of trucks that are registered in the Gateway Cities clean air program to ensure that they stay in the region. All trucks modified by Gateway Cities since mid-2005 are being equipped with GPS tracking devices for this very purpose.
2. Electronic screening of commercial vehicles that have good safety inspection records, allowing them to bypass roadside inspection and weigh facilities.
3. Optimization of freeway routes leading to less congestion and improved air quality.

2.4 Ports/ACTA Truck Trip Reduction Program

In a collaborative effort, the Port of Los Angeles, Port of Long Beach and the Alameda Corridor Transportation Authority (ACTA) have evaluated six alternative strategies for addressing the growth in truck traffic to and from the ports. Those strategies that reduce the number or length of trips reduce truck emissions directly proportional to miles driven. Those strategies that alleviate congestion reduce emissions by improving speeds and reducing idling. The strategies and their primary impacts are listed in Table 2.

Table 2
Truck-Related Impact by Strategy
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<th>Strategy</th>
<th>Impact</th>
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<tbody>
<tr>
<td>Virtual Container Yard</td>
<td>Reduces # of empty container truck trips</td>
</tr>
<tr>
<td>Extended Gate Hours</td>
<td>Spreads truck traffic over more hours</td>
</tr>
<tr>
<td>Increased On-Dock Rail</td>
<td>Reduces # of truck trips to rail yards</td>
</tr>
<tr>
<td>New Near-Dock Rail Yard</td>
<td>Shortens truck trips to rail yards</td>
</tr>
<tr>
<td>Shuttle Trains</td>
<td>Reduces # of truck trips to local warehouses</td>
</tr>
<tr>
<td>SR-47 Viaduct</td>
<td>Provides alternative truck route</td>
</tr>
</tbody>
</table>

**Virtual Container Yard (VCY)**

A virtual container yard would be an Internet-based matching service for empty containers. The VCY could assist in reducing the number of unproductive trips of empty containers to and from the ports. The ports and ACTA have contributed $1.2 million towards the development of the VCY, which will be operational by mid-2006.

A local import container load is transported to a warehouse or distribution center. Once that container is unloaded it is typically hauled back empty to the port terminal. If that empty container could meet the needs of an exporter in the region, the container could be transported to the export location and then sent back loaded to the port. This would also avoid the necessity of dispatching an empty container from the port to pick up an export load. The intent of the VCY is to reduce the number of empty containers trucked to and from the ports and to reduce vehicle miles of travel (VMT) associated with the movement of empty containers. It has been estimated that approximately 2% of the import containers are currently used for export. The goal of the VCY would be to increase the level of reuse to 10% by 2010.

**Extended Gate Hours (PierPASS)**

The intent of extending gate hours is to make more efficient use of existing roadway capacity by scheduling more pickups and deliveries at night or on the weekend. PierPass became operational on July 23, 2005. Since July, off-peak use has increased from about 15% of all weekly gate moves to about 35%. PierPass reached its 1 million off-peak truck milestone on December 10, 2005.

**Increased Use of On-Dock Rail**

In 2004, about 18% of all containers through the ports were loaded or unloaded at on-dock rail facilities. On-dock rail use increased to 21% in 2005. A goal of the work program is to accelerate use of on-dock rail and to make better use of underutilized capacity. Through the implementation of the port’s Rail Master Plan (RMP), the ports hope to increase on-dock use to 30% to 35% of all containers handled. The RMP calls for approximately $1.3 billion of rail infrastructure investment in the harbor districts to accommodate increased use of on-dock rail. The ports are also working closely with the railroads, container terminals and steamship lines to improve communication and coordination, leading to more efficient on-dock operations.
New Near-Dock Rail Yard (Southern California International Gateway)

The BNSF Railway has proposed a major new near-dock yard north of Pacific Coast Highway. It is expected to be operational by 2010. The project would significantly reduce truck trips to BNSF’s Hobart Yard located near downtown Los Angeles. Communities near the proposed new yard, however, are concerned about a localized increase in emissions (even if there is a net reduction in the region) as well the traffic impacts of trucks accessing the new yard. Alternative access routes and regional and localized emissions impacts will be evaluated in the EIR/EIS for the project.

Local Shuttle Trains

ACTA has proposed a shuttle train pilot project to haul local import containers to Colton rail yard, and then to truck them to warehouses in the Inland Empire. This project is on indefinite hold while the UP RR evaluates the potential impact of the proposed system on mainline capacity and service levels for the railroad’s core customers.

SR-47 Project

ACTA has proposed a freeway viaduct between the Heim Bridge on the south and Pacific Coast Highway at Alameda Street on the north. This project would divert about 6% of trucks from the southern end of the Long Beach Freeway. This project would be implemented by 2010.

Table 3 shows the estimated impacts of all of the strategies combined on the I-710 relative to the baseline or “do-nothing” scenario. The two ports handled 14.2 million Twenty-foot Equivalent Units (TEUs) in 2005. The traffic figures in Table 3 assume that containerized cargo through both ports would reach 19.7 million TEUs and 44.7 million TEUs in 2010, and 2030, respectively.

Table 3
Impact of Truck Trip Reduction Strategies on I-710

<table>
<thead>
<tr>
<th>Scenario</th>
<th>I-710 Truck Trips (24 hrs.)</th>
<th>% Change from 2005 Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base 2005</td>
<td>22,704</td>
<td></td>
</tr>
<tr>
<td>Base 2010</td>
<td>27,009</td>
<td>+19.0%</td>
</tr>
<tr>
<td>Combined Scenario 2010</td>
<td>20,337</td>
<td>- 10.4%</td>
</tr>
<tr>
<td>Base 2030</td>
<td>65,238</td>
<td>+187.3%</td>
</tr>
<tr>
<td>Combined Scenario 2030</td>
<td>44,847</td>
<td>97.5%</td>
</tr>
</tbody>
</table>

Even with all six of the truck reduction strategies in place, 24-hour port truck traffic on the I-710 is forecast to nearly double by 2030 relative to the 2005 case. Without these strategies in place, forecasted truck traffic could nearly triple.
2.5 The Port of Long Beach Green Port Policy

The Port of Long Beach’s Green Port Policy calls for a reduction in emissions per ton of cargo handled. The Port has established an initial $100 million reserve fund to meet the objectives of the Green Port Policy.

Adopted in January 2005, the Green Port Policy established the following guidelines for port operations and future development:

- Protect the community from the harmful environmental impacts of port operations.
- Distinguish the port as a world leader in environmental stewardship.
- Employ the best technology to avoid and reduce environmental impacts.
- Promote sustainability in all aspects of port operations and development.
- Engage and educate the community about port environmental programs.

Within its authority as a landlord through new or renegotiated leases, the Port of Long Beach is implementing aggressive programs to eliminate or significantly reduce harmful air emissions. The port’s strategies include:

- For vessels at berth: cold-ironing, exhaust control technologies, cleaner fuels and other advanced technologies.
- For cargo-handling equipment: accelerated fleet replacement, clean alternative diesel fuels, alternative fuels and new technologies such as exhaust cleanup devices.
- For locomotives: accelerated fleet replacement, hybrid technologies, alternative fuels and improved operating practices such as idling limitation devices.
- For trucks: accelerated fleet replacement, new aftermarket technologies, and operational improvements such as PierPASS’ Offpeak gate program.

Air quality elements of the POLB Green Port Policy are listed in Table 4.

Table 4
Port of Long Beach Green Port Policy

<table>
<thead>
<tr>
<th>Control Measures for Ocean-Going Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel Speed Reduction (Green Flag Program) – voluntary, incentivised program requiring ships to slow to 12 knots at a distance of 20 miles from Point Fermin.</td>
</tr>
<tr>
<td>Shore Power – the Port has committed to a goal of providing shore power to all new and existing container terminals; The Port’s ultimate goal is to have 100% of vessels at container terminals plug in once the infrastructure has been retrofitted and the world’s fleet has been made shore power capable; in the interim, shore power is being incorporated into new leases that specify targets for vessel compliance and selected existing berths are being retrofitted with shore power.</td>
</tr>
<tr>
<td>Retrofit/Re-power Requirements for Infrequent Callers – Port lease language will</td>
</tr>
</tbody>
</table>
require the use of exhaust controls or clean fuels in the auxiliary engines of vessels that do not use shore power.

**Main Engine Fuel Improvement** – the Port is considering incentives as part of the Green Flag Program for the use of low-sulfur (initially 1.5%) diesel or equivalent.

**Auxiliary Engine Fuel Improvement** – lease language will require the use of fuel with 0.2% or lower sulfur content or equivalent, or exhaust gas treatment, in auxiliary engines while ships are at berth.

**Vessel Smoke Stack Emission Reduction** – POLB Security will continue to issue warnings and citations to vessels in order to eliminate excess smoke and reduce vessels emissions while at berth.

West Coast Sulfur Emission Control Area (SECA) – in January 2005, the Long Beach Board of Harbor Commissioners adopted a resolution urging the United States to ratify Annex VI of the International Convention for the Prevention of Marine Pollution From Ships (MARPOL). Annex VI, adopted in 1997, entered into force on May 19, 2005 and sets limits on sulfur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone depleting substances. Annex VI calls for a global cap of 4.5% m/m on the sulfur content of fuel oil and calls on IMO to monitor the worldwide sulfur content of fuel.

**Control Measures for Harbor Craft**
The Port will replace or re-power, or convert to cleaner fuels, survey boats and other Port-owned harbor craft.

**Control Measures for Cargo Handling Equipment**
Yard Tractor Modernization & Alternative Diesel Fuel Programs – lease language will commit tenants to meet contemporary CARB and EPA emission standards in new equipment, use clean fuels in existing equipment and retire older equipment.

Enhanced Cargo Handling Modernization – lease language will require accelerated replacement of terminal equipment with equipment meeting future off-road standards for diesel engines.

**Diesel Emissions Reduction Program** – container terminal cargo handling equipment has been converted to exhaust controls and clean diesel fuel.

**Control Measures for Railroad Locomotives**
PHL Switcher Locomotive Modernization & Emulsified Diesel Program – PHL rail locomotives are being replaced in 2007; use idle limiting devices; test DOCs.


Idling Controls on Switcher & Line Haul Locomotives – install controls on PHL equipment; Ports cannot install equipment on Class 1 line haul locomotives.

ARB Diesel Fuel for Class 1 Locomotives - support of this measure would be part of the Green Port legislative agenda.
### Control Measures for Heavy-Duty Vehicles

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway Cities Truck Modernization – subsidies are being considered by POLB to commercial truck owners that trade in their diesel trucks with older engines for models with newer, cleaner-burning engines.</td>
</tr>
<tr>
<td>Retrofit Heavy-Duty Diesel Vehicles with Diesel Oxidation Catalysts (DOCs) or Diesel Particulate Filters (DPFs) – for future container terminal projects, the Port will require installation of exhaust controls on older trucks serving the terminal</td>
</tr>
<tr>
<td>Truck Idling Reduction Measures – the Port will require truck idling limits for on-road trucks within Port boundaries.</td>
</tr>
</tbody>
</table>

### Miscellaneous Controls

<table>
<thead>
<tr>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Coke Dust Control – the Port will continue to implement the Rule 1158 program aimed at reducing fugitive dust from petroleum coke operations.</td>
</tr>
<tr>
<td>Electric Dredging – additional electrical receptacles will be placed around the Port to facilitate the switch to electric dredging; beginning in 2008, the Port will require all non-maintenance dredging to be conducted with electric equipment.</td>
</tr>
<tr>
<td>Port Ride Share Program – the SCAQMD, under Rule 2202, requires employers of 250 or more employees to establish rideshare programs; the City of Long Beach developed a program in response to this requirement and the Port participated in the program; the City, as a result of budget issues, eliminated their program in 2003; since then, approximately 20 Port employees have continued to rideshare in an informal program; the Port is now exploring the formal re-establishment of its own rideshare program.</td>
</tr>
</tbody>
</table>

Because ships are a major source of emissions, one of the strategies promoted in the POLB Green Port Policy is a Sulfur Emission Control Area (SECA). The SECA would require ships to use 1.5% sulfur fuel (15,000 parts per million). Lowering the sulfur content of ship fuel has significant benefits in terms of PM and NOx emissions as well as SOx. California can also play an important role in promoting the adoption by the U.S. Senate of Annex VI of the International Convention for the Prevention of Marine Pollution From Ships, 1973, as Modified by the Protocol of 1978 (MARPOL).³

³ [http://www.imo.org/home.asp](http://www.imo.org/home.asp)

From President Bush’s message on May 15, 2003 to the U.S. Senate for the advice and consent of the Senate to the ratification of Annex VI (http://www.whitehouse.gov/news/releases/2003/05/20030515-12.html) “The MARPOL Convention is the global agreement to control pollution from ships. MARPOL Annex VI regulates the emission into the atmosphere of specified pollutants from ships. It complements the other annexes to the MARPOL Convention, which relate to the transport of oil (Annex I), harmful substances carried in bulk (Annex II), harmful substances in packaged form (Annex III), ship-generated sewage (Annex IV) and garbage (Annex V). The United States is a party to all of these annexes with the exception of Annex VI.

MARPOL Annex VI regulates the prevention of air pollution from ships by limiting the discharge of nitrogen oxides from large marine diesel engine, governing the sulfur content of marine diesel fuel, prohibiting the emission of ozone-depleting substances, regulating the emission of volatile organic compounds during the transfer of cargoes between tankers and terminals, setting standards for shipboard incinerators and fuel oil quality, and establishing requirements for platforms and drilling rigs at sea.”
the international treaty regulating emissions from ships. The International Maritime Organization (IMO) cannot adopt a SECA for the West Coast or for North America until the U.S. adopts Annex VI. Starting in May 2006 there will be a SECA in effect for the Baltic Sea. The SECA will be extended to the North Sea and English Channel in 2007. It is recommended that the Metro Board join with the ports and State of California in urging the U.S. Senate to adopt Annex VI of MARPOL.

Many of the programs included in the Green Port Policy are in-place and currently generating “green” benefits. The Port of Long Beach is developing a fully integrated, resource-loaded master schedule, which will continue to evolve as the number of environmental programs expands. The port provides quarterly progress reports to the Long Beach City Council and the Board of Harbor Commissioners including details on each program’s goals/benefits and status of implementation. The port has also identified specific metrics so that progress can be quantified and tracked over time. In order to ensure that the policy is implemented throughout the terminals, the port’s leasing policy will be amended. As stated in the port’s White Paper on the Green Port Policy, “Negotiating with tenants requires flexibility; however, the leasing policy must have as a key agenda the ‘greening’ of the port.”

The Maritime Goods Movement Coalition, of which the Port of Long Beach is a member, has proposed the “Goods Movement Attainment Plan.” Current members of the Coalition include representatives of the Port of Long Beach, terminal operators and fuel and energy providers. The Coalition seeks to design an integrated, market-based program to reduce goods-movement related emissions in a cost-effective manner.

As initially envisioned, the Goods Movement Attainment Plan would set phased performance targets designed to enable the South Coast Air Basin to attain the national ozone standard as required by 2021 (or 2024)\textsuperscript{5} and the fine particulate standard by 2015. To achieve these air quality goals at the lowest cost, the plan would permit regulated sources to design solutions tailored to their own operations. The plan would also allow sources to generate and trade emission reduction credits to help finance emission reductions and to reward early actions. The plan would also include an investment fund financed by sources unable to meet the performance targets that would be invested in pollution control.

Under a market program, regulated sources can select the most cost-effective means of reducing emissions. They also can tailor controls to match their own unique operations in ways that often cannot be anticipated by regulators. Furthermore, under a market program, sources can time their expenditures to coincide with other investments. The

\textsuperscript{5} EPA designates areas that do not meet the National Ambient Air Quality Standards (NAAQS) as “nonattainment” for that pollutant. Based on current ozone readings in the South Coast Air Basin, EPA has designated the South Coast Air Basin as a “Severe-17” nonattainment area. Under EPA’s regulations, the South Coast Air Basin has until the year 2021 (or 17 years from the June 15, 2004 effective designation date) to attain the current ozone standard. See 69 Fed. Reg. 23858, 23863, 23882 (April 30, 2004); 40 CFR § 81.305. This deadline would become 2024 if the region were designated an “Extreme” area, as currently contemplated by the SCAQMD.
market would also be structured to provide incentives for emission reductions from sources closest to communities exposed to disproportionately high health risk from goods movement sources by only allowing the generation of credits (i.e., achieving emission reductions) from those sources. A market program enhances environmental effectiveness by creating economic value for reducing emissions. In this circumstance, it also creates an opportunity to overcome potential legal impediments to regulation.  

2.6 The Port of Los Angeles Clean Air Program

The Port of Los Angeles has had a Clean Air Program in place since 2001 and began monitoring and measuring air quality in surrounding communities in 2004. Through the 2001 Air Emissions Inventory, the Port has been able to identify emission sources and relative contributions in order to develop effective emissions reduction strategies. The Port’s Clean Air Program has included progressive programs such as alternative maritime power (AMP), use of emulsified fuel and diesel oxidation catalysts (DOCs) in yard equipment, alternative fuel testing, and the Vessel Speed Reduction Program (VSRP). The Port is actively developing a new Clean Air Action Plan to expand upon existing and develop new emissions reduction strategies. The plan also focuses primarily on reducing diesel particulate matter (DPM), along with nitrogen oxides (NOx) and sulfur oxides (SOx), with two main goals, (1) to reduce Port-related air emissions in the interest of public health, and (2) to disconnect cargo growth with emissions increases. The draft plan will include near-term measures implemented largely through new leases at the Port. Port-wide measures are also part of the draft plan.

The plan focuses on new technology, cleaner fuels and accelerated equipment turnover to reduce emissions from ocean going vessels, harbor craft, cargo handling equipment, railroad locomotives, and heavy-duty trucks at the Port. Ocean going vessel measures include AMP, increased VSRP, phasing-in the use of low sulfur fuels (0.5% to 0.1%) in both auxiliary and main engines, and technology modifications to new and existing engines. Other technologies are also being tested to encourage further emissions reductions while ships are under transit and at berth.

Cargo handling equipment measures focus on new and alternative technology, alternative and clean diesel fuels (such as PureNOx), and technology add-ons such as DOCs and filters. The yard tractor modernization program, in particular accelerates existing yard tractor turnover to the cleanest engines available while also encouraging the use of ultra low sulfur fuel.

Heavy-duty truck measures focus on both fleet turnover and research and development. As discussed previously, the Port will continue to fund Gateway Cities and encourage accelerated turnover to both clean diesel and alternative fuel engines. Through its air quality program, the Port of Los Angeles would also invest in research and development, and demonstration programs to test new truck technologies including hybrids, and alternative fuels.

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Together with the Port of Long Beach, the Port of Los Angeles has entered into an agreement with Pacific Harbor Lines (PHL) to replace sixteen of PHL’s existing switcher engines with newer Tier 2 rail load locomotives. PHL will also be testing a hybrid and a LNG locomotive.

The plan also includes a monitoring network to provide a feedback mechanism on air quality measures. The program will monitor ambient PM and meteorological conditions to ensure the larger Clean Air Action Plan achieves air quality goals.

As part of plan development, the Port is working closely with AQMD and CARB to ensure draft measures meet local and regional air quality and public health goals. The Port expects to present the draft plan to the Board for approval in late Spring 2006.

Details of the proposed Port of Los Angeles plan are listed in Table 5.

Table 5
Port of Los Angeles Clean Air Program

<table>
<thead>
<tr>
<th>Control Measures for Ocean-Going Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel Speed Reduction – A voluntary program under which vessels are slowed within an agreed-upon distance from the port, reducing emissions of NOx.</td>
</tr>
<tr>
<td>Alternative Maritime Power – a program for ships to use shore power instead of fuel-burning auxiliary engines while at berth (also known as cold-ironing).</td>
</tr>
<tr>
<td>Auxiliary Engine Fuel Improvement Program – a program to encourage or require the use of progressively lower sulfur fuel (i.e., marine diesel oil) in auxiliary engines of ocean-going vessels at they approach the port.</td>
</tr>
<tr>
<td>Main Engine Fuel Improvement Program – a program to encourage or require the use of lower sulfur fuel in main engines of ocean-going vessels at they approach the port. This measure may be superseded by the implementation of a Sulfur Emission Control Area (SECA) by the U.S. EPA and the IMO.</td>
</tr>
<tr>
<td>Low Emission Main Engines – a program to encourage the development and use of low emission main propulsion engines (i.e., Blue-Sky series/Category 3 engines) for marine vessels calling at the port.</td>
</tr>
<tr>
<td>Reroute cleanest ships – a program to encourage or require ship operators to use their newest/lowest emitting vessels calling at the port.</td>
</tr>
<tr>
<td>Control Measures for Harbor Craft</td>
</tr>
<tr>
<td>Biofuels for Harbor Craft – a program to encourage or require the use of biofuels in harbor craft operating in Los Angeles Harbor.</td>
</tr>
<tr>
<td>China Shipping Settlement Air Quality Mitigation Measures for Harbor Craft – Existing measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including repowering/retrofitting harbor craft main and auxiliary engines. Funding for these measures comes from the China Shipping Settlement.</td>
</tr>
<tr>
<td><strong>Control Measures for Cargo Handling Equipment</strong></td>
</tr>
<tr>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Alternative-Fuel Equipment – a program to replace existing diesel-fueled cargo handling equipment with equipment powered by alternative fuels or electricity.</td>
</tr>
<tr>
<td>China Shipping Air Quality Mitigation Measures for Cargo Handling Equipment – Existing measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including replacing cargo handling equipment with low emission alternatives. Funding for these measures comes from the China Shipping Settlement.</td>
</tr>
<tr>
<td>Alternative Fuel Infrastructure for Cargo Handling Equipment – Installation of liquefied natural gas (LNG) refueling terminal within the port to support the use of LNG-powered cargo handling equipment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Control Measures for Railroad Locomotives</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Harbor Line (PHL) Modernization – a voluntary program initiated by the port (in conjunction with the PHL and the Port of Long Beach) to modernize PHL switcher locomotives and initiate the use of ultra-low sulfur diesel (ULSD) fuel.</td>
</tr>
<tr>
<td>Idling Controls for Switcher and Line Haul Locomotives – a program to encourage or require the installation of idling controls on switcher and line haul locomotives operating in the port. Idling controls automatically shut off engines after pre-set lengths of time at rest.</td>
</tr>
<tr>
<td>Electrification of Alameda Corridor and Alameda Corridor East – a measure to encourage and facilitate the conversion of the Alameda Corridor and related rail infrastructure from diesel power to electric.*</td>
</tr>
<tr>
<td>Locomotive Technology Replacements – a measure to research and encourage the development of low emission alternatives to diesel locomotive power, including magnetic levitation*, alternative fuels, fuel cells, and fueled/electric hybrids.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Control Measures for Heavy-Duty Vehicles</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Road Heavy Duty Truck Alternative Fuels Program – a program to encourage and facilitate replacement of diesel trucks with alternative fueled trucks (i.e., LNG and hydrogen). The primary mechanisms will be through the existing Gateway Cities truck modernization program, a fleet-based program, and support of the California Hydrogen Highway program. The fleet-based program may include recruitment of existing fleet operators to switch to LNG, recruitment of a company that owns trucks to lease LNG vehicles, or purchase of the LNG trucks by the port, which would then lease them directly to operators.</td>
</tr>
<tr>
<td>Alternative Fuel Infrastructure for Heavy Duty Vehicles (HDVs) – installation of LNG refueling stations within the port and greater Los Angeles area to support the use of LNG-powered on-road trucks. In addition, installation of a hydrogen fueling station within the port to support the implementation of the California Hydrogen Highway program.</td>
</tr>
</tbody>
</table>

*For purposes of this document, these strategies are considered “long term” proposals, i.e., longer than ten years.
2.7 The State Goods Movement Action Plan and the California Air Resources Board Emission Reduction Plan

The Schwarzenegger Administration is developing a statewide plan for goods movement capacity expansion, environmental and community mitigation, and goods movement-related homeland security and public safety enhancements. This effort is based on the concepts that “the state’s economy and quality of life depend upon the efficient, safe delivery of goods to and from our ports and borders. At the same time, the environmental impacts from goods movement activities must be reduced to ensure protection of public health.”

The mission of the state’s goods movement plan is to improve and expand California’s goods movement industry and infrastructure in a manner that will:

- Generate jobs.
- Increase mobility and relieve traffic congestion.
- Improve air quality and protect public health.
- Enhance public and port safety.
- Improve California’s quality of life.

The Plan is being developed in two phases with a broad cross-section of stakeholders, including industry, environmental and community public health groups, and governmental organizations. Phase I of the Plan, entitled Goods Movement Action Plan (GMAP), Phase I: Foundations, was released in September 2005. It identifies growth trends, illustrates four “port-to-border” transportation corridors, inventories infrastructure projects being planned or underway, estimates environmental and community impacts, describes general mitigation approaches, and raises key aspects of public safety and homeland security issues.

To expand stakeholder participation in developing the Goods Movement Action Plan – Phase II, the Administration created a broad-based Integrating Working Group, co-chaired by the Agency Secretaries from the Business, Transportation & Housing Agency (BT&H) and the California Environmental Protection agency (Cal/EPA). The Phase II Plan will address capacity expansion, environmental and community mitigation, goods movement-related homeland security and public safety, and funding for these efforts.

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2 Ibid.
GMAP development includes the input of five supporting working groups and a separate CARB Emission Reduction Plan development effort described below. The five working groups are:

1) Infrastructure  
2) Innovative Finance and Alternative Funding  
3) Community Impact Mitigation and Workforce Development  
4) Public Health and Environmental Mitigation, and  

BT&H and Cal/EPA released the latest version of a Progress Report on the Phase II Plan on March 24, 2006.\(^\text{10}\) The report incorporates input from each of the working groups – as well as from the draft CARB Emission Reduction Plan – to provide a framework for future actions the Governor and the legislature can take to enhance California’s position as a goods movement and environmental leader. There will be additional opportunities for public comment and revisions during 2006.

The CARB staff has released a Proposed Emission Reduction Plan for Ports and International Goods Movement in California\(^\text{11}\) that identifies statewide strategies to further reduce emissions and the associated health risk. CARB staff expects to release a revised draft in late March 2006 and present it to the CARB Board for approval in April 2006.

The draft CARB plan provides an assessment of the health impacts from ports and international goods movement, emission inventory, emission reduction targets and strategies, and an assessment of benefits, costs, and funding needs. The plan describes new emission reduction strategies for ocean-going ships, commercial harbor craft, and cargo handling equipment used at ports and intermodal rail yards, as well as trucks and locomotives used to move imports and exports. The basic strategies to reduce emissions include regulatory actions, incentive programs, lease agreements, careful land use decisions, and voluntary actions. Since authority over port-related sources is not concentrated at any single level of government, the plan also discusses the need for local, state, federal and international cooperation – particularly with respect to transforming the ocean-going ship fleet to cleaner technology and lower emitting fuels.

The goals of the plan are: to cut port and international goods movement-related emissions back to 2001 levels no later than 2010, to continuously reduce emissions thereafter until ambient air quality standards are met and community impacts are mitigated, and to reduce the statewide health risk from diesel particles 85 percent by 2020. Table 6 provides a list of strategies identified in the draft CARB report to reduce emissions from ports and international goods movement operations. It should be noted that in Table 6, a status of “new” indicates that the suggested strategy has not yet been adopted or implemented.

\(^{10}\) http://www.arb.ca.gov/gmp/gmp.htm.  
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Status (Adopted or New Strategy)</th>
<th>Implementation Could Begin By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel Speed Reduction Agreement for Southern California</td>
<td>2001</td>
<td>✓</td>
</tr>
<tr>
<td>U.S. EPA Main Engine Emission Standards</td>
<td>2003</td>
<td>✓</td>
</tr>
<tr>
<td>U.S. EPA Non-Road Diesel Fuel Rule</td>
<td>2004</td>
<td>✓</td>
</tr>
<tr>
<td>Cleaner Marine Fuels</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Emulsified Fuels</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Expanded Vessel Speed Reduction Programs</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Install Engines with Emissions Lower than IMO Standards in New Vessels</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Dedicate the Cleanest Vessels to California Service</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Shore Based Electrical Power</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Extensive Retrofit of Existing Engines</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Highly Effective Controls on Main Engines and Existing Engines</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Sulfur Emission Control Area (SECA)</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Expanded Use of Cleanest Vessels in California Service</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Expanded Shore Power and Alternative Controls</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Full Use of Cleanest Vessels in California Service</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Maximum Use of Shore Power or Alternative Controls</td>
<td>New</td>
<td>✓</td>
</tr>
</tbody>
</table>

**SHIPS**

**COMMERCIAL HARBOR CRAFT**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Status (Adopted or New Strategy)</th>
<th>Implementation Could Begin By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives for Cleaner Engines</td>
<td>2001-2005</td>
<td>✓</td>
</tr>
<tr>
<td>ARB Low Sulfur Diesel Fuel Rule</td>
<td>2004</td>
<td>✓</td>
</tr>
<tr>
<td>ARB Rule to Clean Up Existing Engines</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Shore Based Electrical Power</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>New Engine Emission Standards</td>
<td>New</td>
<td>✓</td>
</tr>
<tr>
<td>Strategy</td>
<td>Status (Adopted or New Strategy)</td>
<td>Implementation Could Begin By</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>CARGO HANDLING EQUIPMENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARB Low Sulfur Diesel Fuel Rule</td>
<td>2003</td>
<td>✔</td>
</tr>
<tr>
<td>ARB/U.S. EPA Tier 4 Emission Standards</td>
<td>2004</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Stationary Diesel Engine Rule</td>
<td>2004</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Portable Diesel Equipment Rule</td>
<td>2004</td>
<td>✔</td>
</tr>
<tr>
<td>Incentives for Cleaner Fuels</td>
<td>2001-2005</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Rule for Diesel Cargo Handling Equipment</td>
<td>New (2005)</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Rule for Gas Industrial Equipment</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>Upgrade to 85% Diesel PM Control or Better</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>Zero or Near Zero Emission Equipment</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td><strong>TRUCKS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Replacement Incentives</td>
<td>2001-2005</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Low Sulfur Diesel Fuel Rule</td>
<td>2003</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Smoke Inspections for Trucks in Communities</td>
<td>2003</td>
<td>✔</td>
</tr>
<tr>
<td>Community Reporting of Violators</td>
<td>2005</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Truck Idling Limits</td>
<td>2002-2005</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Low NOx Software Upgrade Rule</td>
<td>2005</td>
<td>✔</td>
</tr>
<tr>
<td>ARB Private Truck Fleets Rule</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>Port Truck Modernization</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>Enhanced Enforcement of Truck Idling Limits</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td><strong>LOCOMOTIVES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARB Low Sulfur Diesel Fuel Rule</td>
<td>2004</td>
<td>✔</td>
</tr>
<tr>
<td>ARB 2005 Agreement with Railroads to Cut PM Statewide</td>
<td>2005</td>
<td>✔</td>
</tr>
<tr>
<td>Upgrade Engines in Switcher Locomotives</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>Retrofit Diesel PM Control Devices on Existing Engines</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>Use of Alternative Fuels</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>More Stringent National Requirements</td>
<td>New</td>
<td>✔</td>
</tr>
<tr>
<td>Concentrate Tier 3 Locomotives in California</td>
<td>New</td>
<td>✔</td>
</tr>
</tbody>
</table>
2.8 South Coast Air Quality Management District’s Clean Port Initiative

In 2005 Dr. William A. Burke, Chairman of the SCAQMD Governing Board, announced his Clean Port Initiative, which includes seven major recommendations, as shown below:

1. I am calling for a Clean Port Summit meeting between myself, Los Angeles Board of Harbor Commissioners President S. David Freeman and Port of Long Beach Commission President Doris Topsy-Elvord to discuss development and coordination of fast-track measures that we can pursue now to reduce air pollution.

2. I am calling on the ports to accelerate their efforts to reduce their air pollution, using their clear legal authority and technical knowledge of their operations. However, if the ports do not act aggressively and in a timely, coordinated manner to significantly reduce their emissions, I will ask AQMD staff to develop regulations to the maximum extent of its authority to control port sources, including ocean-going ships.

3. In recent months the AQMD has used its authority under the California Environmental Quality Act to ensure that air quality impacts of goods movement projects are fully analyzed and mitigated. A prime example of this was AQMD’s comments last year on the proposed expansion of Pier J here in Long Beach. As a result of AQMD’s analysis, the project is being thoroughly re-examined with an eye to reducing its diesel emissions. Starting next year, I am directing staff to prepare a monthly report to the public describing environmental impact reports and other CEQA documents for projects related to goods movement. I want the public and decision-makers to have a clear picture of the cumulative effect of all such projects that may lead to greater use of diesel engines. Finally, I request the AQMD staff to make full use of the CEQA process for such projects to ensure that their impacts are thoroughly mitigated.

4. I would like AQMD staff to work with the ports to conduct air quality monitoring, not only outside of the boundaries of the ports, but also within port terminals. Considerable numbers of truckers, dock workers and others breathe the air within the ports. They are the closest to many emissions sources and we should assess the pollution impacts they face.
5. I am calling on the U.S. Environmental Protection Agency to adopt strict emission standards for marine vessels. If EPA fails to do so, AQMD will ask California’s Congressional delegation to sponsor legislation or take other action to force EPA to take aggressive action.

6. Focusing on the top three busiest ports in Asia, I would like AQMD staff to develop a proposal for corresponding emission reduction measures here and at those Asian ports. I would then like AQMD to coordinate an international summit with Asian port officials to discuss how to implement these measures.

7. Finally, I would like AQMD to call on the state Legislature in 2006 to adopt a shipping-container fee or some other mechanism that is sufficient to fund cleanup at the ports.

At its January 2006 meeting the SCAQMD Board approved a work plan of actions to implement the Clean Port Initiative. The SCAQMD staff has begun the process of developing rules and taking other actions to implement the work plan. Staff expects full implementation by mid 2007.

Air quality monitoring in the harbor area is one specific recommendation that is already being implemented by the two ports; the Port of Los Angeles has been conducting air quality monitoring for one year, and the Port of Long Beach Board of Harbor Commissioners gave approval for a three-year program in December 2005. Only one air quality monitoring station is currently in operation along the entire I-710 Corridor.

2.9 Natural Resources Defense Council and Coalition for Clean Air: Recommended Strategies

In August of 2004, the Natural Resources Defense Council (NRDC) and the Coalition for Clean Air (CCA) published a report called Harboring Pollution: Strategies to Clean Up U.S. Ports. The report discusses solutions to port pollution problems and provides additional information on the health and environmental impacts of port operations. The report also provides recommendations to port operators, regulatory agencies, and community-based environmental and health advocates. Air quality-related recommendations to ports are listed in Table 7. Air quality-related recommendations to policymakers and regulators are listed in Table 8.

---

<table>
<thead>
<tr>
<th><strong>Marine Vessels (Oceangoing Vessels and Harbor Craft)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean up harbor craft, such as tugboats, through engine repower and retrofit programs.</td>
</tr>
<tr>
<td>Limit idling of oceangoing vessels and tugboats by providing electric power at docks and requiring ships and tugboats to “plug in” to shoreside power while at berth.</td>
</tr>
<tr>
<td>Require ships, including oceangoing vessels, to use the cleanest grade of diesel fuel possible, with a sulfur content of 15 to 2,000 parts per million.</td>
</tr>
<tr>
<td>Where possible, create incentives for, or otherwise promote the use of, emission controls on oceangoing vessels.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cargo Handling Equipment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Retire equipment that is ten or more years old and replace it with the cleanest available equipment and fuel choices, preferably alternative fuels.</td>
</tr>
<tr>
<td>Retrofit existing equipment less than ten years old to run on the best available control technology, including diesel particulate filters (DPFs) with lean NOx catalysts (LNCs) and, if not feasible, with diesel oxidation catalysts (DOCs).</td>
</tr>
<tr>
<td>Switch to cleaner diesel fuels, such as low-sulfur fuel with sulfur content less than 15 parts per million and diesel emulsions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Locomotives</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Repower or replace all switching locomotives that do not meet the Environmental Protection Agency (EPA) Tier 0 Standards with electric-hybrid or alternative-fuel engines.</td>
</tr>
<tr>
<td>Install engine emissions controls where possible.</td>
</tr>
<tr>
<td>Require automatic engine shutoff controls to minimize unnecessary idling.</td>
</tr>
<tr>
<td>Commit to using cleaner fuels, such as on-road grade diesel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>On-Road Trucks</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Create incentive programs that encourage fleet modernization, the retirement of older trucks, and their replacement with modern lower-emitting trucks.</td>
</tr>
<tr>
<td>Offer incentives for the installation of pollution controls, including DPFs with LNCs or, if not feasible, with DOCs.</td>
</tr>
<tr>
<td>Make cleaner fuels, such as diesel emulsions or low-sulfur diesel, available to off-site trucks.</td>
</tr>
<tr>
<td>Minimize truck idling by enforcing idling limits or by installing idle shutoff controls.</td>
</tr>
</tbody>
</table>
### Marine Vessels

The U.S. government should officially ratify MARPOL Annexes IV and VI (an international treaty that prevents sewage pollution and sets emissions standards for ships) and the Antifouling Systems Convention, which bans toxic chemical coatings on ship hulls.

The EPA should expedite efforts to establish the entire East, West, and Gulf coasts as control zones subject to stricter emission standards until MARPOL VI.

The EPA should implement a graduated harbor fee system similar to a program in Sweden that requires more polluting ships to pay higher fees upon entering a port.

The EPA should expedite implementation of stricter emission standards for all marine vessels within two years.

States and regional authorities should create financial incentives for the cleanup and replacement of older marine vessels.

States and regional authorities should require ships to plug in to shoreside power while docked.

States should require that ships use low-sulfur diesel while in coastal waters and at berth (until electric power is made available). In the absence of state action, regional authorities should require this.

Regional authorities should monitor and enforce ship speed limits.

### On-road and Non-road vehicles

The EPA must follow through with full implementation of its 2007 emissions standards for on-road, heavy-duty trucks, its 2008 emissions standards for nonroad vehicles and equipment; and the related lower sulfur diesel requirements.

The EPA should adopt a series of diesel retrofit rules, similar to those proposed in the California risk reduction program, to establish a cleanup schedule for existing polluting diesel engines. In the absence of federal action, states or local authorities should adopt these programs.

The EPA should set uniform federal idling limits for all diesel engines. In the absence of federal action, state or local authorities should require idling limits.

States should provide incentive programs to reduce pollution from heavy-duty diesel engines, similar to programs such as California’s Carl Moyer and Gateway Cities; in the absence of state action, regional authorities should sponsor such programs.

Regional authorities should adopt fleet rules to clean up and require new, cleaner purchases of all heavy-duty engines, similar to those in place in the Los Angeles area.

### Inland Cargo Transport

The EPA and individual states should consider fees on each container entering a port to provide funding for mitigation of the environmental impacts of moving those containers.

The U.S. government should adopt and support a sustainable transportation system program, similar to the European Union program facilitating the shift of cargo transport from more polluting modes (such as trucking) to cleaner locomotive and barge transport.
<table>
<thead>
<tr>
<th>Locomotives</th>
</tr>
</thead>
<tbody>
<tr>
<td>The EPA should implement stricter emission standard for locomotives within one year.</td>
</tr>
<tr>
<td>States and regional authorities should also create financial incentives for the cleanup and replacement of older locomotives.</td>
</tr>
<tr>
<td>States should negotiate memorandums of understanding that create incentives for cleaner locomotives. In the absence of state action, regional authorities should pursue this.</td>
</tr>
</tbody>
</table>

(It is noted that proposals above for container fees are funding measures rather than independent air quality strategies.)

3.0 Next Steps

Once the Request for Proposals for the I-710 EIR/EIS has been issued and a team of consultants is selected, the detailed planning and design can move forward. This work, including identification of detailed mitigation strategies for cleaning the air, will be undertaken concurrently with the development by the Gateway Cities COG Air Quality Action Plan.

The Air Quality Plan will draw upon the compendium of strategies identified in this report, but will include detailed implementation strategies and funding arrangements for the most promising high-priority strategies for reducing emissions in the corridor.
Exhibit 1

Action of the Los Angeles County Metropolitan Transportation Authority at its Regular Board Meeting of January 27, 2005 with Regard to the I-710 Major Corridor Study

A. Adopt the Draft Final Report on the I-710 Major Corridor Study between the Ports of Los Angeles/Long Beach and SR-60 Pomona Freeway; and

B. Authorize the Chief Executive Officer to proceed with the preparation of a scope of work and funding plan that will include funding commitments from multiple partners for the environmental phase of the project pursuant to the Major Corridor Study’s Locally Preferred Strategy and use input from the I-710 Community Advisory Committees in the environmental scoping process. The scope of work should also include assessment of impact to the I-710/SR-60 interchange and evaluation of alternative project delivery methods.

As amended by Burke-Molina motion:

1) Adopt the Draft Final Report on the I-710 Major Corridor Study;

2) Direct MTA staff to report back to the Board with the results of the East Los Angeles Mini-study and that results be included into the Locally Preferred Strategy prior to initiating scoping for the EIR/EIS;

3) Receive the Tier II Report to be accepted and utilized as pre-scoping guidance for the EIR/EIS; and

4) Direct the MTA CEO, with the assistance of our state and federal advocates, to work with the appropriate governmental and non-governmental agencies to form a multi-jurisdictional entity to coordinate the appropriate aspects of the project, including identification of a funding plan with funding sources from multiple partners; and upon formation, the multi-jurisdictional partnership be tasked with identifying strategies for achieving near-term improvements to the corridor’s air quality and that the strategies be identified prior to initiation of the EIR/EIS request for proposals.
## EXHIBIT 2
### I-710 FREEWAY CORRIDOR
### SUMMARY
### OF EXISTING AIR QUALITY PROGRAMS

<table>
<thead>
<tr>
<th>Air Quality Program</th>
<th>Implementation Time Frame</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tier 2 CAC Recommendations Health and Air Quality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop an action plan to improve air quality in the corridor, including the following steps:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Establishing a baseline of current levels of pollution from each contributing source using the best available technology.</td>
<td>✓</td>
<td>AQMD-AQMP (2007)</td>
</tr>
<tr>
<td>• Identify the level of air quality impacts from increasing trucking, rail, and shipping.</td>
<td>✓</td>
<td>GCCCOG-AQAP (Not initiated)</td>
</tr>
<tr>
<td>• Determine the approximate costs of health care that can be traced to the differential levels of air pollution to be encountered by corridor community members as a result of the construction effort, if it goes forward as envisioned.</td>
<td>✓</td>
<td>GCCCOG-AQAP (Not initiated)</td>
</tr>
<tr>
<td>• Study the direct and indirect health and other economic costs on communities and the region caused by global trade and its associated pollution impacts.</td>
<td>✓</td>
<td>GCCCOG-AQAP (not initiated) &amp; GCCCOG Economic Analysis (Not initiated)</td>
</tr>
<tr>
<td>Implement a corridor level action plan to improve community air quality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Use enforcement, truck inspections and incentives to control emissions.</td>
<td>✓ ✓</td>
<td>GCCCOG &amp; CT/CIIP (initiated CCO Safety Initiative but no progress due to lack of funding)</td>
</tr>
<tr>
<td>• Require air quality improvements in port operation as a condition of project approval.</td>
<td></td>
<td>No Program</td>
</tr>
<tr>
<td>• Encourage the development and expansion of fleet modernization clean air programs.</td>
<td>✓</td>
<td>GCCCOG Clean Air Program (373 trucks replaced)</td>
</tr>
<tr>
<td>• Levy fees on containers to fund environmental improvements and community programs to address hidden costs attributable to goods movement impacts including:</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• Health care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Alternative fuels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Improvements to construction of I-710 infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identification of the corridor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Develop infrastructure that quantifies emission reductions:</td>
<td>✓</td>
<td>POLB/POLA establishing additional air monitoring stations with in ports (2007-08); no other programs established along I-710</td>
</tr>
<tr>
<td>• Permanent monitoring stations to measure emissions levels in the corridor</td>
<td>✓</td>
<td>No Program</td>
</tr>
<tr>
<td>Develop and implement improved air quality monitoring techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(implement local alternative fuels/ electrification and/or hydrogen policies and programs to reduce diesel)</td>
<td></td>
<td>No Program</td>
</tr>
<tr>
<td>• Make the use of alternative fuels a priority</td>
<td></td>
<td>No Program</td>
</tr>
<tr>
<td>• Discourage the use of out-of-state fuel</td>
<td></td>
<td>No Program</td>
</tr>
<tr>
<td>• All trucks, regardless of origin, must be subject to local, state and federal standards</td>
<td></td>
<td>No Program</td>
</tr>
<tr>
<td>• Require all trucks using the truck lanes on the I-710 to use alternative fuels as defined above, or pollution controls which achieve equal or better results.</td>
<td>✓</td>
<td>CARB Programs underway (no particular fuel required)</td>
</tr>
<tr>
<td>• Require all railroad locomotives servicing two ports, or any rail yards connected with port container traffic, to use alternative fuels as defined above, or pollution controls which achieve equal or better results.</td>
<td>✓</td>
<td>No Program</td>
</tr>
<tr>
<td>• Require the Alameda Corridor Authority to prepare a plan to electrify all locomotives involved in its operations.</td>
<td></td>
<td>No Program</td>
</tr>
<tr>
<td>Pursue opportunities for incremental improvements:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Benefit schools, homes and parks to increase protection from noise and pollution.</td>
<td>✓</td>
<td>I-710 EIR (2006-09)</td>
</tr>
<tr>
<td>• Identify location and develop facility for one-stop truck inspection.</td>
<td>✓</td>
<td>GCCCOG CCO Initiative (underway) (no progress due to lack of funding)</td>
</tr>
<tr>
<td>• Provide incentives for businesses to accept off-peak deliveries.</td>
<td>✓</td>
<td>PIER PA35 (started B5)</td>
</tr>
<tr>
<td>• Create programs to assist truck owners with engine/equipment upgrades and retrofits</td>
<td>✓</td>
<td>GCCCOG Clean Air Program (underway) (373 trucks replaced to date)</td>
</tr>
</tbody>
</table>
## EXHIBIT 2
### 1-710 FREEWAY CORRIDOR
### SUMMARY
### OF EXISTING AIR QUALITY PROGRAMS

<table>
<thead>
<tr>
<th>Air Quality Program</th>
<th>Implementation Time Frame</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-5 yr.</td>
<td>5-10 yr.</td>
</tr>
<tr>
<td>Restrict Port-generated traffic on 1-710 until improved fuels program or other pollution mitigation programs are implemented</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Provide landscaping, specifically including tree planting, to improve air quality.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Implement Port-specific strategies.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Require ports to develop plans to electrify other terminal operations as a priority.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Require all rubber tire gantry cranes to be electrified.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Require all ships docking at the Ports of Los Angeles and Long Beach to shut down all diesel engines and use shore electric power.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Require the ports to expedite development of effective pollution controls for ships.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Make mandatory the proposal of CARB to require that ships entering the coastal waters of California switch to low sulfur diesel fuel. Require the ports to provide financial subsidy if necessary to implement this requirement.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Include trucks, trains and rail yards, marine vessels, and port equipment in clean air initiatives.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Require all terminal equipment at the ports to operate on alternative fuel as defined by CARB. This includes Liquid Petroleum Gas, Compressed Natural Gas, or Liquid Natural Gas. As an alternative, require all engines to be equipped with pollution control technology, which achieves equal or less emissions.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Establish a fund that shippers must pay into that provides rebates to those that adopt the use of clean air engines for vehicles. Ensure that this program accomplishes the goals of decreasing pollution rather than a pay-to-pollute program.</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Gateway Cities Council of Governments

#### Clean Air Program
- Eliminate any additional older (pre-1994) diesel trucks into the Gateway Cities area
- Incorporate Level III PM retrofit devices on all replacement trucks as soon as ultra-low sulfur diesel fuel becomes widely available

### Safety Action Initiatives
- Truck Inspection and Weighing Facilities
- Intelligent Transportation Systems (ITS) Technology

### Ports/ACTA Truck Trip Reduction Program
- Virtual Container Yard - Reduces # of empty container trucks
- Extended Gate Hours - Spreads truck traffic over more hours
- Increased On-Deck Rail - Reduces # of truck trips to rail yards
- New Near Dock Rail Yard - Shortens truck trips to rail yards
- Shuttle Trains - Reduces # of truck trips to local warehouses
- SR-47 Viaduct - Provide Alternative truck route
- Implemented ’06
- PIKE-FASS initiated
- Off-peak usage has increased from 16% to 21% from 2003 to 2005. Ports are completing Rail Master Plan in ’06
- BNSF & UP initiated planning and environmental process (’06)
- ACTA studied (on hold)
- ACTA performing studies & preparing environmental documents
<table>
<thead>
<tr>
<th>Air Quality Program</th>
<th>Implementation Time Frame</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part of Long Beach (Green Port Policy)</strong></td>
<td>0-5 yr.</td>
<td>5-10 yr.</td>
</tr>
<tr>
<td><strong>Control Measures for Ocean-going Vessels</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Vessel Speed Reduction (Green Flag Program) – voluntary, incentivized program requiring ships to slow to 12 knots at a distance of 20 miles from Point Fermin.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• Shore power – the Port has committed to a goal of providing shore power to all new and existing container terminals. The Port’s ultimate goal is to have 100% of vessels at existing container terminals plug in once the infrastructure has been retrofitted, and the world’s fleet has been made shore power capable. In the interim, shore power is being incorporated into new leases that specify targets for vessel compliance and selected existing berths are being retrofitted with shore power.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>• Retrofit/Re-power Requirements for Inhouse Callers – Port lease language will require the use of exhaust controls or clean fuels in the auxiliary engines of vessels that do not use shore power.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• Main Engine Fuel Improvement – the Port is considering incentives as part of the Green Flag Program for the use of low-sulfur (initially 1.5%) diesel or equivalent.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>• Auxiliary Engine Fuel Improvement – lease language will require the use of fuel with 0.2% or lower sulfur content or equivalent, or exhaust gas treatment, in auxiliary engines while at berth.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• Vessel Smoke Stack Emission Reduction – POLB Security will continue to issue warnings and citations to vessels in order to eliminate excess smoke and reduce vessel emissions while at berth.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• West Coast Sulphur Emission Control Area (SECA) – in January 2005, the Long Beach Board of Harbor Commissioners adopted a resolution urging the United States to ratify Annex VI of the International Convention for the Prevention of Marine Pollution from Ships (MARPOL). Annex VI, adopted in 1997, entered into force on May 19, 2005 and sets limits on sulfur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone-depleting substances. Annex VI calls for a global cap of 4.5% m/m on the sulfur content of fuel oil and calls on IMO to monitor the worldwide sulfur content of fuel.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Control Measures for Harbor Craft</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The Port will replace or re-power, or convert to cleaner fuels, survey boats and other Port-owned harbor craft.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Control Measures for Cargo Handling Equipment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Yard Tractor Modernization &amp; Alternative Diesel Fuel Programs – lease language will commit tenants to meet contemporary CARB and EPA emission standards in new equipment, use clean fuels in existing equipment and retire older equipment.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• Enhanced Cargo Handling Modernization – lease language will require accelerated replacement of terminal equipment with equipment meeting future off-road standards for diesel engines.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>• Diesel Emissions Reduction Program – container terminal cargo handling equipment has been converted to exhaust controls and clean diesel fuel.</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Program begins in 2001. Board approved Green Flag Program in late 2005. Green Flags to be distributed in early 2006 to vessels that were 100% compliant through calendar year 2005. Vessels to receive 13% capacity increases based upon 2006 program compliance.

To be included in new lease negotiations; first lease which includes this requirement to be concluded in 2006. Shore side construction on Berth 1121 to be completed July 2007.

The Port is working with the Maritime Air Quality Working Group, a coalition of agencies and maritime interests, to test emission reduction technologies for cargo vessel main engines. The group is seeking to retrofit a vessel with a line fuel embitter and slide valves.

The Port supports the ratification of Annex VI through which a sulfur Emission Control Area can be created.

Through new and amended leases, require low sulfur distillate fuels in auxiliary engines while at berth.

Dependent on ratification of Marpol Annex VI and approval of subsequent application for SECA designation; SECA amendment to enter into force 26 months after adoption; POLB has expressed support for adoption of Marpol Annex VI.

Currently 2 fire boats running on ULSD, 1 survey boat operating on gasoline.

Through new and amended leases, the Port requires accelerated removals of cargo-handling equipment. The Port supports the adoption of alternative diesel fuels with over 300 pieces of equipment operating on alternative diesel fuels.

Through new and amended leases, the Port requires accelerated removal of cargo-handling equipment. The Port supports the adoption of alternative diesel fuels with over 300 pieces of equipment operating on alternative diesel fuels.

$2.1 million program to retrofit approximately 600 pieces of cargo handling equipment with diesel oxidation catalysts (DOCs).

<table>
<thead>
<tr>
<th>Air Quality Program</th>
<th>Implementation Time Frame</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Low Emission Marine Engines - a program to encourage the development and use of low emission marine propulsion engines (i.e., BlueSky series/Category 3 engines) for marine vessels calling at the port.</td>
<td>0-5 yr. 5-10 yr.</td>
<td>This is a long-term program, feasibility is being evaluated. Staff is meeting with engine manufacturers.</td>
</tr>
<tr>
<td>• Remote control ships - a program to encourage or require ship operators to use their newest/best emitting vessels calling at the port.</td>
<td>✓</td>
<td>This is part of the AMP &quot;high flyer&quot; program and Port Clean Air Program.</td>
</tr>
<tr>
<td>Control Measures for Harbor Craft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Biofuels for Harbor Craft - a program to encourage or require the use of biofuels in harbor craft operating in Los Angeles Harbor.</td>
<td>✓</td>
<td>Part of Port Clean Air Program</td>
</tr>
<tr>
<td>• China Shipping Settlement Air Quality Mitigation Measures for Harbor Craft - Existing measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including replacing retrofitting harbor craft main and auxiliary engines. Funding for these measures comes from the China Shipping Settlement.</td>
<td>✓</td>
<td>First round of solicitations completed. Second round has started.</td>
</tr>
<tr>
<td>Control Measures for Cargo Handling Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Alternative-Fuel Equipment - a program to replace existing diesel-fueled cargo handling equipment with equipment powered by alternative fuels or electricity.</td>
<td>✓</td>
<td>LNG pilot underway. Modifying diesel plan to phase in alternative fuel.</td>
</tr>
<tr>
<td>• China Shipping Air Quality Mitigation Measures for Cargo Handling Equipment - Existing measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including replacing cargo handling equipment with low-technology alternatives. Funding for these measures comes from the China Shipping Settlement.</td>
<td>✓</td>
<td>See harbor craft above.</td>
</tr>
<tr>
<td>• Alternative Fuel Infrastructure for Cargo Handling Equipment - Installation of liquefied natural gas (LNG) refueling terminal within the port to support the use of LNG-powered cargo handling equipment.</td>
<td>✓</td>
<td>Part of Port Clean Air Program in conjunction with AQMD</td>
</tr>
<tr>
<td>Control Measures for Railroad Locomotives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pacific Harbor Line (PHL) Modernization - a voluntary program initiated by the port (in conjunction with the PHL and the Port of Long Beach) to modernize PHL switching locomotives and initiate the use of ultra-low sulfur diesel (ULSD) fuel.</td>
<td>✓</td>
<td>Agreement approved. 16 new locomotives to be purchased in 2006</td>
</tr>
<tr>
<td>• Idling Controls for Switcher and Line haul Locomotives - a program to encourage or require the installation of idling controls on switcher and line haul locomotives operating in the port. Idling controls automatically shut off engines after pre-set lengths of time at rest.</td>
<td>✓</td>
<td>Part of PHL agreement for switch engines. PHL requires at new rail facilities at Port.</td>
</tr>
<tr>
<td>• Electrification of Alameda Corridor and Alameda Corridor East - a measure to encourage and facilitate the conversion of the Alameda Corridor and related rail infrastructure from diesel power to electric. *</td>
<td>✓</td>
<td>Involves re-evaluation of electrification study. Staff may also consider competing technologies (long-term program).</td>
</tr>
<tr>
<td>• Locomotive Technology Replacements - a measure to research and encourage the development of low-emission alternatives to diesel locomotive power, including magnetic levitation*, alternative fuels, fuel cells, and fuel/chemical hybrids.</td>
<td>✓</td>
<td>See previous comment above.</td>
</tr>
<tr>
<td>General Measures for Heavy-Duty Vehicles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• On-Road Heavy Duty Truck Alternative Fuels Program - a program to encourage and facilitate replacement of diesel trucks with alternative fueled trucks (i.e., LNG and hydrogen). The primary mechanisms will be through the existing Gateway Cities truck modernization program, a fleet-based program, and support of the California Hydrogen Highway program. The fleet-based program may include replacement of existing trucks that switch to LNG, recruitment of a company that owns trucks to issue LNG vehicles, or purchase of the LNG trucks by the port, which would then lease them directly to operators.</td>
<td>✓</td>
<td>Involves modification of Gateway Cities truck replacement program to phase in alternative fuel. With approval of Clean Air Program, would implement LNG truck fleet program.</td>
</tr>
<tr>
<td>• Alternative Fuel Infrastructure for Heavy Duty Vehicles (HDVs) - installation of LNG refueling stations within the port and greater Los Angeles area to support the use of LNG-powered on-road trucks. In addition, installation of hydrogen fueling stations within the port to support the implementation of the California Hydrogen Highway program.</td>
<td>✓</td>
<td>See LNG truck fleet comment above. May collaborate with AQMD on fueling stations.</td>
</tr>
</tbody>
</table>
## EXHIBIT 2
### I-710 FREEWAY CORRIDOR
#### SUMMARY
#### OF EXISTING AIR QUALITY PROGRAMS

<table>
<thead>
<tr>
<th>Air Quality Program</th>
<th>Implementation Time Frame</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Resources Defense Council (NRDC) and the Coalition for Clean Air (CCEA) Recommendations to Ports</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marine Vessels</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The U.S. government should officially ratify MARPOL Annexes IV and VI (an international treaty that prevents sewage pollution and new air emissions standards for ships) and the Anti-Pollution Convention, which bans toxic chemical coatings on ship hulls.</td>
<td>0-5 yr: with U.S. Senate</td>
<td></td>
</tr>
<tr>
<td>- The EPA should expedite efforts to establish the entire East, West, and Gulf coasts as control zones subject to stricter emission standards as required by MARPOL VI.</td>
<td>5-10 yr: Supported by both ports</td>
<td></td>
</tr>
<tr>
<td>- The EPA should implement a phased harbor fee system similar to a program in Sweden that requires more polluting ships to pay higher fees upon entering a port.</td>
<td>0 Program</td>
<td>Supported by both ports</td>
</tr>
<tr>
<td>- The EPA should expedite implementation of stricter emission standards for all marine vessels within two years.</td>
<td>5-10 yr: No Program</td>
<td>Supported by both ports</td>
</tr>
<tr>
<td>- States and regional authorities should create financial incentives for the cleanup and replacement of older marine vessels.</td>
<td>0 Program</td>
<td>AQMD</td>
</tr>
<tr>
<td>- States and regional authorities should require ships that plug in to shore power while docked.</td>
<td>0 Program</td>
<td>See POLA/PORLB</td>
</tr>
<tr>
<td>- States should require that ships use low-sulfur diesel while in coastal waters and at berth (vessel electric power in use). In the absence of state action, regional authorities should require this.</td>
<td>0 Program</td>
<td>Supported by both ports</td>
</tr>
<tr>
<td>- Regional authorities should monitor and enforce ship speed limits.</td>
<td>0 Program</td>
<td>EPA needs to implement</td>
</tr>
<tr>
<td><strong>On-road and nonroad vehicles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The EPA must follow through with full implementation of its 2007 emission standards for on-road, heavy-duty trucks, its 2008 emission standards for nonroad vehicles and equipment, and the related lower sulfur diesel requirements.</td>
<td>0 Program</td>
<td>GCOG Clean Air Program (373 Trucks replaced to date)</td>
</tr>
<tr>
<td>- The EPA should adopt a series of diesel retrofit rules, similar to those proposed in the California’s Diesel Reduction Program, to establish a cleanup schedule for existing polluting diesel engines. In the absence of federal action, states or local authorities should adopt these programs.</td>
<td>0 Program</td>
<td>CARB is addressing (regulations in place for trucks, no “agreement” in place for locomotive idling)</td>
</tr>
<tr>
<td>- The EPA should set uniform federal hauling limits for all diesel engines. In the absence of federal action, state or local authorities should require hauling limits.</td>
<td>0 Program</td>
<td>Needs to be addressed - no program</td>
</tr>
<tr>
<td>- States should provide incentive programs to reduce pollution from heavy-duty diesel engines, similar to programs such as California’s Clean Generation and Gateway Cities; in the absence of state action, regional authorities should sponsor such programs.</td>
<td>0 Program</td>
<td>Needs to be addressed - no program</td>
</tr>
<tr>
<td>- Regional authorities should adopt fleet rules to clean up and require new, cleaner purchases of all heavy-duty engines, similar to those in place in the Los Angeles area.</td>
<td>0 Program</td>
<td>EPA needs to implement - no program</td>
</tr>
<tr>
<td><strong>Inland cargo transport</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The EPA and individual states should consider fees or each container entering a port to provide funding for mitigation of the environmental impacts of moving these containers.</td>
<td>0 Program</td>
<td>No Program</td>
</tr>
<tr>
<td>- The U.S. government should adopt and implement a sustainable transportation system program, similar to the European Union program facilitating the shift of cargo transport from more polluting modes (such as trucking) to cleaner locomotive and barge transport.</td>
<td>0 Program</td>
<td>No Program</td>
</tr>
<tr>
<td><strong>Locomotives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The EPA should implement stricter emission standard for locomotives within one year.</td>
<td>0 Program</td>
<td>EPA needs to implement - no program</td>
</tr>
<tr>
<td>- States and regional authorities should also create financial incentives for the cleanup and replacement of older locomotives.</td>
<td>0 Program</td>
<td>BNSE/UP - purchasing new locomotives (56-72)</td>
</tr>
<tr>
<td>- States should negotiate memorandum of understanding that create incentives for cleaner locomotives. In the absence of state action, regional authorities should pursue this.</td>
<td>0 Program</td>
<td>See previous comment</td>
</tr>
</tbody>
</table>
APPENDIX H

COMPENDIUM OF EXISTING AND PROPOSED NEAR-TERM AIR QUALITY IMPROVEMENT STRATEGIES FOR THE I-710 CORRIDOR SEPTEMBER 2006
STATUS/UPDATE
of
EXISTING and PROPOSED
NEAR-TERM AIR QUALITY
IMPROVEMENT STRATEGIES

September, 2006
### STATUS/UPDATE

**Of**

**EXISTING and PROPOSED NEAR-TERM AIR QUALITY IMPROVEMENT STRATEGIES**

*September, 2006*

<table>
<thead>
<tr>
<th>Category</th>
<th>Program or Recommendation</th>
<th>Status</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>Establishing a baseline of current levels of pollution from each contributing source using the best available technology.</td>
<td></td>
<td>Ports' Emission Inventory Update</td>
</tr>
<tr>
<td>II</td>
<td>Identify the level of air quality impacts from increasing trucking, rail and shipping.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Determine the approximate costs of health care that can be traced to the differential levels of air pollution to be encountered by corridor community members as a result of the construction effort, if it goes forward as envisioned.</td>
<td></td>
<td>Health Risk Assessment - may not include costs</td>
</tr>
<tr>
<td>II</td>
<td>Study the direct and indirect health and other economic costs on communities and the region caused by global trade and its associated pollution impacts.</td>
<td></td>
<td>Health Risk Assessment - may not include costs</td>
</tr>
<tr>
<td>I</td>
<td>Use enforcement, truck inspections and incentives to control emissions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Require air quality improvements in port operation as a condition of project approval.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Encourage the development and expansion of fleet modernization clean air programs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Levy fees on containers to fund environmental improvements and community programs to address hidden costs attributable to goods movement impacts including:</td>
<td></td>
<td>State legislative bill pending</td>
</tr>
<tr>
<td></td>
<td>• Health care</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Alternative fuels</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Improvements/construction of I-710 infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Beautification of the corridor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Develop infrastructure that quantifies emission reductions; i.e., permanent monitoring stations to measure emissions levels in the corridor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Develop and implement improved air quality monitoring techniques.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Make the use of alternative fuels a priority.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Discourage the use of out-of-state fuel.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>All trucks, regardless of origin, must be subject to local, state and federal standards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Require all trucks using the truck lanes on the I-710 to use alternative fuels as defined above, or pollution controls which achieve equal or better results.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV, V</td>
<td>Require all railroad locomotives servicing two ports, or any rail yards connected with port container traffic, to use alternative fuels as defined above, or pollution controls which achieve equal or better results.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Require the Alameda Corridor Transportation Authority to prepare a plan to electrify all locomotives involved in its operations.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## STATUS/UPDATE

**OF**

**EXISTING and PROPOSED NEAR-TERM AIR QUALITY IMPROVEMENT STRATEGIES**

September, 2006

<table>
<thead>
<tr>
<th>Category*</th>
<th>Program or Recommendation</th>
<th>Status</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 2 Committee Recommendations on Health and Air Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Retrofit schools, homes and parks to increase protection from noise and pollution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Identify location and develop facility for one-stop truck inspection.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Provide incentives for businesses to accept off-peak deliveries.</td>
<td></td>
<td>No incentives but off-peak program in effect (PIER PASS)</td>
</tr>
<tr>
<td>I</td>
<td>Create programs to assist truck owners with engine/equipment upgrades and retrofits.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restrict port-generated traffic onto I-710 until improved fuels programs or other pollution emissions mitigation programs are implemented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Provide landscaping, specifically including tree planting, to improve air quality.</td>
<td></td>
<td>Caltrans implementing</td>
</tr>
<tr>
<td>IV</td>
<td>Require ports to develop plans to electrify other terminal operations as a priority</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Require all rubber-tired gantry cranes to be electrified.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Require all ships docking in the Ports of Los Angeles and Long Beach to shut down all diesel engines and use shore electric power.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Require the ports to expedite development of effective pollution controls for ships.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Make mandatory the proposal of CARB to require that ships entering the coastal waters of California switch to low sulfur diesel fuel. Require the ports to provide financial subsidy if necessary to implement this requirement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Include trucks, trains and rail yards, marine vessels, and port equipment in clean air initiatives.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Require all terminal equipment at the ports to operate on alternative fuel as defined by CARB. This includes Liquid Petroleum Gas, Compressed Natural Gas, or Liquid Natural Gas. As an alternative, require all engines to be equipped with pollution control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Establish a fund that shippers must pay into, that provides rebates to those who adopt the use of clean air engines for vehicles. Ensure that this program accomplishes the goals of decreasing pollution rather than a pay-to-pollute program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Program or Recommendation</td>
<td>Status</td>
<td>Comments</td>
</tr>
<tr>
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</tr>
<tr>
<td>(COG) Clean Air Program</td>
<td>While replacing 373 trucks is significant, there are thousands of older port drayage trucks that could be replaced. Additional funding and incentives -- as well as a firm schedule -- would be needed to increase the rate of replacement and to discourage</td>
<td></td>
<td>COG replaced 481 trucks to date</td>
</tr>
<tr>
<td>I,II,IV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(COG) Safety Action Initiative</td>
<td>Tracking of trucks that are registered in the Gateway Cities clean air program to ensure that they stay in the region. All trucks modified by Gateway Cities since mid-2005 are being equipped with GPS tracking devices for this very purpose.</td>
<td></td>
<td>Now in COG truck replacement program</td>
</tr>
<tr>
<td>I</td>
<td>records, allowing them to bypass roadside inspection and weigh facilities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Optimization of freeway routes leading to less congestion and improved air quality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ports/ACTA Truck-Related Impact by Strategy</td>
<td>Virtual Container Yard</td>
<td>Reduces # of empty container truck trips</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virtual Container Yard</td>
<td>Virtual Container Yard</td>
<td>Spreads truck traffic over more hours (PIER PASS)</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extended Gate Hours</td>
<td></td>
<td>Reduces # of truck trips to rail yards</td>
<td></td>
</tr>
<tr>
<td>IV,V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased On-Dock Rail</td>
<td></td>
<td>Shortens truck trips to rail yards</td>
<td></td>
</tr>
<tr>
<td>IV,V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Near-Dock Rail Yard</td>
<td></td>
<td>Reduces # of truck trips to local warehouses</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shuttle Trains</td>
<td></td>
<td>Provides alternative truck route</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR-47 Viaduct</td>
<td></td>
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</tr>
</tbody>
</table>
## Status/Update

**Of**

**Existing and Proposed Near-Term Air Quality Improvement Strategies**

September, 2006

<table>
<thead>
<tr>
<th>Category</th>
<th>Program or Recommendation</th>
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<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td><strong>Port of Long Beach Green Port Policy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vessel Speed Reduction (Green Flag Program) - voluntary, incentivised program requiring</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ships to slow to 12 knots at a distance of 20 miles from Point Fermin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Shore Power - the Port has committed to a goal of providing shore power to all new and</td>
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<td></td>
<td>existing container terminals; The Port's ultimate goal is to have 100% of vessels</td>
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<tr>
<td>IV</td>
<td>Retrofit/Re-power Requirements for Infrequent Callers - Port lease language will</td>
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<tr>
<td></td>
<td>require the use of exhaust controls or clean fuels in the auxiliary engines of vessels.</td>
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<tr>
<td>IV</td>
<td>Main Engine Fuel Improvement - the Port is considering incentives as part of the</td>
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<tr>
<td></td>
<td>Green Flag Program for the use of low-sulfur (initially 1.5%) diesel or equivalent.</td>
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<td>IV</td>
<td>Auxiliary Engine Fuel Improvement - lease language will require the use of fuel with</td>
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<td></td>
<td>0.2% or lower sulfur content or equivalent, or exhaust gas treatment, in auxiliary</td>
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<td></td>
<td>engines while ships are at berth.</td>
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<td>IV</td>
<td>Vessel Smoke Stack Emission Reduction - POLB Security will continue to issue</td>
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<tr>
<td></td>
<td>warnings and citations to vessels in order to eliminate excess smoke and reduce</td>
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<td>vessels emissions while at berth.</td>
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<td>IV</td>
<td><strong>West Coast Sulfur Emission Control Area (SECA)</strong> - in January 2005, the Long</td>
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<td></td>
<td>Beach Board of Harbor Commissioners adopted a resolution urging the United</td>
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<td></td>
<td>States to ratify Annex VI of the International Convention for the Prevention of Marine</td>
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<td>Pollution From Shi.</td>
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<td>IV</td>
<td>The Port will replace or re-power, or convert to cleaner fuels, survey boats and other</td>
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<td></td>
<td>Port-owned harbor craft.</td>
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<td>IV</td>
<td><strong>Yard Tractor Modernization &amp; Alternative Diesel Fuel Programs</strong> - lease language will</td>
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<tr>
<td></td>
<td>commit tenants to meet contemporary CARB and EPA emission standards in new equipment,</td>
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<td>use clean fuels in existing equipment and retire older equipment.</td>
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<td>IV</td>
<td><strong>Enhanced Cargo Handling Modernization</strong> - lease language will require accelerated</td>
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<td></td>
<td>replacement of terminal equipment with equipment meeting future off-road standards</td>
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<td>for diesel engines.</td>
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<td>IV</td>
<td><strong>Diesel Emissions Reduction Program</strong> - container terminal cargo handling equipment</td>
<td></td>
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<td></td>
<td>has been converted to exhaust controls and clean diesel fuel.</td>
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<tr>
<td>Category*</td>
<td>Program or Recommendation</td>
<td>Status</td>
<td>Comments</td>
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<tr>
<td>IV</td>
<td>Port of Long Beach Green Port Policy</td>
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<td></td>
<td>PHL Switcher Locomotive Modernization &amp; Emulsified Diesel Program - PHL rail locomotives are being replaced in 2007; use idle limiting devices; test DOCs.</td>
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<tr>
<td>IV</td>
<td>Ultra-Low Emission Switcher Locomotives - requires PHL to deploy Green Goat and LNG switchers.</td>
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<tr>
<td>IV</td>
<td>Idling Controls on Switcher &amp; Line Haul Locomotives - install controls on PHL equipment; Ports cannot install equipment on Class 1 line haul locomotives.</td>
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<tr>
<td>IV</td>
<td>ARB Diesel Fuel for Class 1 Locomotives - support of this measure would be part of the Green Port legislative agenda.</td>
<td></td>
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</tr>
<tr>
<td>I,IV</td>
<td>Gateway Cities Truck Modernization - subsidies are being considered by POLB to commercial truck owners that trade in their diesel trucks with older engines for models with newer, cleaner-burning engines.</td>
<td></td>
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<tr>
<td>I,IV</td>
<td>Retrofit Heavy-Duty Diesel Vehicles with Diesel Oxidation Catalysts (DOCs) or Diesel Particulate Filters (DPFs) - for future container terminal projects, the Port will require installation of exhaust controls on older trucks serving the terminal.</td>
<td></td>
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<td>V</td>
<td>Truck Idling Reduction Measures - the Port will require truck idling limits for on-road trucks within Port boundaries.</td>
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<tr>
<td>IV</td>
<td>Petroleum Coke Dust Control - the Port will continue to implement the Rule 1158 program aimed at reducing fugitive dust from petroleum coke operations.</td>
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<tr>
<td>IV</td>
<td>Electric Dredging - additional electrical receptacles will be placed around the Port to facilitate the switch to electric dredging; beginning in 2008, the Port will require all non-maintenance dredging to be conducted with electric equipment.</td>
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<tr>
<td>IV</td>
<td>Port Ride Share Program - the SCAQMD, under Rule 2202, requires employers of 250 or more employees to establish rideshare programs; the City of Long Beach developed a program in response to this requirement and the Port participated in the program; the City</td>
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<td>IV</td>
<td>Port of Los Angeles Clean Air Program</td>
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<td></td>
<td>Vessel Speed Reduction - A voluntary program under which vessels are slowed within an agreed-upon distance from the port, reducing emissions of NOx.</td>
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<td></td>
<td>Alternative Maritime Power - a program for ships to use shore power instead of fuel-burning auxiliary engines while at berth (also known as cold-ironing).</td>
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<td></td>
<td>Auxiliary Engine Fuel Improvement Program - a program to encourage or require the use of progressively lower sulfur fuel (i.e., marine diesel oil) in auxiliary engines of ocean-going vessels at they approach the port.</td>
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<td></td>
<td>Main Engine Fuel Improvement Program - a program to encourage or require the use of lower sulfur fuel in main engines of ocean-going vessels at they approach the port. This measure may be superseded by the implementation of a Sulfur Emission Control Area.</td>
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<tr>
<td>IV</td>
<td>Low Emission Main Engines - a program to encourage the development and use of low emission main propulsion engines (i.e., Blue-Sky series/Category 3 engines) for marine vessels calling at the port.</td>
<td></td>
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<tr>
<td>IV</td>
<td>Her route cleanest ships - a program to encourage or require ship operators to use their newest/lowest emitting vessels calling at the port.</td>
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<tr>
<td>IV</td>
<td>Biofuels for Harbor Craft - a program to encourage or require the use of biofuels in harbor craft operating in Los Angeles Harbor.</td>
<td></td>
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<tr>
<td>IV</td>
<td>China Shipping Settlement Air Quality Mitigation Measures for Harbor Craft - Existing measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including repowering/retrofitting harbor craft main and auxiliary engines.</td>
<td></td>
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<tr>
<td>IV</td>
<td>Alternative-Fuel Equipment - a program to replace existing diesel-fueled cargo handling equipment with equipment powered by alternative fuels or electricity.</td>
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<tr>
<td>IV</td>
<td>China Shipping Air Quality Mitigation Measures for Cargo Handling Equipment - Existing measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including replacing cargo handling equipment with low emission alternatives.</td>
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</table>
### Status/Update

**Of**

**Existing and Proposed Near-Term Air Quality Improvement Strategies**

September, 2006

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>IV</td>
<td>Port of Los Angeles Clean Air Program</td>
<td></td>
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<tr>
<td></td>
<td>Alternative Fuel Infrastructure for Cargo Handling Equipment - installation of liquefied natural gas (LNG) refueling terminal within the port to support the use of LNG-powered cargo handling equipment.</td>
<td></td>
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<tr>
<td>IV</td>
<td>Pacific Harbor Line (PHL) Modernization - a voluntary program initiated by the port (in conjunction with the PHL and the Port of Long Beach) to modernize PHL switcher locomotives and initiate the use of ultra-low sulfur diesel (ULSD) fuel.</td>
<td></td>
<td></td>
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<tr>
<td>IV</td>
<td>Idling Controls for Switcher and Line Haul Locomotives - a program to encourage or require the installation of idling controls on switcher and line haul locomotives operating in the port. Idling controls automatically shut off engines after pre-set length</td>
<td></td>
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<tr>
<td>IV</td>
<td>Electrification of Alameda Corridor and Alameda Corridor East - a measure to encourage and facilitate the conversion of the Alameda Corridor and related rail infrastructure from diesel power to electric.*</td>
<td></td>
<td></td>
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<tr>
<td>IV</td>
<td>Locomotive Technology Replacements - a measure to research and encourage the development of low emission alternatives to diesel locomotive power, including magnetic levitation*, alternative fuels, fuel cells, and fueled/electric hybrids.</td>
<td></td>
<td></td>
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<tr>
<td>IV</td>
<td>On-Road Heavy Duty Truck Alternative Fuels Program - a program to encourage and facilitate replacement of diesel trucks with alternative fueled trucks (i.e., LNG and hydrogen). The primary mechanisms will be through the existing Gateway Cities Truck mode</td>
<td></td>
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<tr>
<td>IV</td>
<td>Alternative Fuel Infrastructure for Heavy Duty Vehicles (HDVs) - installation of LNG refueling stations within the port and greater Los Angeles area to support the use of LNG-powered on-road trucks. In addition, installation of a hydrogen fueling station</td>
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<td>IV</td>
<td>Natural Resources Defense Council (NRDC) and the Coalition for Clean Air (CCA) Recommendations to Ports</td>
<td></td>
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<tr>
<td>IV</td>
<td>Clean up harbor craft, such as tugboats, through engine repower and retrofit programs.</td>
<td></td>
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<tr>
<td>IV</td>
<td>Limit idling of oceangoing vessels and tugboats by providing electric power at docks and requiring ships and tugboats to “plug in” to shoreside power while at berth.</td>
<td></td>
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<tr>
<td>IV</td>
<td>Require ships, including oceangoing vessels, to use the cleanest grade of diesel fuel possible, with a sulfur content of 15 to 2,000 parts per million.</td>
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<tr>
<td>IV</td>
<td>Where possible, create incentives for, or otherwise promote the use of, emission controls on oceangoing vessels.</td>
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<tr>
<td>IV</td>
<td>Retire equipment that is ten or more years old and replace it with the cleanest available equipment and fuel choices, preferably alternative fuels.</td>
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<tr>
<td>IV</td>
<td>Retrofit existing equipment less than ten years old to run on the best available control technology, including diesel particulate filters (DPFs) with lean NOx catalysts (LNCs) and, if not feasible, with diesel oxidation catalysts (DOCs).</td>
<td></td>
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<tr>
<td>IV</td>
<td>Switch to cleaner diesel fuels, such as low-sulfur fuel with sulfur content less than 15 parts per million and diesel emulsions.</td>
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<tr>
<td>IV</td>
<td>Repower or replace all switching locomotives that do not meet the Environmental Protection Agency (EPA) Tier 0 Standards with electric-hybrid or alternative-fuel engines.</td>
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<tr>
<td>IV</td>
<td>Install engine emissions controls where possible.</td>
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<td>IV</td>
<td>Require automatic engine shutoff controls to minimize unnecessary idling.</td>
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<td>IV</td>
<td>Commit to using cleaner fuels, such as on-road grade diesel.</td>
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<td>IV</td>
<td>Create incentive programs that encourage fleet modernization, the retirement of older trucks, and their replacement with modern lower-emitting trucks.</td>
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<td>IV</td>
<td>Offer incentives for the installation of pollution controls, including DPFs with LNCs or, if not feasible, with DOCs.</td>
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<td>IV</td>
<td>Make cleaner fuels, such as diesel emulsions or low-sulfur diesel, available to off-site trucks.</td>
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<td>IV</td>
<td>Minimize truck idling by enforcing idling limits or by installing idle shutoff controls.</td>
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<td>IV</td>
<td>Natural Resources Defense Council (NRDC) and the Coalition for Clean Air (CCA) Recommendations to Ports</td>
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<tr>
<td></td>
<td>The U.S. government should officially ratify MARPOL Annexes IV and VI (an international treaty that prevents sewage pollution and sets emissions standards for ships) and the Antifouling Systems Convention, which bans toxic chemical coatings on ship hulls.</td>
<td></td>
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<tr>
<td>IV</td>
<td>The EPA should expedite efforts to establish the entire East, West, and Gulf coasts as control zones subject to stricter emission standards until MARPOL VI.</td>
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<td></td>
<td>The EPA should implement a graduated harbor fee system similar to a program in Sweden that requires more polluting ships to pay higher fees upon entering a port.</td>
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<td></td>
<td>The EPA should expedite implementation of stricter emission standards for all marine vessels within two years.</td>
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<td></td>
<td>States and regional authorities should create financial incentives for the cleanup and replacement of older marine vessels.</td>
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<td>IV</td>
<td>States and regional authorities should require ships to plug in to shore-side power while docked.</td>
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<td></td>
<td>States should require that ships use low-sulfur diesel while in coastal waters and at berth (until electric power is made available). In the absence of state action, regional authorities should require this.</td>
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<td>IV</td>
<td>Regional authorities should monitor and enforce speed limits.</td>
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<td></td>
<td>The EPA must follow through with full implementation of its 2007 emissions standards for on-road, heavy-duty trucks, its 2009 emissions standards for nonroad vehicles and equipment; and the related lower sulfur diesel requirements.</td>
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<tr>
<td>IV</td>
<td>The EPA should adopt a series of diesel retrofit rules, similar to those proposed in the California Risk Reduction Program, to establish a cleanup schedule for existing polluting diesel engines. In the absence of federal action, states or local authorities must require this.</td>
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<td></td>
<td>The EPA should set uniform federal idling limits for all diesel engines. In the absence of federal action, state or local authorities should require idling limits.</td>
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## Status/Update of Existing and Proposed Near-Term Air Quality Improvement Strategies

September, 2006

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<tr>
<th>Category*</th>
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<tbody>
<tr>
<td>I, IV</td>
<td>Natural Resources Defense Council (NRDC) and the Coalition for Clean Air (CCA) Recommendations to Ports</td>
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<td></td>
<td>States should provide incentive programs to reduce pollution from heavy-duty diesel engines, similar to programs such as California's Carl Moyer and Gateway Cities; in the absence of state action, regional authorities should sponsor such programs.</td>
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<td>V</td>
<td>Regional authorities should adopt fleet rules to clean up and require new, cleaner purchases of all heavy-duty engines, similar to those in place in the Los Angeles area.</td>
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<tr>
<td>V</td>
<td>The EPA and individual states should consider fees on each container entering a port to provide funding for mitigation of the environmental impacts of moving those containers.</td>
<td></td>
<td>Being proposed in State Legislature</td>
</tr>
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<td></td>
<td>The U.S. government should adopt and support a sustainable transportation system program, similar to the European Union program facilitating the shift of cargo transport from more polluting modes (such as trucking) to cleaner locomotive and barge transport</td>
<td></td>
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<tr>
<td>II</td>
<td>The EPA should implement stricter emission standard for locomotives within one year.</td>
<td></td>
<td>CARB is preparing</td>
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<tr>
<td>II</td>
<td>States and regional authorities should also create financial incentives for the cleanup and replacement of older locomotives.</td>
<td></td>
<td>CARB is preparing</td>
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<tr>
<td>II</td>
<td>States should negotiate memorandums of understanding that create incentives for cleaner locomotives. In the absence of state action, regional authorities should pursue this.</td>
<td></td>
<td>CARB is preparing</td>
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### STATUS/UPDATE

**Of**

**EXISTING and PROPOSED NEAR-TERM AIR QUALITY IMPROVEMENT STRATEGIES**

**September, 2006**

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<tbody>
<tr>
<td>IV</td>
<td>Vessel Speed Reduction Agreement for Southern California</td>
<td>2001</td>
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<tr>
<td>III</td>
<td>U.S. EPA Main Engine Emission Standards</td>
<td>2003</td>
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<td>III</td>
<td>U.S. EPA Non-Road Diesel Fuel Rule</td>
<td>2004</td>
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<tr>
<td>IV</td>
<td>Cleaner Marine Fuels</td>
<td>New</td>
<td></td>
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<td>III</td>
<td>Emulsified Fuels</td>
<td>New</td>
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<tr>
<td>IV</td>
<td>Expanded Vessel Speed Reduction Programs</td>
<td>New</td>
<td></td>
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<tr>
<td>IV</td>
<td>Install Engines with Emissions Lower than IMO Standards in New Vessels</td>
<td>New</td>
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<td>IV</td>
<td>Dedicate the Cleanest Vessels to California Service</td>
<td>New</td>
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<td>IV</td>
<td>Shore Based Electrical Power</td>
<td>New</td>
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<td></td>
<td>Incentives for Cleaner Engines</td>
<td>New</td>
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<td>III</td>
<td>ARB Low Sulfur Diesel Fuel Rule</td>
<td>New</td>
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<td>III</td>
<td>ARB Rule to Clean Up Existing Engines</td>
<td>New</td>
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<td>IV</td>
<td>Shore Based Electrical Power</td>
<td>New</td>
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<td>New Engine Emission Standards</td>
<td>New</td>
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<td>IV</td>
<td>ARB Low Sulfur Diesel Fuel Rule</td>
<td>2003</td>
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<td>III</td>
<td>ARB/U.S. EPA Tier 4 Emission Standard</td>
<td>2004</td>
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<td>ARB Stationary Diesel Engine Rule</td>
<td>2004</td>
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<td>ARB Portable Diesel Equipment Rule</td>
<td>2004</td>
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<td></td>
<td>Incentives for Cleaner Fuels</td>
<td>2001-2005</td>
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<td>IV</td>
<td>ARB Rule for Diesel Cargo Handling Equipment</td>
<td>New (2005)</td>
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<td>ARB Rule for Gas Industrial Equipment</td>
<td>New</td>
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<tr>
<td>I</td>
<td>Vehicle Replacement Incentives</td>
<td>2001-2005</td>
<td></td>
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<td>III</td>
<td>ARB Low Sulfur Diesel Fuel Rule</td>
<td>2003</td>
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Of
EXISTING and PROPOSED NEAR-TERM AIR QUALITY IMPROVEMENT STRATEGIES
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<th>Category*</th>
<th>Program or Recommendation</th>
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<td>ARB Low NOx Software Upgrade Rule</td>
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<td>Port Truck Modernization</td>
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* Category - refers to general categories listed in Exhibit 1

Note: The programs or recommendations shown in Table 1 are the same as those from the March, 2006 Compendium of Existing and Proposed Near-Term Air Quality Improvement Strategies for the I-710 Corridor

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APPENDIX I

SUMMARY OF THE SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN
DRAFT MEMORANDUM

DATE: JANUARY 15, 2007
TO: RICHARD POWERS
FR: CLIFF GLADSTEIN
RE: SUMMARY - SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN

OVERVIEW
The San Pedro Bay Ports Clean Air Action Plan (CAAP), issued on June 28, 2006 and finalized by a vote of both Harbor Commissions on Nov. 20, 2006, is an unprecedented and ambitious plan to dramatically reduce emissions of Diesel Particulate Matter (DPM), Oxides of Nitrogen (NOx) and oxides of sulfur (SOx) from port related activities and equipment. The plan, which covers the years 2007 thru 2011, projects that if its measures are fully implemented, emissions of both NOx and DPM will be reduced to below 2001 levels by the end of 2011, while SOx emissions levels will be held steady at 2001 emissions levels. Considering the projected growth that is expected in the harbor complex over the next five years, each of these goals, if achieved, would be a considerable achievement.

The CAAP presents emission reduction measures covering five primary sources of emissions. These include:

- Heavy-Duty Vehicles (port trucks)
- Ocean Going Vessels
- Cargo-Handling Equipment
- Harbor Craft
- Railroad Locomotives.

The CAAP projects that, when considering just the emission reductions from trucks, ships and cargo handling equipment, the Plan will reduce NOx by 45%, DPM by 50% and SOx by 35%. These reductions are over and above those emission reductions that are associated with regulatory programs already adopted by the California Air Resources Board (ARB). These emission reductions will take place both in the harbor and in surrounding communities. Thus, it is clear that full implementation of the CAAP will benefit air quality in the 710 Corridor communities.

For the first five fiscal years of the CAAP, the ports project the total cost of the plan will be $2.068 billion dollars, of which only $465 million (22.5%) have been committed by the two ports and the South Coast Air Quality Management District. This means that the ports must identify and secure $1.603 billion dollars (77.5%) to complete the implementation of the CAAP. As of this writing, the ports have not yet determined where over three quarters of the money necessary to fund the CAAP will come from, although there is great hope that a large portion of the needed resources will come from the state infrastructure bonds passed in November, 2006.
CAAP Measures

Control Measure No. SPBP-HDV1
Performance Standards for On-Road Heavy-Duty Trucks

- By the end of 2011, all trucks calling at the ports frequently or semi-frequently will meet or be cleaner than the EPA 2007 on-road PM emissions standards (0.01 g/bhp-hr for PM) and be the cleanest available NOx at the time of replacement or retrofit.

This measure calls for the replacement of 10,622 trucks that call upon the two ports and the retrofit of 5,956 port trucks with emission control equipment (DPFs, lean NOx catalyst and chip reflash)\(^1\). Of the 10,600 trucks to be replaced, 50 percent (i.e. 5,311 trucks) are to be replaced with new alternative fuel (i.e., liquefied natural gas [LNG]) powered trucks (with the remaining 5,311 trucks to be replaced with units powered by new 2007 on-road diesel engines). The CAAP calls for this replacement to be complete by the end of June, 2011.

If successfully implemented, by mid-2011 HDV1 will reduce DPM emissions by 782 tons/year (81% reduction from the assumed baseline emissions), NOx emissions by 6,228 tons/year (61% reduction), and SOx emissions by 2 tons/year (27% reduction).

The total projected cost of this measure is $1.805 billion. This assumes that the CAAP pays the entire cost of replacing 10,622 trucks with new LNG and diesel trucks, and the entire cost of installing emission control equipment on 5,956 existing trucks. Far and away, this measure is the most expensive in the entire CAAP, consuming over 87% of the projected budget for the program.

Control Measure No. SPBP-HDV2
Alternative Fuel Infrastructure for Heavy-Duty Natural Gas Vehicles

- In order to support the deployment and operations of alternative fuel port trucks called for in SPBP CAAP Measure HDV1, this measure provides for the development of a refueling and central maintenance facility, jointly owned by both ports, and located on Terminal Island.

As noted, the CAAP calls for the replacement of 5,311 trucks that frequently and/or semi-frequently call on the ports’ marine container terminals with new alternative fuel vehicles. The only alternative fuel technology that is currently commercially available to replace diesel in port trucks in LNG. One of the limiting factors in the development of LNG as a vehicle fuel is the scarcity of fueling stations and maintenance facilities. Port staff believe that, in order to ensure the success of Measure HDV1, it will be necessary to provide support services for LNG trucks in the ports. Thus, this measure requires that the ports invest resources in the construction of a fueling station and a maintenance facility where those truckers and trucking companies who opt to purchase and deploy LNG trucks can obtain all necessary services to operate these alternative fuel technologies.

This measure does not provide for any direct emission reductions, but it does facilitate the emission reductions that are projected to come from the element of Measure HDV1 that calls for the deployment of LNG trucks. When fully implemented (July 1, 2011), the alternative fuel trucks

\(^1\) See the bottom of page 50 and the top of page 51 in the CAAP for additional details.
in Measure HDV1 are expected to generate 350 tons/yr of DPM emission reductions and 2,728 tons/yr of NOx emission reductions.

This measure is expected to cost a total of $4 million.

**Control Measure No. SPBP-OGV1**
**OGV Vessel Speed Reduction (VSR)**

- This measure requires that 100% of the OGVs that visit the SPBPs must comply with the VSR requirement 20 nautical miles (nm) from Point Fermin, with the prospect of expanding the measure to 40 nm from Point Fermin.

Generally speaking, NOx emissions are directly correlated to the load that is placed on the engine of an OGV. Thus, if the engine load/vessel speed decreases, so should the NOx emission from that ship. The existing VSR program is voluntary (with incentives), and requests that OGVs approaching the SPBPs slow to 12 knots within 20 nm of Point Fermin. This measure both expands the reach of the VSR program as well as makes it mandatory (a condition of lease agreements). This measure also enable shipping companies that can demonstrate alternative compliance plans (producing emission reductions that are surplus to the CAAP) to petition the Ports for changes for specified OGVs.

Before the VSR can be extended to 40 nm, several technical and logistical issues need to be resolved. In the meantime, the Ports will begin lease negotiations with tenants to make the VSR mandatory to 20 nm.

The Ports project that SPBP-OGV1 will result in 1,721 tons of NOx emission reductions once the 20 nm requirement becomes mandatory. Once the measure is extended to 40 nm, this will double the annual NOx emission reductions to 3,442 annually. The measure is also expected to yield significant emission reductions of DPM and SOx, but the data is not sufficient yet to claim credit for these reductions, so the CAAP does not claim them. Further testing is needed, and these tests will be a part of the CAAP’s Technology Advancement Program.

The cost of implementing SPBP-OGV1 is projected to be $22.7 million over the next five fiscal years. The costs that are associated with this measure include incentive funding offered by the Port of Long Beach, cost of the needed upgrades to the Marine Exchange radar system (to expand its capability to monitor ship speeds out to 40 nm), and administrative costs.

**Control Measure No. SPBP-OGV2**
**Reduction of At-Berth OGV Emissions**

- This measure mandates the use of shore power to reduce hotelling emissions at all container terminals and cruise terminals in the Port of Los Angeles in five years and all container terminals and one crude oil terminal in the Port of Long Beach within five to ten years. It also calls for the exploration of alternative emission reduction technologies for hotelling OGVs within the Technology Advancement Program.

When ships are at berth, they must continue to operate their boilers. In addition, virtually all OGVs have one or more on-board diesel-fueled electrical generators that provide power for ship operations. These generators are called auxiliary power units (APUs), and they emit significant
volumes of pollution in to the local atmosphere. This is called “hotelling”, or “dwelling”. This measure provides two approaches to reduce emissions from hotelling ships. The first is to plug the ships in to shore power so that they can shut down all of their APUs and also power down those components of their primary engine used to generate electricity, thus substantially reducing their emissions. Shore power, also known as “cold ironing” or Alternative Maritime Power (AMP), is best suited for OGVs that make multiple calls in the SPBPs annually and that require significant electrical load while berthed (i.e. vessels with large refrigeration requirements, operating large electrical pumps or cranes, cruise ships, etc.). The second is to develop and implement alternative methods of controlling OGV hotelling emissions. This second approach is needed because not all OGVs are suitable for shore power. The capability to accept shore power requires existing ships to be retrofitted with the appropriate equipment, a project that can cost between $300,000 to $500,000 per ship. Many ships do not visit the SPBPs often enough to warrant this level of investment. Other ships do not have the configuration, conduit space or electrical panel space to be converted. Alternative emission control strategies must be developed for ships that can not be retrofitted.

When fully implemented in FY 2010-11, Measure SPBP-OGV2 will reduce DPM emissions by 34 tons, NOx emissions by 1,495 tons, and SOx emissions by 648 tons annually.

The Ports estimate that this measure will cost them $179.1 million over the initial five years of program implementation. There also may be additional costs in the Port of Long Beach for the construction of the necessary dock-side electrical infrastructure after FY 2010-11. Finally, the costs discussed here do not include those borne by the shipping companies to retrofit their ships with the necessary technology to plug in to shore power.

Control Measure No. SPBP-OGV3
OGV Auxiliary Engine Fuel Standards

- Establishes a fuel standard for fuel used in on-board auxiliary power units of ≤0.2% sulfur distillate or Marine Gas Oil equivalent reduction.

As noted above, on-board APUs are a major source of port pollution. One way to reduce emissions from these engines is mandate the use of cleaner fuels while in the South Coast air basin. In the past, APUs were designed to use the same fuel used in the ships propulsion engines. Unfortunately, the fuel used to power the ships boilers is the dirtiest petroleum fuel produced – the residual of the refining process. Substituting cleaner fuel for the heavy fuel oil/residual fuels that are currently used in APUs will provide significant SOx emission reductions, and substantial PM and NOx emission reductions as well. Although cleaner distillate fuels are more expensive than residual petroleum products, ship owners have the option of converting their APUs to other, non-petroleum fuels, such as natural gas or propane, that currently enjoy a market advantage over petroleum-based fuels.

This measure requires every vessel that calls on the SPBPs to use a marine fuel with a maximum 0.2% sulfur. This compares to the sulfur content of heavy fuel oil, which ranges between 1% and 4.5%. Vessels will be required to use ≤0.2% S MGO when 20 nm from Port Fermin or closer, including when they are berthed. The distance will increase to 40 nm as soon as the VSR program is extended (projected 1Q 2008).

Although CARB has promulgated new regulations on the use of cleaner fuels in OGV APUs, Measure SPBP OGV3 will generate reductions surplus to the CARB rule. Most of these benefits
will take place during the five year term of this plan, diminishing as the CARB rule is completely implemented in 2010. When fully implemented in FY 2010-11, Measure SPBP-OGV3 will reduce DPM emissions by 3 tons, NOx emissions by 15 tons, and SOx emissions by 26 tons annually, although its peak effectiveness will be in year three of the CAAP (FY2008 – 09).

There are no costs to the port for the implementation of this measure, although there clearly will be a cost to the shipping companies when they are required to use more expensive fuels.

Control Measure No. SPBP-OGV4
OGV Main Engine Fuel Standards

- Establishes a fuel standard for fuel used when ships are arriving or departing San Pedro Bay of ≤0.2% sulfur distillate or Marine Gas Oil equivalent reduction.

Similar to Measure No. SPBP-OGV3, this measure requires the use of cleaner fuel in a ship's primary propulsion engines when the ship enters or exits the San Pedro Bay. Like OGV1 and 3, this measure will be applied to ships 20 nm or closer than Point Fermin, expanding to 40 nm when the VSR program is expanded in 2008.

As of this writing, CARB does not have a regulation governing the quality of OGV main engine fuel when used in California waters, but they are considering one. Until the ARB approves a new regulation, the emission reduction potential of this measure is enormous. When fully implemented in FY 2010-11, Measure SPBP-OGV4 will reduce DPM emissions by 234 tons, NOx emissions by 311 tons, and SOx emissions by 1,722 tons annually.

There are no costs to the port for the implementation of this measure, although there clearly will be a cost to the shipping companies when they are required to use more expensive fuels.

Control Measure No. SPBP-OGV5
OGV Main and Auxiliary Engine Emissions Improvements

- This measure provides research money for the development of new technologies that reduce emissions from both APUs and main engines. Resources will be spent through the Technology Advancement Program. The first innovation which will be supported and validated through OGV4 will be slide valve technology from ship engine manufacturer MAN B&W.

As noted in the CAAP, OGV engines standards have not kept pace with those of other diesel technologies, such as on and off-road heavy duty engines. The CAAP also recognizes that international law governing OGV engine emission standards is “weak”, and any changes to strengthen emission standards will take years to agree to. This measure provides that the SPBPs will work with 3rd parties to develop technologies that can reduce emissions from main engines and APUs. Several of these technologies are mentioned in the CAAP, but only one is

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2 APUs are usually diesel generators, although some of the newer ships are installing jet turbines to generate electricity. There are four types of Main engines. Direct drive is when the propeller is directly connected to the drive shaft of the engine. Geared drive is when the engine’s drive shaft is connected to reduction gears that power the propeller. Diesel-electric involves several diesel generators which provide electricity for the motor which powers the
accounted for in the emission reduction potential of this measure, the slide valve technology from MAN B&W. This technology is believed to be relatively easy to install in existing ships, not very expensive, and provides for substantial NOx and PM emission reductions. In addition, it is expected that the emission reduction benefits of slide valve technology will be verified by the Coordination Committee of the Technology Advancement Program in 1Q 2007.

When fully implemented in FY 2010-11, the slide valve technology that will be advanced by Measure SPBP-OGV5 is estimated to reduce DPM emissions by 92 tons and NOx emissions by 934 tons annually.

The Ports claim that there will be no cost to them for the implementation of this measure, although there certainly will be a cost to ship owners for the installation of the slide valve technology. It is not clear if slide valves will improve or harm the fuel efficiency of a ship’s main engine, so we can not say if there will be operational savings or costs associated with obtaining these emission reductions. Finally, although the CAAP claims that this measure will not cost the Ports anything, it seems apparent that the Ports will be spending resources on the technologies that are identified as potentially being helpful in reducing OGV main and auxiliary engine emissions. These costs that this measure will incur, however, are uncertain at this time.

Control Measure No. SPBP-CHE1
Performance Standards for Cargo Handling Equipment

This measure calls for several improvements to the CHE emissions inventory:

- **Beginning in 2007**, all CHE purchases will meet one of the following performance standards:
  - Cleanest available NOx alternative fueled engine, meeting 0.01 g/bhp-hr PM, available at the time of purchase, or
  - Cleanest available NOx diesel fueled engine, meeting 0.01 g/bhp-hr PM, available at the time of purchase.
  - If there are no engines available that meet the 0.01 g/bhp-hr PM standard, then terminal operator must buy the cleanest available engine (of either fuel type) and install the cleanest Verified Diesel Emission Control System (VDECS) available.

- **By the end of 2010**, all yard tractors will meet, at a minimum the EPA 2007 on-road or the Tier IV engine standards.

- **By the end of 2012**, all other CHE (including reach stackers, top picks, forklifts, Rubber Tire Gantry cranes [RTGs] and straddle carriers) <750 hp will meet, at a minimum, the EPA 2007 on-road or the Tier IV engine standards.

- **By the end of 2014**, all CHE with engines >750 hp will meet at a minimum the EPA Tier IV off-road engine standards. Starting in 2007 (until the equipment is replaced with Tier IV engines), all CHE with engines >750 hp will be equipped with the cleanest available VDECS.

This measure focuses on reducing the emissions from the equipment that moves containers between the ships and the trucks or trains that take the cargo to and from the port. Although the ARB has established regulations governing emission from CHE, this measure accelerates the CARB rule requirements. The most significant aspect to this measure will be the emission reductions from yard tractors, which make up 60% of all CHE emissions in the SPBPs. The measure will require that all yard tractors operating in the ports meet the toughest DPM standard propellers and which generate power for the ship. **Steam engines**, which utilize boilers to provide steam for mechanical power, are still used in some ships.
by the end of 2010. This means that every single of the 1,400+ yard tractors now used in the ports will either have to be new or be retrofitted with the cleanest possible emission reduction device.

One unresolved issue associated with this measure is whether the CAAP requires the purchase of the cleanest available engine at the time of purchase or the cleanest available alternative fuel or diesel fuel engine. The use of the word "or" between the two requirements implies that the Ports have established a dual fuel path, i.e. terminal operators can elect to either follow an alternative fuel or a diesel path, but must buy the cleanest technology available at the time of purchase in that fuel group. If the Ports did, indeed, intend to create parallel paths, then this could result in significantly greater NOx emissions in the region. If terminal operators opt to purchase the cleanest available diesel engines between 2007 and 2010, instead of the cleanest available engine period, regardless of fuel type, this could lead to as much as 6,200 additional tons of NOx emissions from yard tractors in the port. If the Ports meant that terminal operators are required to purchase the cleanest available technology regardless of fuel type, then these NOx emissions will be eliminated from the inventory.

When fully implemented in FY 2010-11, Measure SPBP-CHE1 will reduce DPM emissions by 11 tons and NOx emissions by 376 tons annually.

There are no direct costs of this measure to the ports. Terminal operators, on the other hand, will have to either replace or retrofit their entire fleet of terminal tractors by the end of 2010 and their rest of their CHE by the end of 2014. The cost of these changes to the terminal operators has not been calculated.

**Control Measure No. SPBP-HC1**
**Performance Standards for Harbor Craft**

This measure establishes three goals for harbor craft that are based in the SPBPs:

- **By the end of the 2nd year of the CAAP, all SPBP harbor craft will meet EPA Tier 2 standard for harbor craft or equivalent reductions.**
- **By the 5th year of the CAAP, all previously repowered SPBP harbor craft will be retrofitted with the most effective CARB verified NOx and PM emission reduction devices.**
- **When Tier 3 marine engines become available, within five years all SPBP harbor craft will be repowered with the new engines.**
- **All tugs will use shore power while berthed.**

The goal of this measure is to identify harbor craft that are equipped with older propulsion systems and auxiliary power units and replace those with engines that meet more stringent emission standards. Port personnel will work with local HC owners to identify candidate vessels, then help the owners of these boats identify, apply for and secure grant funding from 3rd parties to upgrade their property. This measure also calls on the Technology Advancement Program to work with HC owners and manufacturers to develop new emission control technologies for these vessels.

The air quality benefits of this measure have not been quantified, but will be once the Ports have completed their 2005 emission inventory. While performing this inventory, data will be gathered about each of the harbor craft that are home ported in the SPBPs. Once the vessels that can be
retrofitted are identified and the type of emission reduction technology assigned, the emission reduction value of this measure can be calculated.

The Ports do not anticipate that this measure will cost them anything, except for those Technology Advancement Program resources that will be spent in the development new and advanced emission control technologies.

**Control Measure No. SPBP-RL1**
**PHL Rail Switch Engine Modernization**

This measure focuses on obtaining emission reductions from locomotives owned by the Pacific Harbor Line (PHL).

- **By 2008 all existing switch engines in the Ports will be replaced with Tier 2 engines and will use emulsified fuels as available or other equivalently clean alternative diesel fuels.**
- **Any new switch engine acquired after the initial replacement must meet EPA Tier 3 standards or a NOx standard of 3 g/bhp-hr and a PM standard of 0.0225 g/bhp-hr.**
- **All switch engines will have a 15-minute idle limiting device installed and operational.**
- **PHL will conduct tests with switchers equipped with diesel emission control devices, LNG locomotives, or hybrid locomotives. If the demonstration of the DECS is successful, all of the Tier 2 engines will be retrofitted with the cleanest available device.**

This measure will replace sixteen of PHL's switch engine fleet with newer, cleaner Tier 2 locomotive engines. These switchers will also be required to have idle restriction devices. These steps will be embodied in amendments to the operating agreement between PHL and the two ports.

When fully implemented in FY 2010-11, Measure SPBP-RL1 will reduce DPM emissions by 3 tons, NOx emissions by 163 tons, and SOx emissions by 0.2 tons annually.

The total projected cost of this measure to the Ports and their partners is $21 million, including $5 million from each port and $11 million from the SCAQMD.

**Control Measure No. SPBP-RL2**
**Existing Class 1 Railroad Operations**

This measure focuses the operations of Class 1 railroad operations on Port property. The goal of this measure is to secure a Memorandum of Understanding with the railroads, and to use other contractual mechanisms, to reduce emission from their existing operations on port property. The goals for this measure are as follows:

- **By 2011, all diesel-powered Class 1 switcher and helper locomotives entering port facilities will be 90% controlled for PM and NOx and will have 15-minute idle restriction devices installed. In addition, after Jan. 1, 2007, all locomotives will use ultra low sulfur diesel fuel.**
- **Starting in 2012 and fully implemented by 2014, the fleet average for Class 1 long haul locomotives calling on Port property will be Tier 3 equivalent (either Tier 3 engines or tier 2 equipped with diesel particulate filters (DPF) or selective catalytic reduction (SCR)).**
This measure is intended to fill in gaps that have been created by agreements that the ARB reached with the railroads regarding their emission reductions. It seeks to place restrictions on long haul locomotives that attempt to enter into port property. It also is intended to put pressure on the U.S. EPA to adopt stringent Tier 3 standards for locomotives that require emission reductions 90% below those in Tier 2, and that these standards be implemented no later than 2012.

There are no emission reductions or financial costs associated with this measure at this time.

**Control Measure No. SPBP-RL3**
**New and Redeveloped Rail Yards**

Whereas SPBP-RL2 focuses on existing Class 1 railroad operations in and around the ports, this measure focuses on new and redeveloped rail facilities located on Port properties. It involves the development of performance standards for these new developments, which include:

- **Cleanest available technology for switcher, helper and long haul locomotives**
- **“Green-container” transport systems**
- **Idling shut of devices**
- **Idling exhaust hoods**
- **ULSD or alternative fuels**
- **Clean CHE and HDVs**

It is the intention of the ports to maximize the use of on-dock rail capacity, to expand the infrastructure connecting the port to the Alameda Corridor, and to increase the use of near-dock rail facilities to facilitate the movement of container cargo to and from the port. Increasing the use of rail is viewed by the ports as essential to reducing the number of truck trips that are generated by the ports. At the same time, the Ports are cognizant of the local environmental and public health impacts that rail operations have on nearby neighborhoods, and this measure is intended to help address these impacts. Thus, as the Ports negotiated with 3rd parties for the development of these on-dock or near-dock railroad facilities, they will require the performance standards listed above.

There are no emission reductions or financial costs associated with this measure at this time.

**General Observations about Differences Between the Draft and Final CAAP**

- For the most part, the substance of the two documents is basically the same. There is a good deal more detail in the Final CAAP. In addition, the Final CAAP includes many revisions that were demanded by the environmental community, including more definition of goals, greater use of metrics for air quality objectives, and clearer timelines and implementation schedules.
- There are numerous errors and inconsistencies in the Final CAAP. It seems clear that they rushed this document to publication without careful review.

**Control Measure No. SPBP-HDV1 – Performance Standards for On-Road Heavy-Duty Vehicels**
Additional details has been added to this measure to provide clarification on a number of definitions and issues within the measure.

The budget scenario that Port staff is recommending will cost a total of $1,804,900,000 over the five years that is in the CAAP’s planning horizon. Of this total, the Ports and SCAQMD are committed to fund $89 million of the Clean Diesel truck replacements and retrofits, and $113 million of the LNG truck replacement program. The balance, over $1.6 billion, will need to come from sources as yet unidentified, although it is clear that the Ports are counting on getting a large amount of funds from the Proposition 1B, bond measure that was just passed by California’s voters earlier in November.

Added to the Final CAAP is an additional “fundamental element” which lays out that it will be the intention of the Ports to develop and pursue alternative options for funding the CAAP if bond funding is not available or insufficient to cover the programs called for in the CAAP.

The draft discussed the concept of “green lanes” (see pg. 54), or terminal gates that would only accept cleaner trucks. The entire discussion of green lanes has been stricken from the Final CAAP.

Some significant additional detail has been added to the description of the implementation plan for Measure SPBP-HDV1 to provide specific ideas about how the on-road heavy duty measures will be implemented. These ideas include the following options: an emblem program; incentive/impact fees; franchise approach (either a global [tariff-based] or terminal [lease-based]); a Joint Powers Authority trucking entity (nonprofit), through either a port-owned leasing company or by employee drivers; or a program where Ports buy trucks that are driven by city employed drivers.

Although the CAAP discusses each of these concepts in greater detail, the two elements which are favored by the staffs of the Ports are an emblem program in conjunction with and incentive program with an impact fee component.

The emblem program would require that every truck calling on the ports have a valid emblem, and that receipt of an emblem would require that trucks meet a certain emission standard. The emblem would enable terminal operators to turn away dirty trucks that have not qualified for the emblem. The SPBP envision that this emblem program would be tied to an existing RFID program that is managed by PierPass.

The incentive program/impact fee assessment is viewed as a way to fund any potential shortfall in the truck fleet turnover and retrofit programs. The fee would be charged “as close as possible” to the beneficial cargo owner, thus stimulating a demand that truck companies use cleaner trucks. The fee would escalate for older trucks, and the emissions standard would gradually increase over time as emission standards got more stringent.

Given the many questions that remain unanswered, many of which are legal questions, the CAAP identifies five action items that will need to be completed in the coming months to successfully develop and implement SPBP-HDV1. The CAAP requires that most of these action items be addressed by staff by the end of the 1st Quarter 2007.

Another significant difference between the Draft and Final CAAP is the repeated recognition that addressing issues related to port truckers is difficult. If possible, the Ports would like to see this measure address the “wages/quality of life” issues faced by port truckers. Although not specifically spelled out how this will be done, it is notable that the staff of both ports felt compelled by remarks from countless parties, including a new coalition of labor, community and environmental organizations called the Coalition for Clean and Safe Ports, to include a discussion of wages/quality of life issues in the CAAP.

In the Draft CAAP, Measure SPBP-HDV1 calls for a demonstration project with 123 LNG trucks. In the Final CAAP, this number has been reduced to 115 (see pg 66) to 120 trucks (see pg 70). The inconsistency is a little disconcerting, as this takes place throughout the document. Nonetheless, staff proposes that, upon approval of the Final CAAP by the Boards
of Commissioners, an RFP will be developed for the purchase and pilot test of the LNG trucks. The first 115 – 120 trucks will be funded by the Ports, while in future years the expansion of the use of LNG trucks may be funded with the use of the bond funds or impact fees. As before, this program will be coordinated with the SCAQMD. This RFP is supposed to be released some time in early December 2006.
Control Measure No. SPBP-HDV2 – Alternative Fuel Infrastructure for Heavy-Duty Diesel Vehicles

- This is the measure that calls for the development of a fueling and maintenance facility in the ports for alternative fuel port trucks. There is not substantive difference between the draft and the final, except that the Final CAAP deleted one of the milestones. Milestone #3 in the Draft CAAP (p. 64) has been deleted from the final. This is the milestone that calls for the design of the fueling facility to be approved by both ports. Presumably, this approval is assumed in the process now.

Control Measure No. SPBP-CHE1 – Performance Standards for Cargo Handling Equipment

This measure has changes substantially from the Draft to the Final CAAP. The table below compares the language changes between the draft and final plan.

<table>
<thead>
<tr>
<th>Draft CAAP</th>
<th>Final CAAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>All purchases of yard tractors, side picks, top picks, rubber tired gantries, forklifts, reach stackers, and straddle carriers will be equivalent or cleaner than either the EPA 2007 on-road or Tier 4 off-road standards.</td>
<td>Beginning in 2007, all CHE purchases will meet one of the following performance standards:</td>
</tr>
<tr>
<td></td>
<td>• Cleanest available NOx alternatively-fueled engine, meeting 0.01 g/bhp-hr PM, available at the time of purchase, or</td>
</tr>
<tr>
<td></td>
<td>• Cleanest available NOx diesel-fueled engine, meeting 0.01 g/bhp-hr PM, available at the time of purchase.</td>
</tr>
<tr>
<td></td>
<td>• If there are no engines available that 0.01 g/bhp-hr PM, then must purchase cleanest available engine (either fuel type) and install cleanest VDEC available.</td>
</tr>
<tr>
<td>By 2010, all yard tractors will be equivalent of cleaner that the EPA 2007 on-road or Tier 4 off-road standards.</td>
<td>By the end of 2010, all yard tractors operating at the San Pedro Bay Ports will meet at a minimum the EPA 2007 on-road or Tier 4 off-road standards.</td>
</tr>
<tr>
<td>By 2012, all top picks, rubber tired gantries, forklifts, reach stackers, and straddle carriers will be equivalent or cleaner than the EPA 2007 on-road or Tier 4 off-road standards.</td>
<td>By the end of 2012, all pre-2007 on-road or pre Tier IV off-road top picks, rubber tired gantries, forklifts, reach stackers, and straddle carriers &lt;750 hp will meet at a minimum the EPA 2007 on-road or Tier 4 off-road standards.</td>
</tr>
<tr>
<td>An emission standard for all other CHE equivalent to the applicable EPA Tier 4 off-road standard, by 2014. Until replaced by a Tier 4 engine, such equipment shall be equipped with the highest level of CARB certified emissions control retrofit.</td>
<td>By end of 2014, all CHE with engines &gt;750 hp will meet at a minimum the EPA Tier IV off-road engine standards. Starting 2007 (until equipment is replaced with Tier IV), all CHE with engines &gt;750 hp will be equipped with the cleanest available VDEC verified by CARB.</td>
</tr>
</tbody>
</table>

- GNA has detailed the most significant of these changes in recent correspondence with SES. There is a good deal of uncertainty that has been created by the changes in the language of this measure, particularly as it pertains to the suggestion (see the top right hand box in the table) that terminal operators will be able to choose between a diesel and an alternative fuel path, rather than be required to simply purchase the cleanest equipment available at the time of purchase.
Control Measure No. SPBP-OGV1 – OGV Vessel Speed Reduction

This measure requires ocean going vessels to reduce speed to 12 knots when they are within 20 nautical miles of Point Fermin. The measure is substantively the same between the Draft and Final CAAPs, except for a few differences.

- The Final CAAP gives the shipping companies the option of providing the Ports with an alternative compliance strategy that meets or exceeds the emission reductions that would be achieved by reducing speed. Alternative compliance strategies can be requested for specified vessels.
- The Final CAAP adds that if compliance with the voluntary VSR program does not achieve 90% by the end of 2007, the Ports will begin the evaluation process of a tariff that would make compliance compulsory.
- Neither the Draft of Final CAAP claims any DPM or SOx emission reduction from SPBP-OGV1. The Final CAAP, however, calls for emission testing of vessels to determine the DPM and SOx reductions that the CAAP may claim from the implementation of this measure. These tests will be conducted under the CAAP's Technology Advancement Program.
- The amount of NOx emission reduction benefit claimed by the implementation of this measure has increased from the Draft to the Final measure. Should the Ports decide to expand this measure out to 40 nautical miles, they believe the NOx reduction will increase to 6,022 tons a year from their original estimate of 5,500 ton/yr.
- There is an inconsistency in the text of the Final CAAP – on p. 82 the CAAP says that if the compliance with the VSR does not achieve 90% by the end of 2007, the Ports will take steps to develop a tariff structure that would make compliance compulsory. In the Milestones, however, on p. 85, the CAAP states that the trigger compliance rate is 95%.
- The milestones for this measure have now been specified. They are summarized in the following table.

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision and Renewal of the VSR MOU</td>
<td>Meetings with affected Parties: 1Q 2007 MOU signed in 3Q or 4Q 2007</td>
</tr>
<tr>
<td>Leases opened for renegotiation – new leases to include provisions for VSR compliance</td>
<td>As Leases are opened</td>
</tr>
<tr>
<td>Development of procurement plan for hardware and software to track vessel speeds to 40 nautical miles</td>
<td>Meetings begin 1Q 2007 and concluded by end 2Q 2007</td>
</tr>
<tr>
<td>Renew and revise MOU to update hardware and software. Procure and install hardware and software needed to track vessel speed to 40 nautical miles</td>
<td>Completed in 4Q 2007</td>
</tr>
<tr>
<td>Move work gang assignments to 40 nautical miles</td>
<td>Completed in 4Q 2007</td>
</tr>
<tr>
<td>Preparation of presentation/fact sheet on air quality benefits of changes in VSR zone and lease requirements</td>
<td>By end of 4Q 2007</td>
</tr>
<tr>
<td>Expanded VSR program fully functional</td>
<td>1Q 2008</td>
</tr>
<tr>
<td>If compliance does not achieve 95% by end of 2007, complete legal review of draft tariff language to make VSR program compulsory</td>
<td>Complete legal analysis within 3 months; bring language to Commission for adoption within 3 months of completed analysis</td>
</tr>
<tr>
<td>Quantify air quality benefits of the VSR program</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
Control Measure No. SPBP-OGV2 – Reduction of At-Berth OGV Emissions

- This measure calls for the use of shore power at all major container terminals and cruise terminals at the Port of Los Angeles within five years and all container terminals and one crude oil terminal at the Port of Long Beach within five to ten years.
- The Final CAAP alters the initiation year of the control measure from FY2006/2007 to make it retroactive to 2004. Presumably this is to account for actions that both ports have already taken – POLA at China Shipping and in building shore power infrastructure at many of the container terminals and at POLB for their efforts at the BP terminal.
- The Final CAAP moves sea water scrubbers and selective catalytic reduction technologies from the category of alternative hotelling emission reduction technologies to technologies that will be evaluated by the Technology Advancement Program.
- In the discussion of the implementation plan in the Final CAAP expands, there is a discussion about how the Ports will ensure maximum utilization of shore power, including phase-in requirements, and the statement that it will be the goal of the CAAP to ensure 100% use of shore power by candidate vessels.
- In Table 5.10, the dates that AMP infrastructure will be operational have been extended for most POLA berths, in some cases by as much as two years.
- Much of the discussion on regarding negotiations for providing shore power at Berths 206-209 and the cruise ships lines has been deleted from the Final CAAP (see p. 75 in the Draft and p. 91 in the Final).
- The “extremely aggressive assumption” regarding AMP roll out in the Draft have been elaborated upon somewhat in the final with the addition of two bullets regarding activities that will be undertaken by Norwegian and Royal Caribbean Cruise Lines.
- The number of berths that the POLB expects will be improved with AMP and operational within five years has increased from seven to ten (see Table 5.12, Final CAAP, p. 92).
- The number of shore power vessel calls that the POLB expects in the next five years has increased from 202 to 381 (see Table 5.13, Final CAAP, p. 93).
- The Final CAAP includes over two pages of discussion of the role that the Ports will play in the development and implementation of standards for AMP by the International Organization of Standards (ISO) that are not included in the Draft (see pp. 96 – 98).
- The estimated emission reductions from shore power detailed in Table 5.15 have increased slightly.
- The estimated costs of providing shore power in the POLB detailed in Table 5.16 have been altered significantly from the Draft CAAP to the Final Document. The total estimated costs have increased to $130 million in the Final from $108.8 million in the Draft.
- The total costs of implementing shore power in both ports detailed in Table 5.17 have increased from $121.2 million in the Draft to $179.1 million in the Final.

Control Measure No. SPBP-OGV3 – OGV Auxiliary Engine Fuel Standards

This measure will require the use of lower sulfur distillate fuels in OGV auxiliary engines within 20 nautical miles of Point Fermin and while at berth.

- The Final CAAP includes a discussion about how the SPBP's will work with ports around the pacific Rim and other stakeholders to make them aware of the need to have a supply of 0.2% Sulfur fuels.
• The Final CAAP notes that the Ports are trying to minimize the use of different fuels in auxiliary and main engines by harmonizing the requirements between this control measure and SPBP-OGV4.

• The Final CAAP also makes a point of noting that ships will not be exempted from the low sulfur fuel use requirement even when they are using shore power while at berth.

• The Final CAAP raises the ante in the fundamental elements of this control measure by stating that the Ports will actively work with fuel providers, shipping lines, and port authorities around the Pacific Rim to ensure that fuel availability will not be an issue.

• The Final CAAP notes that the Ports will actively work with CARB and the SCAQMD to ensure that there are backstop regulations with support this measure and which develop a state-wide standard for low sulfur fuel use.

• The estimated emission reduction benefit from this measure has fallen from the Draft to the Final. These emission reductions have changed as follows:

Table 3: Estimated Emissions Reductions for SPBP-OGV3 (in Tons)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Draft CAAP</th>
<th>Final CAAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPM Reduction</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>NOx Reduction</td>
<td>53</td>
<td>38</td>
</tr>
<tr>
<td>SOx Reduction</td>
<td>630</td>
<td>316</td>
</tr>
</tbody>
</table>

These figures are the total reductions over five years.

Presumably, the reason for this diminishment of the number of tons of pollutant reduction that the CAAP can take credit for is due to the fact that the Final CAAP notes that the measure may be superseded in FY 2009/2010 by CARB regulation.

The Milestones for this measure have also been fleshed out in the Final CAAP. These include:

Table 4: Milestones for Measure SPBP-OGV3

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff will meet and work with fuel suppliers to make them aware of the requirements of this measure.</td>
<td>Completed by the end of 2007</td>
</tr>
<tr>
<td>Evaluate technical and safety issues associated with fuel switching.</td>
<td>Completed by the end of 2007</td>
</tr>
<tr>
<td>Discuss the use of tariffs as primary or supplemental implementation strategy with CARB and SCAQMD</td>
<td>Legal analysis complete – 2Q 2007</td>
</tr>
<tr>
<td>Extend to 40 nautical miles</td>
<td>1Q 2008</td>
</tr>
<tr>
<td>Harmonize ship fuel requirements among Pacific Rim ports</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Include provisions for compliance with OGV3 as leases open</td>
<td>As leases open</td>
</tr>
<tr>
<td>Quantify and report program emissions benefits</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

Control Measure No. SPBP-OGV4 – OGV Main Engine Fuel Standards

This measure requires the use of low sulfur distillate fuels in main engines upon arrival and departure from the San Pedro Bay Ports.

• The Final CAAP includes a discussion about how the SPBP s will work with ports around the pacific Rim and other stakeholders to make them aware of the need to have a supply of 0.2% Sulfur fuels.
• The Final CAAP notes that, combined with Measure SPBP-OGV3, this measure goes well beyond the CARB auxiliary fuel rule.
• The Final CAAP notes that the Ports are trying to minimize the use of different fuels in auxiliary and main engines by harmonizing the requirements between this control measure and SPBP-OGV3.
• Like SPBP-OGV3, the Final CAAP raises the ante in the fundamental elements of this control measure by stating that the Ports will actively work with fuel providers, shipping lines, and port authorities around the Pacific Rim to ensure that fuel availability will not be an issue.
• The Final CAAP notes that the Ports will actively work with CARB and the SCAQMD to ensure that there are backstop regulations with support this measure and which develop a state-wide standard for low sulfur fuel use.
• The estimated emission reduction benefit from this measure has fallen from the Draft to the Final. These emission reductions have changed as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Draft CAAP</th>
<th>Final CAAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPM Reduction</td>
<td>1,004</td>
<td>641</td>
</tr>
<tr>
<td>NOx Reduction</td>
<td>1,283</td>
<td>841</td>
</tr>
<tr>
<td>SOx Reduction</td>
<td>6,934</td>
<td>4,613</td>
</tr>
</tbody>
</table>

These figures are the total reductions over five years.

It is not clear why the estimated emission reductions from this measure fell so precipitously from the Draft to the Final CAAP.

• The milestones and schedule for SPBP-OGV4 are identical to SPBP-OGV3.

Control Measure No. SPBP-OGV5 – OGV Main & Auxiliary Engine Emission Improvements

This measure provides for main and auxiliary engine emissions reductions that are validated through the Technology Advancement Program.

This measure in the Final document is substantively the same as in the Draft CAAP. The only significant difference is in the amount of pollution that this measure is supposed to reduce. These differences are detailed in Table 6 below.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Draft CAAP</th>
<th>Final CAAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPM Reduction</td>
<td>424</td>
<td>259</td>
</tr>
<tr>
<td>NOx Reduction</td>
<td>4,151</td>
<td>2,592</td>
</tr>
<tr>
<td>SOx Reduction</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

These figures are the total reductions over five years.

Control Measure No. SPBP-HC1 – Performance Standards for Harbor Craft

This measure establishes emissions performance standards for Harbor Craft.

• Whereas the Draft establishes three goals for this control measure, the Final CAAP adds a fourth, that all tugs will use shore power while at their home berth.
- The Final CAAP adds two “fundamental elements” to the control measure. These include 1) that the Ports will work with CARB and SCAQMD to develop and promulgate Tier III category 1 and 2 engines standards that achieve at least a 90% emission reduction; and, 2) that tugs will use shore power while at their home berth.
- SPBP-HC1 milestones have been fleshed out and specific implementation dates have been proposed. These are detailed in Table 7 below:

<table>
<thead>
<tr>
<th>Table 7: Milestones for Measure SPBP-HC1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Milestone</strong></td>
</tr>
<tr>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Staff will provide information on grant funding.</td>
</tr>
<tr>
<td>Develop and annually update technical fact sheet on emission control technologies, engine standards and engine availability</td>
</tr>
<tr>
<td>Conduct outreach meeting for customers to present information on grant programs and processes</td>
</tr>
<tr>
<td>Grant application assistance</td>
</tr>
<tr>
<td>Quantify and report program emissions benefits</td>
</tr>
</tbody>
</table>

**Control Measure No. SPBP-RL1 – Rail Switch Engine Modernization**

This measure will replace 16 of Pacific Harbor Line’s switch engines with newer and significantly cleaner Tier 2 compliant locomotive engines.

- The Final CAAP is substantively the same as the draft except in the estimate of the costs of the implementation of SPBP-RL1. The Draft estimated the total cost at $10 million, while the Final has increased this cost to $21 million. An additional $11 million will be coming from the SCAQMD.
- SPBP-RL1 milestones have been fleshed out and specific implementation dates have been proposed. These are detailed in Table 8 below:

<table>
<thead>
<tr>
<th>Table 8: Milestones for Measure SPBP-RL1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Milestone</strong></td>
</tr>
<tr>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Multiple Engine Generator set locomotive demonstration</td>
</tr>
<tr>
<td>Hybrid locomotive demonstration</td>
</tr>
<tr>
<td>LNG locomotive demonstration</td>
</tr>
<tr>
<td>DPF/DOC demonstration</td>
</tr>
<tr>
<td>All Tier II locomotive engines operational</td>
</tr>
<tr>
<td>All Multiple Engine Generator Set locomotives operational</td>
</tr>
<tr>
<td>Quantify and report program emissions benefits</td>
</tr>
</tbody>
</table>
Control Measure No. SPBP-RL2 – Existing Class 1 Railroad Operations

This measure calls for NOx and PM emission reductions from existing railroad operations on port properties. In the Final CAAP, this measure is substantially different than the Draft document. Whereas the draft measure is called “Operational Controls for Line Haul Locomotives,” the Final measure is named “Existing Class 1 Railroad Operations.” To highlight the essential differences between the draft and the final, the goals are outlined in Table 9 below:

<table>
<thead>
<tr>
<th>Draft CAAP</th>
<th>Final CAAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>By 2011, all diesel-powered line-haul locomotives entering Port facilities will meet Tier 2 engine standards, installation of DOC or DPFs, use of 15-minute idle restrictors, and use of ULSD fuels.</td>
<td>By 2011, all diesel-powered Class 1 switcher and helper locomotives entering Port facilities will be 90% controlled for PM and NOx, will use 15-minute idle restrictors, and after 1 January 2007, the use of ULSD fuels.</td>
</tr>
<tr>
<td>By 2011, all line-haul locomotives entering Port facilities will be 90% below Tier 2 engine standards for PM and NOx, use of 15-minute idle restrictors, and use of ULSD fuels.</td>
<td>Starting in 2012 and fully implemented by 2014, the fleet average for Class 1 long haul locomotives calling at Port properties will be Tier III equivalent (Tier 2 equipped with DPF and SCR or new locomotives meeting Tier 3) PM and NOx and will use 15-minute idle restrictors. Class 1 long haul locomotives will operate on ULSD while on Port properties by the end of 2007. Technologies to get to these levels of restrictions will be validated through the Technology Advancement Program.</td>
</tr>
</tbody>
</table>

- The Final CAAP notes the CARB MOU with the railroads and identifies that the target of this measure will be the line haul locomotives operated by BNSF and UP that do not meet the MOU emissions average of 5.5 g/bhp-hr of NOx.
- The Final CAAP notes that the Ports will attempt to enter in to an MOU with the railroads to meeting the performance standards outlined above.
- The Final CAAP notes that the Ports will join the SCAQMD to urge the EPA to adopt stringent Tier 3 emission standards for locomotives, including 90% emission reductions below Tier 2 standards by 2012.
- Note that, while the Draft CAAP only requires locomotives to use ULSD by 2011, the Final moves that deadline up to 2007.

Control Measure No. SPBP-RL3 – New and Redeveloped Rail Yards

This measure calls for NOx and PM emission reductions from new and redeveloped railroad facilities on port properties with the goal of incorporating the cleanest locomotive, CHE and HDV technologies in their operations. In the Final CAAP, this measure is different than the Draft document, although these differences are not as substantial as SPBP-RL2. Whereas the draft measure is called “Clean Rail Yard Standards,” the Final measure is named “New and Redeveloped Rail Yards.” The primary difference between the Draft and the Final CAAP is that the latter document has used control measures RL2 and RL3 to draw a more distinct difference between existing operations and those of new and redeveloping facilities that are on port property. Although the Draft CAAP does discuss CHE and HDV emission reductions, RL3 in the
Final CAAP shifts more emphasis to all of the diesel powered equipment that will be located in these new rail developments. To highlight the essential differences between the draft and the final, the goals are outlined in Table 10 below:

<table>
<thead>
<tr>
<th>Draft CAAP</th>
<th>Final CAAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleanest locomotive technology (diesel-electric hybrids, multiple engine generator sets, retrofitted, alternative fuel, etc.)</td>
<td>Cleanest available technology for switcher, helper, and long haul locomotives (e.g. electric, diesel-electric hybrids, multiple engine generators sets, DPM and NOx retrofits (DPFs, SCR's, etc.), alternative fuel, etc.) integrated into new and redeveloped rail yards consistent with goals and timeframe of SPBP-RL2</td>
</tr>
<tr>
<td>DPF and SCR retrofits for existing locomotives</td>
<td>“Green container” transport systems</td>
</tr>
<tr>
<td>Idling shut-off devices</td>
<td>Idling shut-off devices</td>
</tr>
<tr>
<td>Idling exhaust hoods</td>
<td>Idling exhaust hoods</td>
</tr>
<tr>
<td>ULSD</td>
<td>ULSD</td>
</tr>
<tr>
<td>Clean CHE and HDV requirements</td>
<td>Clean CHE and HDVs</td>
</tr>
</tbody>
</table>

- Whereas the Draft requires that new rail facilities “incorporate clean locomotive technologies”, the Final CAAP provides for a more stringent requirement that both existing rail facilities that are making modifications as well as new rail facilities will “incorporate clean low emitting equipment including the cleanest locomotive technologies available” (see p. 135).
- Both the Draft and the Final include alternative fuels among the definitions for the cleanest available locomotive technology.
- The Final CAAP requires switcher locomotives to use ULSD on port property immediately.
- The Final CAAP requires that helper locomotives be switched off will on Port properties. If they have to be turned on, then they must meet the same emission requirements as long haul locomotives. The Draft CAAP does not address helper locomotives.
- The Draft CAAP establishes a short term goal for line-haul locomotives that they be equipped with commercially available DOCs and seeks a long term goal of 90% reduction in DPM and NOx from Tier 2 standards. The Final CAAP establishes much more stringent requirements for long haul locomotives. Starting in 2012 and fully implemented by 2014, the fleet average for Class 1 long haul locomotives calling at Port properties will be Tier III equivalent (Tier 2 equipped with DPF and SCR or new locomotives meeting Tier 3) PM and NOx and will use 15-minute idle restrictors. Class 1 long haul locomotives will operate on ULSD while on Port properties by the end of 2007. Technologies to get to these levels of restrictions will be validated through the Technology Advancement Program. This is the same as in SPBP-RL2.
- Unlike the Draft CAAP, the Final uses about a page of text describing that the Ports will use every opportunity to maximize the development of on-dock rail.

**Miscellaneous Changes Between the Draft and Final CAAP**

- The short section on p. 112 of the Draft CAAP on Standards for New Leases and Renewals has been deleted from the Final document. Presumably, this is due to the fact that there is a much more detailed discussion of the use of lease requirements throughout the control measures of the Final CAAP.
• The discussion about the Technology Advancement Program has been expanded from about a page and half in the Draft to five and half pages in the Final CAAP. Primarily, the added text better explains the primary role that the Technology Advancement Program will play in the Ports efforts to both ensure that the emission reductions called for by the primary control measures are achieved as well as constantly pushing technology to provide additional emission performance improvements. The crucial role that the Technology Advancement Program will play in future versions of the CAAP is discussed. The section further details the role that the Technology Advancement Program will play in the implementation of every control measure. We note that the Final CAAP mentions how this program will be used to demonstrate electric powered CHE, but not natural gas powered equipment. We also note that Final CAAP discusses how the Technology Advancement Program will be used to develop and demonstrate emission reduction technologies for locomotives, including LNG.

• Unlike the Draft, the Final CAAP’s discussion about the Technology Advancement Program notes that it will be the aim of the program to evaluate and demonstrate technologies that target ultra-fine particles and greenhouse gases. This could prove useful to natural gas technologies.

• The Final CAAP provides a greater level of detail regarding the uses of the Technology Advancement Program in increasing the accuracy of monitoring, tracking and tests to provide information for the emissions inventory. This includes the efforts that they ports have engaged in to test the in-use emissions of CHE.

• The Final CAAP explains that the structure of the Technology Advancement Program will be developed by a Coordination Committee that includes both ports and funding partners. The section specifically says that “When other entities are co-funding specific projects then they will be included in the Coordination Committee for their specific project” (See p. 144). SES should note this element of the Technology Advancement Program and assert its interest in being an active partner in the Coordination Committee for those projects that SES is co-funding.

Recommendations for SES

• Pursue the clarification of Control Measure SPBP-CHE1 as described under separate cover. This activity is to ensure that the CAAP does not create separate but parallel paths for diesel and alternative fuel yard tractors, and requires only that the cleanest equipment available at the time of purchase must be bought and used by the terminal operators.

• SES should monitor the release of the RFP for the LNG truck demonstration project and determine if it can play a role in one or more of the proposed projects.

• SES should continue to utilize its public outreach team to stress the crucial role the proposed LNG Import Terminal and vehicle fuel loading facility can play to the achievement of the emission reduction objectives in the CAAP.

• SES should continue to stress to important regulators, environmental and community groups, and other stakeholders that the success of the CAAP is linked to the successful development of the SES LNG Import Terminal in order to secure support for the SES project.

• Monitor and ensure that SES can play a role in the development of the LNG rail technology.

• SES should attempt to work with other project stakeholders to develop projects to integrate, test, demonstrate and commercialize LNG powered CHE of all kinds.

• SES should work to include the development, demonstration and testing of natural gas technology in all forms of CHE in the Technology Advancement Program.

• SES should work to assert its claim to be a part of the Technology Advancement Program Coordination Committee for those projects that SES has helped to co-fund.
APPENDIX J

CALIFORNIA AIR RESOURCES BOARD (CARB)- APPROVED MEASURES RELATED TO I-710 AIR QUALITY
Adopt new section 2479, title 13, California Code of Regulations, to read as follows:
(Note: The entire text of section 2479 set forth below is new language being added to the California Code of Regulations.)

Section 2479. Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards.

(a) Purpose

The purpose of this regulation is to reduce diesel particulate matter (PM) and criteria pollutant emissions from compression ignition (CI) mobile cargo handling equipment that operate at ports and intermodal rail yards in the state of California.

(b) Applicability

Except as provided in subsection (c), the regulation would apply to any person who conducts business in California who sells, offers for sale, leases, rents, purchases, owns or operates any CI mobile cargo handling equipment that operates at any California port or intermodal rail yard.

(c) Exemptions

(1) The requirements of this section do not apply to mobile cargo handling equipment that do not operate at a port or intermodal rail yard;

(2) The requirements of this section do not apply to portable CI engines;

(3) The requirements of subsections (e), (f), (g), (h), and (i) do not apply to mobile cargo handling equipment that are not used to handle cargo at any time but are used for transporting personnel or fuel delivery. Examples include, but are not limited to, fuel delivery trucks operating solely at the terminal to deliver fuel to terminal equipment and vans and buses used to transport personnel; and

(4) The requirements of this section do not apply to military tactical support cargo handling equipment.

(d) Definitions

For purposes of this section, the definitions of Health and Safety Code section 39010 through 39060 shall apply except to extent that such definitions may be modified by the following definitions that apply specifically to this regulation:
(1) "Alternative Diesel Fuel" means any fuel used in a CI engine that is not commonly or commercially known, sold, or represented by the supplier as diesel fuel No. 1-D or No. 2-D, pursuant to the specifications in ASTM D975-81, "Standard Specification for Diesel Fuel Oils," as modified in May 1982, which is incorporated herein by reference, or an alternative fuel, and does not require engine or fuel system modifications for the engine to operate, although minor modifications (e.g., recalibration of the engine fuel control) may enhance performance. Examples of alternative diesel fuels include, but are not limited to, biodiesel that does not meet the definition of CARB diesel fuel; Fischer-Tropsch fuels; emulsions of water in diesel fuel; and fuels with a fuel additive, unless:

(A) the additive is supplied to the engine fuel by an on-board dosing mechanism, or

(B) the additive is directly mixed into the base fuel inside the fuel tank of the engine, or

(C) the additive and base fuel are not mixed until engine fueling commences, and no more additive plus base fuel combination is mixed than required for a single fueling of a single engine.

(2) "Alternative Fuel" means natural gas, propane, ethanol, methanol, gasoline (when used in hybrid electric mobile cargo handling equipment only), hydrogen, electricity, fuel cells, or advanced technologies that do not rely on diesel fuel. "Alternative fuel" also means any of these fuels used in combination with each other or in combination with other non-diesel fuel.

(3) "Basic Container Handling Equipment" means mobile cargo handling equipment, other than yard trucks, bulk cargo handling equipment, and RTG cranes, used to handle cargo containers. Basic Container Handling Equipment includes but is not limited to top handlers, side handlers, reach stackers, straddle carriers, and forklifts.

(4) "Bulk Cargo Handling Equipment" means mobile cargo handling equipment, other than yard trucks, basic container handling equipment, and RTG cranes, generally used to move non-containerized cargo, including but not limited to dozers, excavators, loaders, tractors, mobile cranes (excluding rubber-tired gantry cranes), aerial lifts, and sweepers.

(5) "California Air Resources Board (CARB) Diesel Fuel" means any diesel fuel that meets the specifications of vehicular diesel fuel, as defined in title 13 CCR, sections 2281, 2282, and 2284.

(6) "Carbon Monoxide (CO)" is a colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels.

(7) "Cargo Handling Equipment" means any off-road, self-propelled vehicle or equipment used at a port or intermodal rail yard to lift or move container, bulk, or
liquid cargo carried by ship, train, or another vehicle, or used to perform maintenance and repair activities that are routinely scheduled or that are due to predictable process upsets. Equipment includes, but is not limited to, mobile cranes, rubber-tired gantry cranes, yard trucks, top handlers, side handlers, reach stackers, forklifts, loaders, sweepers, aerial lifts, excavators, and dozers.

(8) “Certified Off-road Diesel Engine” means an engine certified to California off-road engine emission standards under title 13 CCR, section 2423.


(10) “Compression Ignition (CI) Engine” means an internal combustion engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The regulation of power by controlling fuel supply in lieu of a throttle is indicative of a compression ignition engine.

(11) “Contiguous Properties” means two or more parcels of land with a common boundary or separated solely by a public roadway or other public right-of-way.

(12) “Diesel Fuel” means any fuel that is commonly or commercially known, sold, or represented by the supplier as diesel fuel, including any mixture of primarily liquid hydrocarbons (HC) - organic compounds consisting exclusively of the elements carbon and hydrogen - that is sold or represented by the supplier as suitable for use in an internal combustion, compression-ignition engine.

(13) “Diesel-Fueled” means a CI engine fueled by diesel fuel, CARB diesel fuel, or jet fuel, in whole or part.

(14) “Diesel Oxidation Catalyst (DOC)” means a catalyst promoting oxidation processes in diesel exhaust, and usually designed to reduce emissions of the organic fraction of diesel particulates, gas-phase HC, and CO.

(15) “Diesel Particulate Filter (DPF)” means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

(16) “Diesel Particulate Matter (Diesel PM)” means the particles found in the exhaust of diesel-fueled CI engines. Diesel PM may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(17) “Dozer” means an off-road tractor, either tracked or wheeled, equipped with a blade.

(18) “Emission Control Strategy” means any device, system, or strategy employed with a diesel engine that is intended to reduce emissions, including, but not limited to, diesel oxidation catalysts, selective catalytic reduction systems, fuel
additives, diesel particulate filters, alternative diesel fuels, water emulsified fuels, and any combination of the above.

(19) "Excavator" means an off-road vehicle consisting of a backhoe and cab mounted on a pivot atop an undercarriage with tracks or wheels.

(20) "Executive Officer" means the Executive Officer of the California Air Resources Board or his/her designee.

(21) "Fleet" means the total number of mobile cargo handling equipment vehicles owned, rented, or leased by an owner or operator at a specific terminal or intermodal yard location.

(22) "Forklift" means an off-road industrial truck used to hoist and transport materials by means of steel fork(s) under the load.

(23) "Fuel Additive" means any substance designed to be added to fuel or fuel systems or other engine-related engine systems such that it is present in-cylinder during combustion and has any of the following effects: decreased emissions, improved fuel economy, increased performance of the engine; or assists diesel emission control strategies in decreasing emissions, or improving fuel economy or increasing performance of the engine.

(24) "Heavy-duty Pilot Ignition Engine" means an engine designed to operate using an alternative fuel, except that diesel fuel is used for pilot ignition at an average ratio of no more than one part diesel fuel to ten parts total fuel on any energy equivalent basis. An engine that can operate or idle solely on diesel fuel at any time does not meet this definition.

(25) "Hydrocarbon (HC)" means the sum of all hydrocarbon air pollutants.

(26) "In-Use" means a CI engine that is not a "new" CI engine.

(27) "Intermodal Rail Yard" means any transportation facility primarily dedicated to the business of rail and/or intermodal rail operations where cargo is transferred to or from a train and any other form of conveyance, such as train to ship, ship to train, train to truck, or truck to train.

(28) "Lease" means a contract by which one conveys cargo handling equipment for a specified term and for a specified rent.

(29) "Level" means one of three categories of Air Resources Board-verified diesel emission control strategies as set forth in title 13, CCR, section 2701 et seq: Level 1 means the strategy reduces engine diesel particulate matter emissions by between 25 and 49 percent, Level 2 means the strategy reduces engine diesel particulate matter emissions by between 50 and 84 percent, and Level 3 means the strategy reduces engine diesel particulate matter emissions by
85 percent or greater, or reduces engine emissions to less than or equal to 0.01 grams diesel PM per brake horsepower-hour.

(30) “Loader” means any type of off-road tractor with either tracks or rubber tires that uses a bucket on the end of movable arms to lift and move material; can be also referred to as a front-end loader, front loader, skid steer loader, backhoe, rubber-tired loader, or wheeled loader.

(31) “Military Tactical Support Cargo Handling Equipment” means cargo handling equipment that meets military specifications, owned by the U.S. Department of Defense and/or the U.S. military services, and used in combat, combat support, combat service support, tactical or relief operations, or training for such operations.

(32) “Minimum Use Requirement” means an agreement, as part of state or local incentive funding programs or written agreement between mobile cargo handling equipment owners or operators and the Ports of Long Beach, Los Angeles, or Oakland, to use an emission control device on mobile cargo handling equipment for a specified minimum number of years and/or hours.

(33) “Mobile Crane” means the propulsion engine of a crane other than a rubber-tired gantry crane.

(34) “Model Year” means the CI engine manufacturer’s annual production period, which includes January 1st of a calendar year, or if the manufacturer has no annual production period, the calendar year.

(35) “Newly Purchased, Leased, or Rented Cargo Handling Equipment” means mobile cargo handling equipment, or a diesel-fueled CI engine installed in mobile cargo handling equipment, that is newly purchased, rented, or leased by an owner or operator on or after January 1, 2007, and is operated at a port or intermodal rail yard in the state of California after January 1, 2007.

(36) “Nitrogen Oxides (NOx)” means compounds of nitric oxide (NO), nitrogen dioxide (NO₂), and other oxides of nitrogen, which are typically created during combustion processes and are major contributors to smog formation and acid deposition.

(37) “Non-Methane Hydrocarbons (NMHC)” means the sum of all HC air pollutants except methane.

(38) “Non-Yard Truck Mobile Cargo Handling Equipment” means all mobile cargo handling equipment other than yard trucks.

(39) “Ocean-going Vessel” means a commercial, government, or military vessel meeting any one of the following criteria:
(A) a vessel with a “registry” (foreign trade) endorsement on its United States Coast Guard certificate of documentation, or a vessel that is registered under the flag of a country other than the United States;
(B) a vessel greater than or equal to 400 feet in length overall (LOA) as defined in 50 CFR § 679.2, as adopted June 19, 1996;
(C) a vessel greater than or equal to 10,000 gross tons (GT ITC) per the convention measurement (international system) as defined in 46 CFR 69.51-61, as adopted September 12, 1989; or
(D) a vessel propelled by a marine compression ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.

(40) “Off-Road Engine” means an engine used in an off-road vehicle, or piece of equipment, including a certified on-road diesel engine.

(41) “Off-Road Vehicle or Equipment” means any non-stationary device, including registered motor vehicles, powered by an internal combustion engine or motor, used primarily off the highways to propel, move, or transport persons or property.

(42) “Owner or Operator” means any person subject to the requirements of this section, including but not limited to:
   (A) an individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including but not limited to, a government corporation; and
   (B) any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law.

(43) “Particulate Matter (PM)” means the particles found in the exhaust of CI engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(44) “Port” means a place, which typically consists of different terminals, where cargo is loaded onto and unloaded from ocean-going vessels primarily. A port includes military terminals that operate cargo handling equipment when located as part of, or on contiguous properties with, non-military terminals.

(45) “Portable CI Engine” means a compression ignition (CI) engine designed and capable of being carried or moved from one location to another. Indicators of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. Portable engines are not self-propelled.

(46) “Purchased” means the date shown on the front of the cashed check, the date of the financial transaction, or the date on the engine purchasing agreement, whichever is earliest.
(47) “Railcar Mover” means an off-road vehicle fitted with rail couplers and capable of traveling on both roads and rail tracks.

(48) “Reach Stacker” means an off-road truck-like cargo container handler that uses an overhead telescopic boom that can reach across two or more stacks of cargo containers and lift the containers from the top.

(49) “Registered Motor Vehicle” means a yard truck or other cargo handling vehicle that is registered as a motor vehicle under Vehicle Code section 4000, et seq.

(50) “Rent” means payment for the use of mobile cargo handling equipment for a specified term.

(51) “Retirement” or “Retire” means an engine or vehicle that will be taken out of service by an owner or operator and will not be operated at a port or intermodal rail yard in the State of California. The engine may be sold outside of California or scrapped.

(52) “Rubber-tired Gantry Crane or RTG Crane” means an off-road overhead cargo container crane with the lifting mechanism mounted on a cross-beam supported on vertical legs which run on rubber tires.

(53) “Side Handler or Side Pick” means an off-road truck-like cargo container handler that uses an overhead telescopic boom to lift empty or loaded cargo containers by grabbing either two top corners on the longest side of a container, both arms of one side of a container, or both top and bottom sides of a container.

(54) “Sweeper” means an off-road vehicle with attached brushes underneath that sweep the ground and pick up dirt and debris.

(55) “Terminal” means a facility, including one owned or operated by the Department of Defense or the U.S. military services, that operates cargo handling equipment at a port or intermodal rail yard.


(57) “Top Handler or Top Pick” means an off-road truck-like cargo container handler that uses an overhead telescopic boom to lift empty or loaded cargo containers by grabbing the top of the containers.

(58) “Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (Verification Procedure)” means the Air Resources Board (ARB) regulatory procedure codified
in title 13, CCR, sections 2700-2710, which is incorporated herein by reference, that engine manufacturers, sellers, owners, or operators may use to verify the reductions of diesel PM and/or NOx from in-use diesel engines using a particular emission control strategy.

(59) “Verified Diesel Emission Control Strategy (VDECS)” means an emission control strategy, designed primarily for the reduction of diesel PM emissions, which has been verified pursuant to the “Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines” in title 13, California Code of Regulations, commencing with section 2700.

(60) “Yard truck” means an off-road mobile utility vehicle used to carry cargo containers with or without chassis; also known as utility tractor rig (UTR), yard tractor, yard goat, yard hostler, yard hustler, or prime mover.

(e) Requirements

(1) Newly Purchased, Leased, or Rented Equipment Performance Standards:

(A) Yard Trucks:

1. Except as provided in subsection (c), on or after January 1, 2007, no owner or operator shall operate any newly purchased, leased, or rented yard trucks unless they are equipped with the following types of engines:

a. Yard trucks that are registered as motor vehicles shall be equipped with engines that meet the on-road emission standards as specified in title 13, California Code of Regulations, section 1956.8, for the model year in which the yard trucks and engines were newly purchased, leased, or rented.

b. Yard trucks that are not registered as motor vehicles shall be equipped with engines:

i. that are certified to the on-road emission standards set forth in title 13, CCR, section 1956.8; for the model year in which the yard trucks and engines were newly purchased, leased, or rented; or

ii. that have been certified to meet the final Tier 4 off-road emission standards for the rated horsepower.

(B) Non-Yard Truck Cargo Handling Equipment:

1. Except as provided in subsection (c), on or after January 1, 2007, no owner or operator shall operate any newly purchased, leased, or rented non-yard truck vehicles or equipment unless they meet the following:

a. Non-yard truck mobile cargo handling equipment that are registered as motor vehicles shall be equipped with engines that meet the
on-road emission standards as specified in title 13, California Code of Regulations, section 1956.8, for the model year in which the non-yard truck mobile cargo handling equipment and engines were newly purchased, leased, or rented.

b. Non-yard truck mobile cargo handling equipment that are not registered as motor vehicles shall be equipped with engines:

i. that have been certified to meet the on-road emission standards as specified in title 13, California Code of Regulations, section 1956.8 for the model year in which the non-yard truck mobile cargo handling equipment and engines were newly purchased, leased, or rented; or

ii. that have been certified to meet the Tier 4 off-road emission standards for the model year and rated horsepower of the newly purchased, leased, or rented non-yard truck mobile cargo handling equipment engines; or

c. if (b) above is not available for the specific application and equipment type, the non-yard truck mobile cargo handling equipment shall be equipped with engines that have been certified to meet the highest available level off-road diesel engine emission standards as specified in title 13, California Code of Regulations, section 2423 for the rated horsepower and model year in which the equipment were newly purchased, leased, or rented, provided the owner or operator must install the highest level VDECS available within one year after the purchase, lease, or rental of the equipment, or within 6 months of when a VDECS becomes available, if that occurs after one year after the purchase, lease, or rental.

(2) In-Use Performance Standards for Yard Trucks

(A) In accordance with the schedule set forth below in paragraph (e)(2)(B), no owner or operator shall operate an in-use yard truck at a port or intermodal rail yard unless the engine meets the performance standards set forth below:

1. is certified to 2007 or later on-road emission standards for the model year of the year purchased as specified in title 13, California Code of Regulations, section 1956.8; or

2. is certified to final Tier 4 off-road emission standards for the rated horsepower; or

3. is equipped with a VDECS that results in emissions less than or equal to the diesel PM and NOx emission standards for a certified final Tier 4 off-road diesel engine of the same horsepower rating.
(B) Compliance Schedules for In-Use Yard Trucks

1. All owners or operators of three or fewer yard trucks shall comply with subsection (e)(2) according to the schedule in Table 1:

<table>
<thead>
<tr>
<th>Model Year</th>
<th>Compliance Deadline</th>
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<tbody>
<tr>
<td>Pre-2003</td>
<td>Dec. 31, 2007</td>
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<tr>
<td>2003</td>
<td>Dec. 31, 2010</td>
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<td>2004</td>
<td>Dec. 31, 2011</td>
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<tr>
<td>2006</td>
<td>Dec. 31, 2013</td>
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<tr>
<th>Model Year</th>
<th>Compliance Deadline</th>
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</thead>
<tbody>
<tr>
<td>Pre-2003</td>
<td>Dec. 31, 2008</td>
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<td>2003</td>
<td>Dec. 31, 2011</td>
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<td>2004</td>
<td>Dec. 31, 2012</td>
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<td>2006</td>
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<th>Model Year</th>
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<td>2005</td>
<td>Dec. 31, 2014</td>
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<tr>
<td>2006</td>
<td>Dec. 31, 2015</td>
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</tbody>
</table>

2. All owners or operators of four or more yard trucks shall comply with subsection (e)(2) according to the schedule in Table 2:
Table 2: Compliance Schedule for In-Use Yard Truck Fleets of Four or More

### Off-road without VDECS Installed by December 31, 2006

<table>
<thead>
<tr>
<th>Model Year</th>
<th>% of Model Year</th>
<th>Compliance Deadline</th>
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<tbody>
<tr>
<td>Pre-2003</td>
<td>Greater of 3 or 50%</td>
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<td></td>
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<td>2003</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2010</td>
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<td>50%</td>
<td>Dec. 31, 2011</td>
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<td>2004</td>
<td>Greater of 3 or 25%</td>
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<td>50%</td>
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<td>2005</td>
<td>Greater of 3 or 25%</td>
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<td>2006</td>
<td>Greater of 3 or 25%</td>
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<td>50%</td>
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### Off-road with VDECS Installed by December 31, 2006

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<tr>
<th>Model Year</th>
<th>% of Model Year</th>
<th>Compliance Deadline</th>
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### On-road without VDECS Installed by December 31, 2006

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<th>Model Year</th>
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<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2015</td>
</tr>
<tr>
<td>2006</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2014</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2015</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2016</td>
</tr>
</tbody>
</table>

### On-road with VDECS Installed by December 31, 2006

<table>
<thead>
<tr>
<th>Model Year</th>
<th>% of Model Year</th>
<th>Compliance Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-2000</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2008</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2009</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2010</td>
</tr>
<tr>
<td>2000</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2009</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2010</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2011</td>
</tr>
<tr>
<td>2001</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2010</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2011</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2012</td>
</tr>
<tr>
<td>2002</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2011</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2012</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2013</td>
</tr>
<tr>
<td>2003</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2012</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2013</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2014</td>
</tr>
<tr>
<td>2004</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2013</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2014</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2015</td>
</tr>
<tr>
<td>2005</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2014</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2015</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2016</td>
</tr>
<tr>
<td>2006</td>
<td>Greater of 3 or 25%</td>
<td>Dec. 31, 2015</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>Dec. 31, 2016</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>Dec. 31, 2017</td>
</tr>
</tbody>
</table>
a. for each compliance deadline, the percentage of yard trucks
(25 percent, 50 percent, or 100 percent) that must meet the
requirements of subsection (e)(2) is determined based on the total
population of yard trucks for a specific model year or model year
group (i.e., pre-2000 or pre-2003, depending upon whether the
equipment is characterized as on- or off-road) that exist in the
owner’s or operator’s yard truck fleet as of January 1 of the first
compliance deadline year for that model year or model year group;
and
b. if the number of yard trucks is not a whole number, conventional
rounding practices apply (i.e., if less 0.5, round down; if 0.5 or
greater, round up).

(3) In-Use Performance Standards for Non-Yard Truck Mobile Cargo Handling
Equipment

(A) In accordance with the schedule set forth in subsection (e)(3)(C), no owner
or operator shall operate non-yard truck mobile cargo handling equipment
unless they meet all of the following:

1. Use one of the Compliance Options for each vehicle or equipment in the
active fleet as specified in paragraph (e)(3)(B) per the compliance
schedule listed in Table 3 in subsection (e)(3)(C); and

2. Adherence to any special circumstances that may apply when a diesel
emission control strategy is used as a Compliance Option as specified in
subsection (g); and

3. Maintenance of all records as specified in subsection (i); and

4. Continuous Compliance. An owner or operator is required to keep all
mobile cargo handling equipment operating in California in compliance
with the requirements of this regulation at all times.

(B) Compliance Option. Each owner or operator shall use one of the following
Compliance Options on each engine or vehicle in his fleet as required by the
implementation schedule listed in Table 3 in subsection (e)(3)(C):

1. Basic Container Handling Equipment:

a. An engine or power system, including a diesel, alternative fuel, or
heavy-duty pilot ignition engine, certified to either the 2007 or later
model year on-road emission standards for the year manufactured as
specified in title 13, CCR, section 1956.8, or the Tier 4 off-road
emission standards for the rated horsepower and model year of the
year manufactured; or
b. An engine or power system certified to the on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or certified to the Tier 2 or Tier 3 off-road diesel engine standard for the rated horsepower and model year of the year manufactured, and used in conjunction with the highest level VDECS that is verified for a specific engine family and model year. If the highest level VDECS used is Level 1, the engine or power system must meet the certified Tier 4 off-road emission standards, or be equipped with a Level 3 VDECS by December 31, 2015; or

c. An engine or power system either certified to the Tier 1 off-road diesel engine standard, as specified in title 13, CCR, section 2423, or manufactured prior to implementation of the Tier 1 off-road diesel engine standard, both of which must be used in conjunction with the highest level VDECS that is verified for the specific engine family and model year. If the highest level VDECS used is Level 1 or Level 2, the engine or power system must meet the certified Tier 4 off-road emission standards or be equipped with a Level 3 VDECS by December 31, 2015.

2. Bulk Cargo Handling Equipment:

a. An engine or power system, including a diesel, alternative fuel, or heavy-duty pilot ignition engine, certified to either the 2007 or later model year on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or the Tier 4 off-road emission standards for the rated horsepower and model year of the year manufactured; or

b. An engine or power system certified to the on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or certified to the Tier 2 or Tier 3 off-road diesel engine standard for the rated horsepower and model year of the year manufactured, and used in conjunction with the highest level VDECS that is verified for a specific engine family and model year. If the highest level VDECS used is Level 1, the engine or power system must meet the certified Tier 4 off-road emission standards, or be equipped with a Level 3 VDECS by December 31, 2015; or

c. An engine or power system either certified to the Tier 1 off-road diesel engine standard, as specified in title 13, CCR, section 2423, or manufactured prior to implementation of the Tier 1 off-road diesel engine standard, both of which must be used in conjunction with the highest level VDECS that is verified for the specific engine family and model year. If the highest level VDECS used is Level 1, the engine or power system must meet the certified Tier 4 off-road emission
standards or be equipped with a Level 3 VDECS by December 31, 2015.

3. Rubber-Tired Gantry Cranes:

a. An engine or power system, including a diesel, alternative fuel, or heavy-duty pilot ignition engine, certified to either the 2007 or later model year on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or the Tier 4 off-road emission standards for the rated horsepower and model year of the year manufactured; or

b. An engine or power system certified to the on-road emission standards for the year manufactured as specified in title 13, CCR, section 1956.8, or certified to the Tier 2 or Tier 3 off-road diesel engine standard for the rated horsepower and model year of the year manufactured, and used in conjunction with the highest level VDECS that is verified for a specific engine family and model year; or

c. An engine or power system either certified to the Tier 1 off-road diesel engine standard, as specified in title 13, CCR, section 2423, or manufactured prior to implementation of the Tier 1 off-road diesel engine standard, both of which must be used in conjunction with the highest level VDECS that is verified for the specific engine family and model year. If the highest level VDECS used is Level 1 or Level 2, the engine or power system must meet the certified Tier 4 off-road emission standards or be equipped with a Level 3 VDECS by the latter of model year plus 12 years or December 31, 2015.

(C) Compliance Schedule for Non-Yard Truck Mobile Cargo Handling Equipment

1. All owners or operators of non-yard truck mobile cargo handling
Table 3: Compliance Option Compliance Schedule for Non-Yard Truck In-Use Mobile Cargo Handling Equipment

<table>
<thead>
<tr>
<th>Engine Model Years</th>
<th>Non-Yard Truck Fleets of 3 or Fewer</th>
<th>Compliance Date¹</th>
<th>Non-Yard Truck Fleets of 4 or More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Non-Yard Truck</td>
<td>First 3 or 25% (whichever is</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fleets of 3 or</td>
<td>greater)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fewer</td>
<td></td>
</tr>
<tr>
<td>pre-1988</td>
<td>2007</td>
<td>2007</td>
<td>2008</td>
</tr>
</tbody>
</table>

a. for each compliance deadline, the percentage of non-yard truck equipment (25 percent, 50 percent, or 100 percent) that must meet the requirements of subsection (e)(3) is determined based on the total population of non-yard truck equipment for a specific model year group (i.e., pre-1988) that exist in the owner’s or operator’s non-yard truck fleet as of January 1 of the first compliance deadline year for that model year group; and

b. if the number of non-yard truck equipment is not a whole number, conventional rounding practices apply (i.e., if less 0.5, round down; if 0.5 or greater, round up).

(4) Fuel Requirements

(A) Except as provided for in subsection (c), on or after January 1, 2007, no owner or operator of cargo handling equipment shall fuel the equipment with any fuel unless the fuel is one of the following:

1. CARB Diesel Fuel; or
2. An alternative diesel fuel that meets the requirements of the Verification Procedure; or
3. An alternative fuel; or
4. CARB Diesel Fuel used with fuel additives that meets the requirements of the Verification Procedure; or
5. Any combination of (e)(4)(A)1. through (e)(4)(A)4. above.

(B) Owners or operators choosing to use alternative diesel fuels in mobile cargo handling equipment to meet the requirements of subsections (e)(2) and (e)(3) shall:

¹ Compliance date refers to December 31st of the year indicated.
1. Maintain records in accordance with subsection (i); and
2. Use only fuel that is a VDECs alternative diesel fuel in mobile cargo handling equipment at ports or intermodal rail yards in California; and
3. Permanently affix a label in clear view near the fill spout that identifies the proper fuel that is required to be in compliance; and
4. In the event that the owner or operator decides to revert to using CARB diesel fuel, the operator shall comply with the requirements of subsections (e)(2) and (e)(3) within 10 days of discontinuation of alternative diesel fuel use. Within 10 days of discontinuation, the owner or operator shall notify the Executive Officer in writing of this change in fuel use and shall include an update to any annual report submitted to comply with subsections (j).

(C) Owners or operators that retrofit mobile cargo handling equipment with a VDECs that requires certain fuel properties to be met in order to achieve the required PM reduction or PM emissions shall only fuel the subject mobile cargo handling equipment with fuel that meets these specifications. In addition, owners or operators that choose a VDECs that requires certain fuel properties to be met in order to prevent damage to the VDECs or an increase in toxic air contaminants, other harmful compounds, or in the nature of the emitted PM, shall only fuel the subject mobile cargo handling equipment with fuel that meets these specifications.

(f) Compliance Extensions

An owner or operator may be granted an extension to a compliance deadline specified in subsection (e) for one of the following reasons. If a compliance extension is granted by the Executive Officer, the owner or operator shall be deemed to be in compliance as specified by the Executive Officer's authorization. Unless specifically stated, compliance extensions may not be combined or used consecutively, and only one compliance extension type may be granted per engine or vehicle.

(1) Compliance Extension for an Engine Near Retirement. If an owner or operator has applied a Compliance Option to its fleet pursuant to the schedule set forth in Table 3 of subsection (e), and the next engine subject to the Compliance Options is scheduled to be retired from the active fleet within one year of the applicable compliance deadline, the owner or operator does not need to apply a Compliance Option to that engine for up to one year, provided the owner or operator maintains appropriate records and documentation, as specified in subparagraph (i)(1)(F), regarding the assigned retirement date and the engine is retired on or before the assigned date. If upon inspection, ARB finds the aforementioned conditions to have not been met, the engine would be in noncompliance from the date that compliance would otherwise have been required under the schedule set forth in Table 3 of subsection (e).
Compliance Extension Based on No Verified Diesel Emission Control Strategy for Non-Yard Truck Mobile Cargo Handling Equipment. If the Executive Officer has not verified a diesel emission control strategy or one is not commercially available for a particular engine and equipment combination, an annual extension in compliance, up to a maximum of two years, may be granted by the Executive Officer. The Executive Officer shall grant the extension upon determining that the following circumstances have been met:

(A) The owner or operator has applied to the Executive Officer for a compliance extension for an engine six months prior to each compliance deadline specified in subsection (e)(3)(C) and provided sufficient documentation to meet the conditions set forth below. The owner or operator may, six months prior to the expiration of the extension, apply for an additional one-year extension. In such a case, the owner or operator shall once again be required to show to the Executive Officer’s satisfaction that the conditions set forth below have been met:

1. Establish that it has applied a Compliance Option specified in subsection (e)(3) to all applicable engines in its fleet for which a Compliance Option is feasible pursuant to the schedule set forth in Table 3 of subsection (e),

2. Identify each engine for which an extension is requested by engine serial number; engine manufacturer, model year, family, and series; and type of mobile cargo handling equipment, for which a specific diesel emission control strategy would jeopardize the original engine warranty and a statement from the engine manufacturer or authorized dealer stating the original engine warranty would be jeopardized; or

3. Identify each engine and equipment or vehicle combination for which an extension is requested by engine serial number; engine manufacturer, model year, family, and series; and type of mobile cargo handling equipment, for which no diesel emission control strategy is commercially available and a list of manufacturers that have been contacted with their responses to a request to purchase, and

4. Describe the reason(s) for the request for a compliance extension for each engine or engine and equipment or vehicle combination.

Use of Experimental Diesel Particulate Matter Emission Control Strategies for Non-Yard Truck Mobile Cargo Handling Equipment. An annual compliance extension may be granted by the Executive Officer for the use of an experimental, or non-verified, diesel PM emission control strategy if a VDECS is not available or if the owner or operator can demonstrate that an existing VDECS is not feasible for their equipment or application. The owner or operator shall keep documentation of this use in records as specified in paragraph (i)(1)(G). Each mobile cargo handling equipment engine will be considered to be in compliance for the duration of the experiment, until the extension expires. The owner or operator must bring the mobile cargo handling equipment into compliance prior to the end of the annual compliance extension. The Executive
Officer may grant the extension upon determining that the owner or operator has met the conditions specified below:

(A) The engine owner or operator has applied to the Executive Officer for a compliance extension six months prior to each compliance deadline, including annually if the owner or operator wishes to continue with the experimental controls. The application must include emissions data demonstrating the experimental control achieves at least a Level 1 diesel PM emission reduction through:

1. off-road engine certification test data for the cargo handling equipment engine;
2. engine manufacturer test data;
3. emissions test data from a similar engine;
4. emissions test data used in meeting the requirements of the Verification Procedure for the emission control strategy implemented; or
5. emissions testing conducted under the following conditions:
   a. baseline testing may be conducted with the emission control strategy in place, provided the test sample is taken upstream of the emission control strategy;
   b. control strategy testing shall be performed on the cargo handling equipment engine with full implementation of the emission control strategy;
   c. the percent change from baseline shall be calculated as the baseline emissions minus control strategy emissions, with the difference being divided by the baseline emissions and the result expressed as a percentage;
   d. the same test method shall be used for determining both baseline emissions and control strategy emissions; and
   e. diesel PM, NOx, CO, HC, NMHC, and CO₂ testing shall be done in accordance with one of the following methods:
      ii. Title 13, California Code of Regulations, section 2423, "Exhaust Emission Standards and Test Procedures – Off-Road Compression Ignition Engines," which is incorporated herein by reference.

(B) The application for extension must include the following: explanation demonstrating that the highest level VDECS are not feasible for the specific equipment or application (if applicable), identification of each engine (serial number, engine manufacturer, model year, family, and series), description of the emission control system to be demonstrated, emissions data required in (A) above, the contact information for the emission control system supplier,
and a letter of intent from the supplier that they intend to apply for verification of the experimental system;

(C) The owner or operator must bring the mobile cargo handling equipment into compliance prior to the end of the compliance extension period;

(D) If VDECS are available, or become available during the extension period, and are determined to be feasible for the specific engine and equipment type, the owner or operator must demonstrate that the experimental control achieves equivalent to or better than a Level 1 VDECS; and

(E) No experimental diesel particulate matter emission control strategy may be used on mobile cargo handling equipment after December 31, 2015.

(4) Compliance Extension for Equipment Manufacturer Delays. An owner or operator who has purchased new equipment in order to comply with subsection (e), including an owner or operator who has been granted a compliance extension per subsections (f)(2), (f)(3), or (f)(5), will be considered to be in compliance if the new equipment has not been received due to manufacturing delays, as long as the following conditions are met:

(A) The equipment was purchased, or the owner or operator and seller had entered into contractual agreement for the purchase, at least six months prior to the required compliance date as specified in subsection (e); and

(B) Proof of purchase, such as a purchase order or signed contract for the sale, including engine specifications for each applicable equipment, must be maintained by the owner or operator and provided to an agent or employee of ARB upon request.

(5) Compliance Extension for Yard Trucks Having VDECS with Minimum Use Requirements. If VDECS were installed on a yard truck prior to December 31, 2005, and the minimum use requirements of the VDECS, as established under a public funding program, is later than the compliance date as specified in subsection (e)(2)(B), an exemption from compliance may be extended to three years beyond the installation date of the VDECS if the following conditions are demonstrated by the owner or operator:

(A) The VDECS was installed using funding from a public agency; and

(B) The funding program stipulated minimum use requirements that would expire after the required compliance date as specified in subsection (e)(2)(B).
(g) Diesel Emission Control Strategy Special Circumstances

An owner or operator shall maintain the original level of the elected Compliance Option for each engine once that engine is required to be in compliance, and is not required to upgrade to a higher level of Compliance Option, except under specified special circumstances, as follows:

(1) In the event of a failure or damage of a diesel emission control strategy, the following conditions apply:

(A) Failure or Damage during the Warranty Period. If a diesel emission control strategy fails or is damaged within its warranty period and the diesel emission control strategy manufacturer or authorized dealer determines it cannot be repaired, the owner or operator shall replace the diesel emission control strategy with either the same level diesel emission control strategy or another approved Compliance Option as defined in subsection (e)(3) within 90 days of diesel emission control strategy failure.

(B) Failure or Damage Outside of Warranty Period. If a diesel emission control strategy fails or is damaged outside of its warranty period, and it cannot be repaired, the owner or operator shall apply a Compliance Option within 90 days, as defined in subsection (e)(3).

(h) Alternative Compliance Plan for Non-Yard Truck Cargo Handling Equipment

(1) Requirements

(A) The purpose of this subsection is to allow any person ("person" or "applicant") subject to this regulation the option of complying with the requirements of this subsection (h) in lieu of the requirements of subsection (e)(3). Under this subsection (h), alternative emission control strategies (AECS) can be implemented as an alternative compliance plan (ACP), provided they result in no greater emissions, expressed in pounds, of diesel PM and NOx from the non-yard truck cargo handling equipment, over the applicable calendar year, relative to the emissions that would have occurred under subsection (e)(3).

(B) An applicant wishing to participate in an ACP may include one or more non-yard truck cargo handling equipment in the ACP, but the applicant shall only include equipment that the person owns or operates under their direct control at the same port or intermodal rail yard.

(C) No cargo handling equipment shall be included in more than one ACP.
(D) AECS may include, but are not limited to:

1. equipment engine modifications,
2. exhaust treatment control,
3. engine repower,
4. equipment replacement, and
5. use of alternative fuels or fuel additives.

(E) The ACP application demonstrating compliance with this subsection shall contain, at a minimum, the following information:

1. the company name, address, and contact information;
2. the equipment subject to the ACP, including equipment and engine make, model, and serial numbers, and other information that uniquely identify the equipment;
3. documentation, calculations, emissions test data, or other information that establishes the diesel PM and NOx reductions, expressed in pounds, from non-yard truck cargo handling equipment will be equivalent to or greater than the emission reductions that would have been achieved upon compliance with subsection (e)(3);
4. the proposed recordkeeping, reporting, monitoring, and testing procedures that the applicant plans to use to demonstrate continued compliance with the ACP.

(F) Emission reduction calculations demonstrating equivalence with the requirements of subsection (e)(3) shall only include diesel PM and NOx emissions from non-yard truck cargo handling equipment that operate at the California port or intermodal rail yard to which the ACP applies.

(G) Any owner or operator subject to an approved ACP shall maintain operating records in a manner and form as specified by the Executive Officer in the approved ACP. Required records may include, but are not limited to, information on hours of operation, fuel usage, maintenance procedures, and emissions test results. Such records and reports shall be retained for a period of not less than three (3) years and shall be submitted to the Executive Officer in the manner specified in the approved ACP and upon request by the Executive Officer.

(H) Emission reductions included in an ACP shall not include reductions that are otherwise required by any local, State, or federal rule, regulation, or statute, or that are achieved or estimated from equipment not located at the specific port or intermodal rail yard to which the ACP applies.

(I) No person may operate any non-yard truck cargo handling equipment under an ACP unless the applicant has first been notified in writing by the Executive Officer that the ACP application has been approved. Prior to such
approval, applicants shall comply with the provisions of this section, including the requirements in subsection (e)(3).

(2) Application Process

(A) Applications for an ACP shall be submitted in writing to the Executive Officer for evaluation.

(B) The Executive Officer shall establish an Internet site ("ACP Internet site") in which all documents pertaining to an ACP application will be made available for public review. The Executive Officer shall also provide a copy of all such documents to any person upon request ("interested party(ies)"). The Executive Officer shall provide two separate public comment periods during the ACP application process, as specified in this subsection (h)(2).

(C) Completeness Determination

Within 15 days after receiving an ACP application(s), the Executive Officer shall notify the applicant whether the application is deemed sufficiently complete to proceed with further evaluation. If the application is deemed incomplete, the notification shall identify the application's deficiencies. The Executive Officer shall have an additional 15-day period for reviewing each set of documents or information submitted in response to an incompleteness determination. Nothing in this subsection prohibits the Executive Officer from requesting additional information from the applicant, during any part of the ACP application process, which the Executive Officer determines is necessary to evaluate the application.

(D) Notice of Completeness and 30-Day First Public Comment Period

After an ACP application has been deemed complete, the Executive Officer shall provide a 30-day public comment period to receive comments on any element of the ACP application and whether the Executive Officer should approve or disapprove the ACP application based on the contents and merits of the application. The Executive Officer shall notify all interested parties of the following:

1. the applicant(s);
2. the start and end dates for the 30-day first comment period; and
3. the address of the ACP Internet site where the application is posted.

The Executive Officer shall also make this notification available for public review on the ACP Internet site.
(E) Proposed Action and 15-Day Second Public Comment Period

Within 30 days after the first public comment period ends, the Executive Officer shall notify the applicant and all interested parties of ARB’s proposed approval or disapproval. This notification shall propose to approve the application as submitted, disapprove the application, or approve the ACP application with modifications as deemed necessary by the Executive Officer. The notification shall identify the start and end dates for the 15-day second public comment period. During the second public comment period, any person may comment on the Executive Officer’s proposed approval or disapproval of the ACP application and any element of the application. The Executive Officer shall also make this notification available for public review on the ACP Internet site.

(F) Final Action

Within 15 days after the second public comment period ends, the Executive Officer shall take final action to either approve or deny an ACP application and shall notify the applicant accordingly. If the application is denied or modified, the Executive Officer shall state the reasons for the denial or modification in the notification. The notification to the applicant and approved ACP, if applicable, shall be made available to the public on the ACP Internet site. In addition, the Executive Officer shall consider and address all comments received during the first and second public comment periods, and provide responses to each comment on the ACP Internet site.

(G) Notification to the Executive Officer of Changes to an Approved ACP

The applicant shall notify the Executive Officer in writing within 30 days upon learning of any information that would alter the emissions estimates submitted during any part of the ACP application process. If the Executive Officer has reason to believe that an approved ACP has been granted to a person that no longer meets the criteria for an ACP, the Executive Officer may, pursuant to subsection (h)(3) below, modify or revoke the ACP as necessary to assure that the applicant and subject non-yard truck cargo handling equipment will meet the emission reduction requirements in this section.

(3) Revocation or Modification of Approved ACPs

With 30-days notice to the ACP holder, the Executive Officer may revoke or modify, as needed, an approved ACP if there have been multiple violations of the ACP provisions or the requirements of the approved ACP; or if the Executive Officer has reason to believe that an approved ACP has been granted that no longer meets the criteria or requirements for an ACP or the applicant can no longer comply with the requirements of the approved ACP in its current form.
Public notification of a revocation or modification of an approved ACP shall be made available on the ACP Internet site.

(i) Recordkeeping Requirements

Beginning December 31, 2006, an owner or operator of mobile cargo handling equipment shall maintain the following records or copies of records at port and intermodal rail yard facilities where applicable. The owner or operator shall provide the following records for inspection to an agent or employee of ARB upon request, including copies of these records at the department’s expense, for all mobile cargo handling equipment subject to compliance with the regulation:

(1) Records Kept at Terminal. The owner or operator shall keep the following records accessible either in hard copy format or computer records at the terminal where the mobile cargo handling equipment normally resides:

(A) Owner or Operator Contact Information
   1. Company name
   2. Contact name, phone number, address, e-mail address
   3. Address of equipment

(B) Equipment and Engine Information
   1. Make of equipment and engine
   2. Model of equipment and engine
   3. Engine family (if applicable)
   4. Engine serial number
   5. Year of manufacture of equipment and engine (if unable to determine, approximate age)
   6. Rated brake horsepower
   7. Control equipment (if applicable)
      a. Type of diesel emission control strategy
      b. Serial number of installed diesel emission control strategy
      c. Manufacturer of installed diesel emission control strategy
      d. Model of installed diesel emission control strategy
      e. Installation date of installed diesel emission control strategy
      f. Level of control (1, 2, or 3); if using a Level 1 or 2, include the reason for the choice
      g. Documentation for Minimum Use Requirement Compliance Extension pursuant to paragraph (f)(5)

(C) Records of maintenance for each installed diesel emission control strategy

(D) Fuel(s) Used
   1. CARB Diesel
   2. Alternative diesel fuel (specify)
   3. Alternative fuel (specify)
4. Combination (dual fuel) (specify)
5. Other (specify)

(E) Operation Information
1. Describe general use of engine
2. Typical load (percent of maximum bhp rating)
3. Typical annual hours of operation
4. If seasonal, months of year operated and typical hours per month operated

(F) For each engine for which an owner or operator is claiming an exemption pursuant to paragraph (f)(1), the retirement date correlated to the information in paragraph (i)(1) above

(G) For each engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(3), the records of the test plan, including start and end dates of the experiment; diesel particulate matter emission control strategy manufacturer name and contact information (representative, address, and phone number); name and type of experimental diesel particulate matter emission control strategy; and targeted data to be generated by experiment, correlated to the information in paragraph (i)(1) above

(H) For each engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(4), the purchase order or signed contract between the owner or operator and seller of the new equipment that has been purchased in order to comply with subsection (e)

(I) A statement of compliance, prepared beginning January 1, 2007, and renewed each January 1 thereafter until January 1, 2016, certifying that the owner’s or operator’s engines are in compliance as required, including the following:

1. “The mobile cargo handling equipment at terminal (insert terminal name and name of port or intermodal rail yard) are in compliance with title 13, California Code of Regulations, section 2479,” and
2. The owner’s or operator’s name, business address, business telephone; and
3. The signature of the owner or operator or its agent and date signed.

(2) Records Kept in Mobile Cargo Handling Equipment. For each mobile cargo handling equipment, the owner or operator shall keep the following information affixed to the driver’s side door jamb, or another readily accessible location known by the owner or operator of each mobile cargo handling equipment, in the form of a legible and durable label or in an alternative form approved by the
Executive Officer or designee that is immediately accessible at the time of inspection by the enforcement agency:

(A) For each installed diesel emission control strategy, label information as specified in title 13, CCR, section 2706(g), and the installation date; or

(B) For each mobile cargo handling equipment that has installed a certified on-road or off-road engine in order to comply with subsection (e), the engine make, model, and installation date; or

(C) Engine model year and planned compliance date; or

(D) Engine model year and retirement date for an engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(1); or

(E) Engine model year and beginning and end date for which an owner or operator is claiming an extension pursuant to paragraph (f)(2); or

(F) Engine model year and beginning and ending date of the test plan for an engine for which an owner or operator is claiming an extension pursuant to paragraph (f)(3); or

(G) Engine model year and date of purchase of replacement engine or equipment for which an owner or operator is claiming an extension pursuant to paragraph (f)(4); or

(H) Engine model year, date of installation of VDECS, and supporting documentation for public funding program, for the engine and equipment for which an owner or operator is claiming an extension pursuant to paragraph (f)(5).

(3) Each owner or operator shall maintain these records for each mobile cargo handling equipment until it is sold outside of the State of California or is no longer used at a port or intermodal rail yard in the State of California. If ownership is transferred, the seller shall convey the records to the buyer.

(j) Reporting Requirements

(1) Compliance Plan. By January 31, 2007, each owner or operator of in-use mobile cargo handling equipment subject to the requirements of subsection (e) shall provide the following information to the Executive Officer:

(A) Information listed in paragraph (i)(1), and

(B) An identification of the planned control strategy (Compliance Plan) for each mobile cargo handling equipment listed in paragraph (i)(1) that, when
implemented, will result in compliance with subsection (e). If applicable, the information should include the Executive Order number issued by the Executive Officer for a VDECS that has been approved by the Executive Officer through the Verification Procedure. The Compliance Plan is not binding and can be changed by the owner or operator prior to the required compliance date(s).

(2) Demonstration of Compliance. By no later than the earliest applicable compliance date specified in subsections (e)(2)(B) or (e)(3)(C), for each in-use cargo handling equipment subject to the requirements of subsection (e), the owner or operator shall provide the following information to the Executive Officer:

(A) Information listed in (i)(1), and

(B) An identification of the control strategy implemented for each mobile cargo handling equipment in accordance with the requirements of subsection (e) for purposes of demonstrating compliance.

(3) Annual Reporting. Each terminal owner or operator shall submit an annual report to the Executive Officer by January 31, 2007, and by each January 31 annually, through 2016 as described below:

(A) Company name;

(B) Contact name, phone number, address, e-mail address;

(C) Address of equipment, including name of port or intermodal rail yard where equipment is operated;

(D) The population, as of January 1 of that year, of equipment in each yard truck model year group and each non-yard truck model year group; and

(E) A signed affidavit stating the completeness and accuracy of the annual report.

(4) Reporting for Off-Road Equipment that Does Not Handle Cargo at any Time. Each terminal owner or operator to whom subsection (c)(3) applies, shall submit a report to the Executive Officer by January 31, 2007, as described below:

(A) Owner or Operator Contact Information
   1. Company name
   2. Contact name, phone number, address, e-mail address
   3. Address of equipment
(B) Equipment and Engine Information
1. Make of equipment and engine
2. Model of equipment and engine
3. Engine family (if applicable)
4. Engine serial number
5. Year of manufacture of equipment and engine (if unable to determine, approximate age)
6. Rated brake horsepower
7. Control equipment (if applicable)
   a. Type of diesel emission control strategy
   b. Serial number of installed diesel emission control strategy
   c. Manufacturer of installed diesel emission control strategy
   d. Model of installed diesel emission control strategy
   e. Installation date of installed diesel emission control strategy
   f. Level of control (1, 2, or 3)

(C) Fuel(s) Used
1. CARB Diesel
2. Alternative diesel fuel (specify)
3. Alternative fuel (specify)
4. Combination (dual fuel) (specify)
5. Other (specify)

(D) Operation Information
1. Describe general use of engine
2. Typical load (percent of maximum bhp rating)
3. Typical annual hours of operation
4. If seasonal, months of year operated and typical hours per month operated

(k) Right of Entry

An agent or employee of the Air Resources Board has the right of entry to port and intermodal rail yard cargo handling facilities for the purpose of inspecting on-road and off-road cargo handling equipment and their records to determine compliance to these regulations.

(l) Prohibitions

No person who is engaged in this State in the business of selling to an ultimate purchaser, or renting or leasing new or used mobile cargo handling equipment, including, but not limited to, manufacturers, distributors, and dealers, shall sell, offer for sell, import, deliver, purchase, receive, or otherwise acquire a new or used mobile cargo handling equipment for the purpose of selling, renting, or leasing in California, that does not meet the performance requirements of this regulation.
(m) **Severability**

If any subsection, paragraph, subparagraph, sentence, clause, phrase, or portion of this regulation is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of the regulation.

(n) **Submittal of Documents**

(A) All documents required under this regulation to be submitted to the Executive Officer shall be submitted as follows:

California Air Resources Board  
Stationary Source Division, Cargo Handling Equipment  
P.O. Box 2815  
Sacramento, California 95812-2815

(B) An alternative method, including electronic submittals, may be approved by the Executive Officer.

FINAL REGULATION ORDER

EMISSION LIMITS AND REQUIREMENTS FOR
AUXILIARY DIESEL ENGINES AND DIESEL-ELECTRIC ENGINES
OPERATED ON OCEAN-GOING VESSELS WITHIN CALIFORNIA WATERS AND
24 NAUTICAL MILES OF THE CALIFORNIA BASELINE

Adopt new section 2299.1, title 13, California Code of Regulations (CCR), to read as follows:

13 CCR, section 2299.1. Emission Limits and Requirements for Auxiliary Diesel Engines and Diesel-Electric Engines Operated on Ocean-going Vessels within California Waters and 24 Nautical Miles of the California Baseline.

(a) Purpose.

The purpose of this section is to reduce emissions of diesel particulate matter (PM), nitrogen oxides, and sulfur oxides from the use of auxiliary diesel engines and diesel-electric engines on ocean-going vessels within any of the waters subject to this regulation ("Regulated California Waters").

(b) Applicability.

(1) Except as provided in subsection (c), this section applies to any person who owns, operates, charters, rents, or leases any ocean-going vessel that operates in any of the Regulated California Waters, which include all of the following:

(A) all California internal waters;
(B) all California estuarine waters;
(C) all California ports, roadsteads, and terminal facilities (collectively "ports");
(D) all waters within 3 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
(E) all waters within 12 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
(F) all waters within 24 nautical miles of the California baseline, starting at the California-Oregon border to 34.43 degrees North, 121.12 degrees West, inclusive; and
(G) all waters within the area, not including islands, between the California baseline and a line starting at 34.43 degrees North, 121.12 degrees West; thence to 33.50 degrees North, 118.58 degrees West; thence to 32.48 degrees North, 117.67 degrees West; and ending at the California-Mexico border at the Pacific Ocean, inclusive.

(2) Except as provided in subsection (c), this section applies to tanker and non-tanker ocean-going vessels that are flagged in, registered in, entitled to fly the
flag of, or otherwise operating under the authority of the United States ("U.S.-flagged") or any other country ("foreign-flagged").

(3) Nothing in this section shall be construed to amend, repeal, modify, or change in any way any applicable U.S. Coast Guard requirements. Any person subject to this section shall be responsible for ensuring compliance with both U.S. Coast Guard regulations and the requirements of this section, including but not limited to, obtaining any necessary approvals, exemptions, or orders from the U.S. Coast Guard.

(c) Exemptions.

(1) The requirements of this section do not apply to ocean-going vessel voyages that are comprised of continuous and expeditious navigation through any of the Regulated California Waters for the purpose of traversing such bodies of water without entering California internal or estuarine waters or calling at a port, roadstead, or terminal facility. "Continuous and expeditious navigation" includes stopping and anchoring only to the extent such stopping and anchoring are required by the U.S. Coast Guard; rendered necessary by force majeure or distress; or made for the purpose of rendering assistance to persons, ships, or aircraft in danger or distress. This exemption does not apply to the passage of an ocean-going vessel that engages in any of the prejudicial activities specified in United Nations Convention on the Law of the Seas (UNCLOS) 1982, Article 19, subpart 2. Further, notwithstanding any Coast Guard mandated stops or stops due to force majeure or the rendering of assistance, this exemption does not apply to a vessel that was otherwise scheduled or intended to enter California internal or estuarine waters or call at a port, roadstead or terminal facility.

(2) The requirements of this section do not apply to slow-speed two-stroke diesel engines as defined in subsection (d).

(3) The requirements of this section do not apply to auxiliary engines on-board ocean-going vessels owned or operated by any branch of local, state, federal government, or by a foreign government, when such vessels are operated within the Regulated California Waters on government non-commercial service. However, such vessels are encouraged to act in a manner consistent, so far as is reasonable and practicable, with this section.

(4) The requirements of this section do not apply to auxiliary engines while operating on liquefied natural gas or compressed natural gas.

(5) The requirements of this section, including the payment of Noncompliance Fees as provided in subsection (h), do not apply to the master of the vessel ("master") if the master reasonably and actually determines that compliance with this section would endanger the safety of the vessel, its crew, its cargo or its passengers because of severe weather conditions, equipment failure, fuel contamination, or other extraordinary reasons beyond the master’s reasonable control. This exemption applies only as long as and to the extent necessary to
secure the safety of the vessel, its crew, its cargo, or its passengers and provided that;

(A) the master takes all reasonable precautions after the conditions necessitating the exemption have ended to avoid or minimize repeated claims of exemption under this subsection;

(B) the master notifies the Executive Officer of a safety exemption claim within 24 hours after the end of each such episode (i.e., the period of time during which the emergency conditions exist that necessitate the safety exemption claim, as provided in paragraph (5) above); and

(C) the master submits to the Executive Officer, within 4 working days after the notification in paragraph (B) above, all documentation necessary to establish the conditions necessitating the safety exemption and the date(s), local time, and position of the vessel (longitude and latitude) in Regulated California Waters at the beginning and end of the time period during which a safety exemption is claimed under this subsection. All documentation required under this paragraph shall be provided in English.

(d) Definitions.

For purposes of this section, the following definitions apply:

(1) “ASTM” means ASTM International.

(2) “Auxiliary engine” means an engine on an ocean-going vessel designed primarily to provide power for uses other than propulsion, except that all diesel-electric engines shall be considered “auxiliary diesel engines” for purposes of this regulation.

(3) “Baseline” means the mean lower low water line along the California coast, as shown on the following National Oceanic and Atmospheric Administration (NOAA) Nautical Charts as authored by the NOAA Office of Coast Survey, which are incorporated herein by reference:

(A) Chart 18600, Trinidad Head to Cape Blanco (January 2002);
(B) Chart 18620, Point Arena to Trinidad Head (June 2002);
(C) Chart 18640, San Francisco to Point Arena (August 2005);
(D) Chart 18680, Point Sur to San Francisco (June 2005);
(E) Chart 18700, Point Conception to Point Sur (July 2003);
(F) Chart 18720, Point Dume to Purisma Point (January 2005); and
(G) Chart 18740, San Diego to Santa Rosa Island (April 2005).

(4) “Compliance Period” means the calendar year or other continuous period during which an approved Alternative Control of Emissions (ACE) plan is or will be in effect as specified in subsection (g).
(5) “Diesel Engine” means an internal combustion, compression-ignition (CI) engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The regulation of power by controlling fuel supply in lieu of a throttle is indicative of a compression ignition engine.

(6) “Diesel Particulate Matter” means the particles found in the exhaust of diesel engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(7) “Diesel-electric engine” means a diesel engine connected to a generator that is used as a source of electricity for propulsion or other uses.

(8) “Emission Control Strategy” means any device, system, or strategy employed to reduce emissions from a diesel engine, including, but not limited to, utilization of shore-side electrical power, diesel oxidation catalysts, selective catalytic reduction systems, diesel particulate filters, alternative diesel fuels, water emulsified fuels, lower sulfur fuels, and any combination of the above.

(9) “Estuarine Waters” means an arm of the sea or ocean that extends inland to meet the mouth of a river.

(10) “Executive Officer” means the executive officer of the Air Resources Board (ARB), or his or her designee.

(11) “Hydrocarbon (HC)” means the sum of all hydrocarbon air pollutants.

(12) “Internal Waters” means any navigable river or waterway within the State of California.

(13) “IMO” means the International Maritime Organization.

(14) “ISO” means the International Organization for Standardization.

(15) “Marine Diesel Oil” means any fuel that meets all the specifications for DMB grades as defined in Table I of International Standard ISO 8217, as revised in 2005, which is incorporated herein by reference.

(16) “Marine Gas Oil” means any fuel that meets all the specifications for DMX or DMA grades as defined in Table I of International Standard ISO 8217, as revised in 2005, which is incorporated herein by reference.

(17) “Master” means the person who operates a vessel or is otherwise in charge of the vessel’s operations.

(18) “Military Vessel” means any ship, boat, watercraft, or other contrivance used for any purpose on water, and owned or operated by the armed services.

(19) “Nitrogen Oxides (NOx)” means compounds of nitric oxide (NO), nitrogen dioxide (NO2), and other oxides of nitrogen, which are typically created during
combustion processes and are major contributors to smog formation and acid deposition.

(20) "Non-Methane Hydrocarbons (NMHC)" means the sum of all hydrocarbon air pollutants except methane.

(21) "Ocean-going Vessel" means a commercial, government, or military vessel meeting any one of the following criteria:

(A) a vessel with a "registry" (foreign trade) endorsement on its United States Coast Guard certificate of documentation, or a vessel that is registered under the flag of a country other than the United States;

(B) a vessel greater than or equal to 400 feet in length overall (LOA) as defined in 50 CFR § 679.2, as adopted June 19, 1996;

(C) a vessel greater than or equal to 10,000 gross tons (GT ITC) pursuant to the convention measurement (international system) as defined in 46 CFR 69.51-.61, as adopted September 12, 1989; or

(D) a vessel propelled by a marine compression ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.

(22) "Operate" means steering or otherwise running the vessel or its functions while the vessel is underway, moored, anchored, or at dock.

(23) "Own" means having all the incidents of ownership, including the legal title, of a vessel whether or not that person lends, rents, or pledges the vessel; having or being entitled to the possession of a vessel as the purchaser under a conditional sale contract; or being the mortgagor of a vessel.

(24) "Particulate Matter" means any airborne finely divided material, except uncombined water, which exists as a liquid or solid at standard conditions (e.g., dust, smoke, mist, fumes or smog).

(25) "Person" includes all of the following:

(A) any person, firm, association, organization, partnership, business trust, corporation, limited liability company, or company;
(B) any state or local governmental agency or public district, or any officer or employee thereof;
(C) the United States or its agencies, to the extent authorized by federal law.

(26) "Regulated California Waters" means all of the following:

(A) all California internal waters;
(B) all California estuarine waters;
(C) all California ports, roadsteads, and terminal facilities (collectively "ports");
(D) all waters within 3 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;

(E) all waters within 12 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;

(F) all waters within 24 nautical miles of the California baseline, starting at the California-Oregon border to 34.43 degrees North, 121.12 degrees West, inclusive; and

(G) all waters within the area, not including any islands, between the California baseline and a line starting at 34.43 degrees North, 121.12 degrees West; thence to 33.50 degrees North, 118.58 degrees West; thence to 32.48 degrees North, 117.67 degrees West; and ending at the California-Mexico border at the Pacific Ocean, inclusive.

(27) "Roadstead" means any facility that is used for the loading, unloading, and anchoring of ships.

(28) "Slow Speed Engine" means an engine with a rated speed of 150 revolutions per minute or less.

(29) "Sulfur Oxides" means compounds of sulfur dioxide (SO₂), and other oxides of sulfur, which are typically created during combustion of sulfur containing fuels.

(30) "Tanker" means a self-propelled vessel constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue.

(31) "Two-stroke Engine" means an internal combustion engine which operates on a two-stroke cycle where the cycle of operation completes in one revolution of the crankshaft.

(32) "Vessel" means any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft, except those used primarily for recreation and any of the following:

(A) a seaplane on the water;
(B) a watercraft specifically designed to operate on a permanently fixed course, the movement of which is restricted to a fixed track or arm to which the watercraft is attached or by which the watercraft is controlled.

(e) Requirements.

(1) Emission Limits.

Except as provided in subsections (c), (g) and (h), no person subject to this section shall operate any auxiliary diesel engine, while the vessel is operating in any of the Regulated California Waters, which emits levels of diesel PM,
NOx, or SOx in exceedance of the emission rates of those pollutants that would result had the engine used the following fuels:

(A) Beginning January 1, 2007:
   1. marine gas oil, as defined in subsection (d); or
   2. marine diesel oil, as defined in subsection (d), with a sulfur content of no more than 0.5 percent by weight;

(B) Beginning January 1, 2010: marine gas oil with a sulfur content of no more than 0.1 percent by weight.

(C) Compliance with subsection (e)(1) is presumed if the person operates the regulated engine(s) with the fuels as specified in subsection (e)(1)(A) and (e)(1)(B).

(2) Recordkeeping, Reporting, and Monitoring Requirements.

(A) Recordkeeping.

Beginning January 1, 2007, any person subject to this section shall retain and maintain records in English that contain the following information for at least three years following the date when the records were made:

1. The date, local time, and position (longitude and latitude) of the vessel for each entry into and departure from any of the Regulated California Waters, excluding any voyages exempted from the requirements of this section under subsection (c)(1);

2. The date, local time, and position (longitude and latitude) of the vessel at the initiation and completion of any fuel switching procedures used to comply with subsection (e)(1) prior to entry into any of the Regulated California Waters;

3. The date, local time, and position (longitude and latitude) of the vessel at the initiation and completion of any fuel switching procedures within any of the Regulated California Waters; completion of fuel switching procedures occurs the moment all engines subject to this section have completely transitioned from operation on one fuel to another fuel;

4. The type of each fuel used (e.g. marine gas oil) in each auxiliary engine operated in any of the Regulated California Waters; and

5. The types, amounts, and the actual percent by weight sulfur content of all fuels purchased for use on the vessel, as reported by the fuel supplier or a fuel testing firm.
(B) Reporting and Monitoring.

1. Any person subject to this section shall provide in writing the information specified in subsection (e)(2)(A) to the Executive Officer upon request, either within 24 hours or by a later date approved by the Executive Officer on a case-by-case basis. To the extent the person already collects the information specified in subsection (e)(2)(A) in English to comply with other regulatory requirements or standard practices, the person may provide the requested information in a format consistent with those other regulatory requirements or standard practices.

2. Any person subject to this section shall provide to the Executive Officer upon request additional information the Executive Officer determines to be necessary to determine compliance with this section, including, but not limited to:
   a. the make, model, rated power, and serial numbers of all auxiliary engines subject to subsection (e)(1);
   b. the capacity and locations of all fuel tanks on the vessel; and
   c. piping diagrams and specifications for mixing tanks or other fuel handling equipment applicable to auxiliary engines.

3. Any person subject to this section shall provide to the Executive Officer access to the vessel for the purpose of determining compliance with this section, including but not limited to, access to and review of records and information required under subsection (e)(2)(A) or (e)(2)(B)2., and for the purpose of collecting fuel samples for testing and analysis.

(f) Violations.

(1) Any person who is subject to this section and commits a violation of any provision, standard, criteria or requirement in this section is subject to the penalties, injunctive relief, and other remedies specified in Health and Safety Code section 42400 et seq.; other applicable sections in the Health and Safety Code; and other applicable provisions as provided under California law for each violation. Nothing in this section shall be construed to limit or otherwise affect any applicable penalties or other remedies available under federal law.

(2) Any failure to meet any provision, standard, criteria or requirement in this section, including but not limited to the applicable emission limits; recordkeeping requirements; Noncompliance Fee provision; and Alternative Control of Emissions (ACE) provision, including the requirements of any approved ACE plans, shall constitute a single, separate violation of this section for each hour that a person operates an ocean-going vessel within the Regulated California Waters until such provision, standard, criteria or requirement has been met.
(3) Any person who is subject to this section is liable for meeting the requirements of this section, notwithstanding any contractual arrangement that person may have with any third-parties.

(g) Alternative Control of Emissions (ACE) Plan In Lieu of Meeting Subsection (e)(1).

For purposes of this subsection, the terms “ACE” and “ACE plan” shall have the same meaning, unless otherwise noted.

(1) Requirements.

(A) The purpose of this subsection is to allow any person (“person” or “applicant”) the option of complying with the requirements of this subsection (g) in lieu of the requirements of subsection (e)(1). Under this subsection (g), alternative emission control strategies can be implemented in lieu of meeting the requirements of subsection (e)(1), provided the alternative strategies result in emissions of diesel PM, NOx, and SOx from the auxiliary diesel engines that are no greater than the emissions that would have occurred under subsection (e)(1), over the applicable compliance period.

(B) An applicant wishing to participate in an ACE may include one or more vessels in the ACE, but the applicant shall only include vessels that the person owns or operates under their direct control. For purposes of this subsection, “direct control” shall include, but not be limited to, vessels for which the applicant has a contract, lease, or other arrangement with a third-party for the third-party to operate the vessel.

(C) No vessel shall be included in more than one ACE plan.

(D) No ACE plan shall have a compliance period greater than 1 calendar year or a continuous 12-month period. Except as provided in paragraph (E) below, upon completion of a compliance period, an approved ACE plan shall continue to be in effect for another compliance period of equal length, provided the following are met:

1. the applicant provides updated information for all elements of the approved ACE plan to the Executive Officer at least 30 days prior to the end of the first compliance period; and

2. the updated information demonstrates that compliance with this subsection will continue for the next compliance period.

(E) No ACE plan shall be extended for another compliance period if:

1. the Executive Officer has determined that violations of the ACE provisions have occurred and the Executive Officer revokes the ACE plan as specified in subsection (g)(3);
2. the applicant elects to cancel an approved ACE plan. Applicants who cancel operation under an approved ACE are subject to the emission requirements of subsection (e)(1) and all other requirements of this section upon the effective date of the cancellation. An ACE plan that is cancelled prior to the end of its approved compliance period shall have its compliance period adjusted to end at the effective date of cancellation; or

3. the applicant proposes to substantially change the alternative emission control strategies in their approved ACE plan, as determined by the Executive Officer. Applicants proposing to substantially change the alternative emission control strategies in their ACE plan shall be subject to the application process for new applications, as specified in subsection (g)(2).

(F) In addition to other requirements specified in this subsection (g), no proposed ACE plan shall be approved unless the applicant demonstrates to the satisfaction of the Executive Officer all of the following:

1. the alternative emission control strategies under the proposed ACE plan will result in emissions of diesel PM, NOx, and SOx from the auxiliary diesel engines that are no greater than the emissions that would have occurred under subsection (e)(1) over the applicable compliance period; and

2. surplus emission reductions achieved at one port will not result in increased emissions at a second port, relative to the emissions that would have occurred at the second port prior to implementation of this section.

(G) Emission control strategy is as defined in subsection (d)(8).

(H) The ACE plan application demonstrating compliance with this subsection shall contain, at a minimum, the following information:

1. the company name, address, and contact information;

2. the vessel(s) name, country flag, and IMO identification number;

3. the make, model, serial numbers and other information that uniquely identify each engine on the affected vessel(s) subject to the ACE;

4. documentation, calculations, emissions test data, or other information that demonstrates that the emission reductions from the auxiliary engines subject to the ACE will be equivalent to or greater than the emission reductions that would have been achieved upon compliance with subsection (e)(1). The emission reductions shall be calculated for
diesel PM, NOx, and SOx, and shall be expressed in pounds of each pollutant;

5. information on the California ports expected to be visited by the affected vessel(s) during the compliance period that the ACE will be in effect, the anticipated dates of those visits, and the potential planned overseas routes to and from these ports; and

6. the proposed recordkeeping, reporting, monitoring, and testing procedures that the applicant plans to use to demonstrate continued compliance with the ACE.

(I) Emission reduction calculations used to demonstrate equivalence with the requirements of subsection (e)(1) shall include only diesel PM, NOx, and SOx emissions from auxiliary engines operating within any of the Regulated California Waters.

(J) Use of Shore-Side Power.

1. Except as otherwise provided in this subsection (g)(1)(J), vessels in an ACE that utilize shore-side power in lieu of their auxiliary diesel engines while at dockside shall be considered to meet the emission reduction requirements of the ACE during:

a. all travel within Regulated California Waters from a previous port to the California port terminal where shore-side power is used;

b. time spent secured ("docked") at the California port terminal where shore-side power is used; and

c. all travel within Regulated California Waters from the California port where shore-side power is utilized to the next port visited.

2. For the purposes of paragraph 1 above, "utilizing shore-side power" means:

a. connecting to electricity supplied by a utility company, or another source with emissions per unit of delivered energy equivalent to or lower than the January 1, 2007 levels specified in title 17, CCR, sections 94200-94214, "Distributed Generation Certification Program;" and

b. shutting down all auxiliary engines subject to this control measure no later than one hour after the vessel is secured at the port terminal, and continuously thereafter until no more than one hour prior to when the vessel leaves the terminal.

3. Except as otherwise provided in paragraph 5 below, if a vessel operating under an approved ACE visits two California ports in
succession, and the vessel utilizes shore-side power at the first port but not at the second port visited, the vessel shall not be considered to meet the emission reduction requirements of the ACE during the time it is docked at the second port and any subsequent travel within Regulated California Waters from this port.

4. Except as otherwise provided in paragraph 5 below, if a vessel operating under an approved ACE visits two California ports in succession, and the vessel utilizes shore-side power at the second port but not at the first port visited, the vessel shall not be considered to meet the emission reduction requirements of the ACE during travel within Regulated California Waters to this first port or during the time the vessel is docked at the first port. Travel from the first port to the second port where shore-side power is utilized shall be deemed to meet the emission reduction requirements of the ACE.

5. The provisions in paragraphs 3 and 4 above notwithstanding, if a passenger cruise vessel operating under an approved ACE visits a California port, utilizes shore-side power at that port, then leaves that port and moors (i.e., drops anchor) at another offshore location away from a port, roadstead or terminal facility (e.g., Catalina Island or off Monterey), the mooring stop shall not be deemed as a second port visit. However, a person subject to this provision shall meet the emission limits in subsection (e)(1) for all auxiliary diesel engines on the passenger cruise vessel (i.e., all diesel-electric engines) during the entire time the vessel is moored.

(K) Any person subject to an approved ACE shall maintain operating records in a manner and form as specified by the Executive Officer in the approved ACE. Required records may include, but are not limited to, information on fuel usage, routes, port calls, maintenance procedures, and emissions test results. Such records and reports shall be retained for a period of not less than three (3) years and shall be submitted to the Executive Officer in the manner specified in the approved ACE and upon request by the Executive Officer, either within 24 hours or by a later date approved by the Executive Officer on a case-by-case basis.

(L) Emission reductions included in an ACE shall not include reductions that are otherwise required by any State, federal or international rule, regulation, or statute.

(M) No person may comply with this section by operating under an ACE unless the applicant has first been notified in writing by the Executive Officer that the ACE application has been approved. Prior to such approval, applicants shall comply with the provisions of this section, including the emission limits in subsection (e)(1).

(N) No person may comply with this section by operating under an ACE that has been revoked as provided in subsections (g)(2)(G) and (g)(3).
(2) Application Process.

(A) Applications for an ACE shall be submitted in writing to the Executive Officer for evaluation.

(B) The Executive Officer shall establish an internet site ("ACE internet site") in which all documents pertaining to an ACE application will be made available for public review. The Executive Officer shall also provide a copy of all such documents to each person who has requested copies of the documents; these persons shall be treated as interested parties. The Executive Officer shall provide two separate public comment periods during the ACE Application process, as specified in this subsection (g)(2).

(C) Completeness Determination.

Within 15 days after receiving an ACE application, the Executive Officer shall notify the applicant whether the application is deemed sufficiently complete to proceed with further evaluation. If the application is deemed incomplete, the notification shall identify the application's deficiencies. The Executive Officer shall have an additional 15-day period for reviewing each set of documents or information submitted in response to an incomplete determination. Nothing in this subsection prohibits the Executive Officer from requesting additional information from the applicant, during any part of the ACE application process, which the Executive Officer determines is necessary to evaluate the application.

(D) Notice of Completeness and 30-Day First Public Comment Period.

After an ACE application has been deemed complete, the Executive Officer shall provide a 30-day public comment period to receive comments on any element of the ACE application and whether the Executive Officer should approve or disapprove the ACE application based on the contents and merits of the application. The Executive Officer shall notify all interested parties of the following:

1. the applicant(s);
2. the start and end dates for the 30-day first comment period; and
3. the address of the ACE internet site where the application is posted.

The Executive Officer shall also make this notification available for public review on the ACE internet site.

(E) Proposed Action and 15-Day Second Public Comment Period.

Within 30 days after the first public comment period ends, the Executive Officer shall notify the applicant and all interested parties of ARB's proposed approval or disapproval. This notification shall propose to
approve the application as submitted, disapprove the application, or approve the ACE application with modifications as deemed necessary by the Executive Officer. The notification shall identify the start and end dates for the 15-day second public comment period. During the second public comment period, any person may comment on the Executive Officer’s proposed approval or disapproval of the ACE application and any element of the application. The Executive Officer shall also make this notification available for public review on the ACE internet site.

(F) Final Action.

Within 15 days after the second public comment period ends, the Executive Officer shall take final action to either approve or deny an ACE application and shall notify the applicant accordingly. If the application is denied or modified, the Executive Officer shall state the reasons for the denial or modification in the notification. The notification to the applicant and approved ACE plan, if applicable, shall be made available to the public on the ACE internet site. In addition, the Executive Officer shall consider and address all comments received during the first and second public comment periods, and provide responses to each comment on the ACE internet site.

(G) Notification to the Executive Officer of Changes to an Approved ACE.

The applicant shall notify the Executive Officer in writing within 30 days upon learning of any information that would alter the emissions estimates submitted during any part of the ACE application process. If the Executive Officer has reason to believe that an approved ACE has been granted to a person that no longer meets the criteria for an ACE, the Executive Officer may, pursuant to subsection (g)(3) below, modify or revoke the ACE as necessary to assure that the applicant and subject vessel(s) will meet the emission reduction requirements in this section.

(3) Revocation or Modification of Approved ACEs.

With 30-days notice to the ACE holder, the Executive Officer may revoke or modify, as needed, an approved ACE if there have been multiple violations of the ACE provisions or the requirements of the approved ACE plan; or if the Executive Officer has reason to believe that an approved ACE has been granted that no longer meets the criteria or requirements for an ACE or the applicant can no longer comply with the requirements of the approved ACE in its current form. Public notification of a revocation or modification of an approved ACE shall be made available on the ACE internet site.

(h) Noncompliance Fee In Lieu of Meeting Subsection (e)(1).

The Executive Officer may permit a person to pay noncompliance fees in lieu of meeting the requirements of subsection (e)(1). Payment of the fees notwithstanding, all other provisions of this section shall continue to apply. No person shall be
permitted to pay the fees unless the person meets the notification requirements in subsection (h)(1) and the requirements in either subsections (h)(2), (h)(3), or (h)(4), as specified below:

(1) **Notification Requirements.**

Before the person’s vessel enters Regulated California Waters, the Executive Officer must receive notice that the person will not meet the requirements of subsection (e)(1) while operating within Regulated California Waters, but the person will instead meet the requirements of this subsection (h). If the Executive Officer has not received such notice and the person enters Regulated California Waters, the person will be in violation of this section and will not be permitted to pay the fees in lieu of meeting the requirements of subsection (e)(1).

(2) **Noncompliance for Reasons Beyond a Person’s Reasonable Control.**

Any person wishing to pay the fees under this subsection (h)(2) shall meet the following criteria:

(A) **Demonstration of Need.**

The person shall, through adequate documentation, demonstrate to the Executive Officer’s satisfaction that the person’s noncompliance with the requirements of subsection (e)(1) is beyond the person’s reasonable control. For the purposes of this paragraph, “beyond the person’s reasonable control” applies only when one or more of the following sets of circumstances (1, 2, or 3) applies:

1. **Unplanned Redirection.**

   This provision applies only when all of the following criteria are met:

   a. after leaving the last port of call, the person’s vessel was redirected from his/her original, officially logged, non-California destination to a California port, roadstead, or terminal facility (“port”); and

   b. the vessel does not contain a quantity of fuel sufficient for the auxiliary engines to meet the requirements of subsection (e)(1) and cannot comply using the alternative emission control strategies under an approved ACE.

2. **Inadequate Fuel Supply.**

   This provision applies only when all of the following criteria are met:
a. the person made good faith efforts to acquire a quantity of fuel sufficient for the vessel's auxiliary engines to meet the requirements of subsection (e)(1); and

b. the person was unable to acquire fuel sufficient for the engines to meet the requirements of subsection (e)(1) and cannot comply using the alternative emission control strategies under an approved ACE.

3. Inadvertent Purchase of Defective Fuel.

This provision applies only when all of the following criteria are met:

a. based on the fuel supplier's certification of the fuel specifications, the person reasonably believed, and relied on such belief, that the fuel the person purchased on the route from the vessel's home port to California would enable the auxiliary engines to meet the requirements of subsection (e)(1);

b. the person determined that the vessel's auxiliary engines in fact will not meet the requirements of subsection (e)(1) using any of the fuel purchased under paragraph 3.a. above and the person cannot comply using the alternative emission control strategies under an approved ACE; and

c. the vessel is already on its way to California, and there are no other ports of call on the vessel's route where fuel can be purchased sufficient to meet the requirements of subsection (e)(1).

1. Payment of Fees.

Upon meeting the requirements of paragraph (A) in this subsection (h)(2), the person shall pay the fees for every port visit, as specified in subsection (h)(5) below.

2. Executive Officer Review.

For the purposes of verifying the demonstration of need as specified in paragraph (A) above, the Executive Officer may consider and rely on any facts or circumstances the Executive Officer believes are appropriate, including but not limited to: the fuel supplier's ability or failure to provide adequate fuel ordered by the person; any material misrepresentation by the fuel supplier concerning the fuel specifications; the reasonableness of the person's reliance on fuel suppliers with a history of supplying fuel inadequate for meeting the requirements of subsection (e)(1); and force majeure.
(3) **Noncompliance for Vessels to Be Taken Out of Service for Modifications.**

If a person cannot meet the requirements of subsection (e)(1) without vessel modifications, and such modifications cannot be completed prior to the effective date of subsection (e)(1), the Executive Officer may permit the person to pay the fees as specified in this subsection. This provision also applies to vessels that will undergo modifications pursuant to an Executive Officer approved Alternative Control of Emissions (ACE) Plan. The vessel must be scheduled to complete the necessary modifications (e.g. during a dry dock operation) as soon as possible, but no later than 5 years after the effective date of this section. For this provision to apply, the person shall meet all of the following criteria:

(A) **Demonstration of Need.**

The person shall provide the Executive Officer a Compliance Retrofit Report, signed by the Chief Engineer of the person's vessel, which:

1. identifies the specific vessel modifications ("modifications") (e.g. installation of additional fuel tanks) the person plans to use for meeting the requirements of subsection (e)(1) or an ACE Plan;

2. identifies the specific date by which the modifications will be completed (e.g. while the vessel is in dry dock); and

3. demonstrates to the satisfaction of the Executive Officer that the modifications will be made at the earliest possible date (e.g. the vessel has been scheduled for the earliest available dry dock appointment).

(B) **Payment of Fees.**

Upon meeting the requirements of paragraph (A) in this subsection (h)(3), the person shall pay the fees for every port visit, as specified in subsection (h)(5) below.

(C) **Proof of Modifications Actually Performed.**

Within ten (10) business days after the scheduled or actual completion of the modifications, whichever occurs first, the person shall provide written certification to the Executive Officer that the modifications specified under this subsection (h)(3) have been completed. If the modifications have not been completed, the person shall certify which modifications have been completed, which have not, and the anticipated completion date for the remaining modifications. The notification requirement specified in this paragraph, the notification requirements in subsection (h)(1) above, and the fee provisions in subsection (h)(5) below shall apply until all the modifications have been completed.
(4) **Noncompliance Based on Infrequent Visits and Need for Vessel Modifications.**

If a person cannot meet the requirements of subsection (e)(1) without modifications for the vessel at issue, and that vessel will make no more than two California port visits per calendar year, and no more than 4 California port visits after January 1, 2007 during the life of the vessel, the Executive Officer may permit the person to pay the fees as specified in this subsection.

(A) **Demonstration of Need.**

The person shall demonstrate to the satisfaction of the Executive Officer that modifications to the vessel are necessary to meet the requirements of subsection (e)(1), and that the vessel shall meet the visitation limits specified in this subsection (h)(4).

(B) **Payment of Fees.**

Upon meeting the requirements of paragraph (A) above, the person shall pay the fees for every port visit up to a maximum of 4 visits, as specified in subsection (h)(5) below.

(5) **Calculation and Payment of Fees.**

For each port visit, the person who elects to pay the fees pursuant to this subsection (h) shall pay the applicable fees shown in Table 1. For purposes of this provision, “port visit” shall include all stops at a port, roadstead, or terminal facility in Regulated California Waters, as well as all moorings (i.e., the ship drops anchor) at an offshore location in Regulated California Waters away from a port, roadstead or terminal facility (e.g., Catalina Island or off Monterey). For each port visit, the person shall deposit the fees in the port’s Noncompliance Fee Settlement and Air Quality Mitigation Fund prior to leaving the California port or by a later date approved by the Executive Officer on a case-by-case basis:

(A) After January 1, 2007, each instance of a vessel stopping or anchoring at a port or offshore in Regulated California Waters shall count as one port visit, and the port visits shall be cumulative.

<table>
<thead>
<tr>
<th>Table 1: Noncompliance Fee Schedule, Per Vessel</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit</td>
<td>Diesel-Electric Vessels</td>
</tr>
<tr>
<td>1st Port Visited</td>
<td>$32,500</td>
</tr>
<tr>
<td>2nd Port Visited</td>
<td>$65,000</td>
</tr>
<tr>
<td>3rd Port Visited</td>
<td>$97,500</td>
</tr>
<tr>
<td>4th Port Visited</td>
<td>$130,000</td>
</tr>
<tr>
<td>5th or more Port Visited</td>
<td>$162,500</td>
</tr>
</tbody>
</table>
(B) The fees shown in Table 1 shall be assessed by the Executive Officer at the time of the port visit. However, if for any reason the person is not notified by the Executive Officer of the assessed fee by the end of the port visit, the person shall nevertheless be responsible for payment of the appropriate fee as specified in this subsection (h) prior to leaving the California port or by a later date approved by the Executive Officer on a case-by-case basis.

(C) The Executive Officer shall enter into enforceable agreements with each port that will receive the fees. The agreements shall require that the fees be used by the ports only to fund projects that will substantially reduce emissions of diesel PM, NOx, and SOx from on-site sources, sources within 2 miles of port boundaries, or ocean-going vessels operated within the Regulated California Waters, except that the fees shall not be used to fund projects on vessels from which noncompliance fees were paid. Fees intended for ports that do not have such agreements at the time the fees are paid shall be deposited into the California Air Pollution Control Fund.

(i) Test Methods.

The following test methods or alternative test methods that are demonstrated to the written satisfaction of the Executive Officer to be equally or more accurate, shall be used to determine compliance with this section:

1. Test methods used to determine whether fuels meet the requirements of marine gas oil (DMA or DMX) or marine diesel oil (DMB), as specified in subsection (e)(1), shall be the methods specified in International Standard ISO 8217 (as revised in 2005), which is incorporated herein by reference.

2. The sulfur content of fuels shall be determined pursuant to International Standard ISO 8754 (as adopted in 2003), which is incorporated herein by reference.

(j) Sunset, Technology Re-evaluation, and Baseline and Test Method Review.

1. If the Executive Officer determines that the International Maritime Organization or the United States Environmental Protection Agency have adopted regulations for auxiliary diesel engines and diesel-electric engines that will achieve equivalent or greater emission reductions from ocean-going vessels in California compared to the emission reductions resulting from this regulation, the Executive Officer shall propose to the Board for its consideration the termination of the requirements of this section or other modifications to the section as deemed appropriate by the Executive Officer.

2. On or before July 1, 2008, the Executive Officer shall re-evaluate the feasibility of the emission limits based on using marine gas oil with no greater than 0.1 percent sulfur by weight specified in subsection (e)(1)(B). The re-evaluation shall consider, but not be limited to:
(A) the availability of 0.1 percent sulfur marine gas oil at bunkering ports worldwide;

(B) the ability of petroleum refiners and marine fuel suppliers to deliver 0.1 percent sulfur fuel by January 1, 2010;

(C) fuel lubricity;

(D) compatibility of the 0.1 percent sulfur marine gas oil with heavy fuel oil during fuel transitions; and

(E) the additional cost of 0.1 percent sulfur fuel compared to marine gas oil with other sulfur content levels.

(3) Pursuant to paragraph (2) of this subsection (j), if the Executive Officer determines that modifications to subsection (e)(1)(B) are necessary, the Executive Officer shall propose appropriate changes to the Board prior to January 1, 2009.

(4) The Executive Officer shall periodically review the California baseline determinations by the National Oceanic and Atmospheric Administration (NOAA) to determine if updates to the baseline maps incorporated by reference in this section are necessary. If modifications to the baseline maps are determined to be necessary, the Executive Officer shall conduct a public hearing as soon as practicable to amend this section accordingly.

(5) The Executive Officer shall periodically review the test methods incorporated by reference in this section to determine if updates to the referenced methods are necessary. If updates to the test methods are determined to be necessary, the Executive Officer shall conduct a public hearing as soon as practicable to amend this section accordingly.

(k) Severability.

Each part of this section shall be deemed severable, and in the event that any part of this section is held to be invalid, the remainder of this section shall continue in full force and effect.

Final Regulation Order

Diesel Particulate Matter Control Measure for On-road Heavy-duty Diesel-fueled Vehicles Owned or Operated by Public Agencies and Utilities

Adopt title 13, California Code of Regulations, sections 2022 and 2022.1 to read as follows. Note that the entire text of sections 2022 and 2022.1 set forth below is new language to be added to the California Code of Regulations. Subsection headings are shown in italics and should be printed in italics in Barclays California Code of Regulations.

Section 2022. Diesel Particulate Matter Control Measure for Municipality or Utility On-road Heavy-duty Diesel-fueled Vehicles

(a) Scope and Applicability. Sections 2022 and 2022.1 apply to any municipality or utility that owns, leases, or operates an on-road diesel-fueled heavy-duty vehicle with a 1960 to 2006 model-year medium heavy-duty or heavy heavy-duty engine and manufacturer’s gross vehicle weight rating greater than 14,000 pounds. These sections do not apply to a vehicle subject to the solid waste collection vehicle rule commencing with title 13, California Code of Regulations, section 2021 or to the fleet rule for transit agencies commencing with section 2023, or to a school bus as defined in Vehicle Code section 545, or to a military tactical support vehicle, as described in title 13, California Code of Regulations, section 1905, or to an emergency vehicle as described in California Vehicle Code, section 27156.2, or to an off-road vehicle as described in title 13, California Code of Regulations, sections 2401, 2421, 2411 and 2432.

(b) Definitions. The definitions in section 2020 shall apply to sections 2022 and 2022.1. In addition, the following definitions apply only to sections 2022 and 2022.1.

(1) “Dedicated Snow Removal Vehicle” means a vehicle that has permanently affixed snow removal equipment such as a snow blower or auger and is operated exclusively to perform snow removal operations.

(2) “Low-Population County” means a county with a population of less than 125,000, based upon the California Department of Finance estimates as of July 1, 2005, and as listed in Table 2 of title 13, California Code of Regulations section 2022.1.

(3) “Low Usage Vehicle” means a vehicle that is operated for fewer than 1000 miles or 50 hours per year, based on a 5 year rolling mileage or engine-hour average. A vehicle that does not have a properly functioning odometer, tachograph, or other reliable device to measure usage may not qualify as a low usage vehicle.
(4) "Low-Population County Low Usage Vehicle" means a vehicle that is owned or operated by a municipality or utility located in a low-population county and is operated, based on a 5 year rolling mileage or engine hour average for fewer than 3000 miles or 150 hours, excluding mileage or engine hours used during snow removal operations. A vehicle that does not have a properly functioning odometer, tachograph, or other reliable device to measure usage may not qualify as a low-population county low usage vehicle.

(5) "Retirement" or "Retire" means the withdrawal of an engine or vehicle subject to this rule from a municipality or utility fleet in California; the engine may be sold outside of California, scrapped, converted for use in a low usage vehicle or low-population county low usage vehicle. "Retirement" or "retire" also means the transfer of an engine or vehicle, which is subject to this rule and has been brought into compliance with title 13, California Code of Regulations, section 2022.1(b), from a municipality or utility fleet in California to another person or entity in California.

(6) "Total Fleet" means the total of a municipality’s or utility’s on-road heavy-duty vehicles with a 1960 to 2006 model-year medium heavy-duty or heavy heavy-duty engine and a manufacturer’s gross vehicle weight rating greater than 14,000 pounds, excluding (A) low usage vehicles, (B) low-population county low usage vehicles, (C) dedicated snow-removal vehicles, and (D) gasoline fueled vehicles.

(7) "Utility" means a privately-owned company that provides the same or similar services for water, natural gas, and electricity as a public utility operated by a municipality.

(8) "Vehicle Type" means one of the following categories: "Compliant" for those vehicles that meet the requirements of section 2022.1(b); "Future Compliant" for those vehicles for which the municipality or utility has a planned compliance date; "Retired" for those vehicles that will meet the definition of "retirement" at a planned retirement date; "Low Usage or Low-Population County Low Usage" for those vehicles that meet the applicable definitions in this section; and "Experimental" for those vehicles that are part of an experimental program and comply with the provisions of section 2022.1(d)(5).

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 39002, 39003, 39655, 39656, 39657, 39658, 39659, 39660,

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1 Gasoline vehicles that do not meet the best available control technology (BACT) requirements specified in title 13, California Code of Regulations, section 2022.1(b)(3) are excluded from the total fleet calculation.
Section 2022.1. Determining Compliance for a Municipality or Utility.

(a) Compliance Requirements. Beginning with the applicable effective dates, a municipality or utility is required to comply with this diesel particulate matter control measure for each vehicle in its total fleet. Compliance requires all of the following:

1. Use of a best available control technology (BACT) for each vehicle in the total fleet as specified in subsection (b);

2. Implementation for each vehicle in the total fleet as specified in subsection (c);

3. If a compliance deadline extension is granted by the Executive Officer per subsection (d), the municipality or utility shall be deemed to be in compliance as specified by the Executive Officer’s authorization;

4. Special circumstances must be followed as specified in subsection (e);

5. Records must be kept as specified in subsection (f); and

6. Continuous compliance: municipality or utility is required to keep each vehicle in compliance with this regulation, once it is in compliance, so long as the municipality or utility is operating the vehicle in California.

(b) Best Available Control Technology. Each municipality or utility shall use one of the following best available control technologies on each applicable vehicle in its total fleet as required by the implementation schedule in subsection (c):

1. An engine or power system certified to the optional 0.01 grams per brake horsepower-hour (g/bhp-hr) particulate emission standard as specified in title 13, California Code of Regulations, section 1956.8(a)(2), or the 0.01 g/bhp-hr particulate emission standard as specified in title 13, California Code of Regulations, section 1956.8(a), as appropriate for the engine’s model-year; or

2. An engine or power system certified to the 0.10 g/bhp-hr particulate emission standard, as specified in title 13, California Code of Regulations, section 1956.8, used in conjunction with the highest level diesel emission control strategy as defined in subsection (b)(4) applied by the implementation schedule in subsection (c); or
(3) An alternative fuel engine, heavy-duty pilot ignition engine, or gasoline engine. Model-year 2004-2006 alternative fuel engines must be certified to the optional, reduced emission standards as specified in title 13, California Code of Regulations, section 1956.8 (a)(2)(A). Gasoline engines must be certified to the emission standards as specified in title 13, California Code of Regulations, for heavy-duty Otto-cycle engines used in heavy-duty vehicles over 14,000 pounds gross vehicle weight, sections 1956.8(c)(1)(B) and 1976(b)(1)(F); or

(4) The highest level diesel emission control strategy per title 13, California Code of Regulations, section 2702 (f), Table 1, that is verified for a specific engine to reduce diesel particulate matter and which the diesel-emission-control strategy manufacturer or authorized dealer agrees can be used on a specific engine and fleet-vehicle combination, without jeopardizing the original engine warranty in effect at the time of application.

(c) Implementation Schedule.

(1) A municipality or utility shall comply with the schedule in Table 1 - Implementation Schedule for a Municipal and Utility Total Fleet Vehicle, 1960 to 2006 Model-Year Engines for the specified percentage of vehicles by each applicable compliance deadline.

<table>
<thead>
<tr>
<th>Group</th>
<th>Engine Model-Years</th>
<th>Percentage of Group to Use Best Available Control Technology</th>
<th>Compliance Deadline, As of December 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>1960 – 1987</td>
<td>20</td>
<td>2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>2011</td>
</tr>
<tr>
<td>3</td>
<td>2003 – 2006</td>
<td>50</td>
<td>2009</td>
</tr>
<tr>
<td></td>
<td>(Includes dual-fuel and bi-fuel engines)</td>
<td>100</td>
<td>2010</td>
</tr>
</tbody>
</table>

* An owner may not use Level 1 technology, as classified pursuant to title 13, California Code of Regulations section 2020, as best available control technology on a Group 1 engine or vehicle.

(2) Municipality or Utility Located in a Low-Population County. A municipality or utility that is headquartered in a county in Table 2 may elect to follow the option in Table 3 below in lieu of the implementation schedule in Table 1.
<table>
<thead>
<tr>
<th>COUNTY</th>
<th>Population as of July 1, 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPINE</td>
<td>1,300</td>
</tr>
<tr>
<td>AMADOR</td>
<td>37,600</td>
</tr>
<tr>
<td>CALAVERAS</td>
<td>47,800</td>
</tr>
<tr>
<td>COLUSA</td>
<td>24,200</td>
</tr>
<tr>
<td>DEL NORTE</td>
<td>31,500</td>
</tr>
<tr>
<td>GLENN</td>
<td>31,800</td>
</tr>
<tr>
<td>INYO</td>
<td>18,800</td>
</tr>
<tr>
<td>LAKE</td>
<td>69,200</td>
</tr>
<tr>
<td>LASSEN</td>
<td>39,800</td>
</tr>
<tr>
<td>MARIPOSA</td>
<td>19,600</td>
</tr>
<tr>
<td>MENDOCINO</td>
<td>95,500</td>
</tr>
<tr>
<td>MODOC</td>
<td>10,100</td>
</tr>
<tr>
<td>MONO</td>
<td>14,200</td>
</tr>
<tr>
<td>NEVADA</td>
<td>106,300</td>
</tr>
<tr>
<td>PLUMAS</td>
<td>21,900</td>
</tr>
<tr>
<td>SAN BENITO</td>
<td>63,600</td>
</tr>
<tr>
<td>SIERRA</td>
<td>3,700</td>
</tr>
<tr>
<td>SISKIYOU</td>
<td>47,200</td>
</tr>
<tr>
<td>SUTTER</td>
<td>90,400</td>
</tr>
<tr>
<td>TEHAMA</td>
<td>63,400</td>
</tr>
<tr>
<td>TRINITY</td>
<td>13,800</td>
</tr>
<tr>
<td>TUOLUMNE</td>
<td>62,200</td>
</tr>
<tr>
<td>YUBA</td>
<td>66,000</td>
</tr>
</tbody>
</table>
Table 3 - Implementation Schedule for a Municipality or Utility Located in a Low-Population County or Granted Low-Population County Status

<table>
<thead>
<tr>
<th>Group</th>
<th>Engine Model-Years</th>
<th>Percentage of Group to Use Best Available Control Technology</th>
<th>Compliance Deadline, as of December 31</th>
</tr>
</thead>
</table>

(3) **Accelerated Turnover Option for Municipality or Utility Located in a Low-Population County or Granted Low-Population County Status.** A municipality or utility headquartered in a county listed in Table 2 or granted low-population county status may elect to follow the option in Table 4 below in lieu of the implementation schedules in Table 1 or 3.

Table 4 – Accelerated Turnover Option for a Municipality or Utility Located in a Low-Population County or Granted Low-Population County Status

<table>
<thead>
<tr>
<th>Engine Model-Year</th>
<th>Fleet Percent to Repower with a 1994 or newer engine</th>
<th>Compliance Date as of Dec 31</th>
<th>Percent of Fleet to use BACT</th>
<th>Compliance Date as of Dec 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960 – 1993</td>
<td>100%</td>
<td>2020</td>
<td>100%</td>
<td>2025</td>
</tr>
<tr>
<td>1994 - 2006</td>
<td>N/A</td>
<td>N/A</td>
<td>100%</td>
<td>2025</td>
</tr>
</tbody>
</table>
(4) A municipality or utility not specifically listed in Table 2 may apply to the Executive Officer for consideration as a fleet located in a designated "low-population county." The Executive Officer shall issue that designation provided that all of the following criteria are met:

(A) The total fleet is located in a "nonurbanized area," a "rural and small urban area," or any area outside of an urbanized area, as designated by the U.S. Bureau of the Census. An urbanized area consists of a core area and the surrounding densely populated area with a total population of 50,000 or more, with boundaries fixed by the Bureau of the Census or extended by state and local officials; or

(B) The fleet is located in a county that, as of July 1, 2005, has a population of less than 325,000 and meets the definition of a low-population county when the population of one or more cities that have their own municipal vehicle fleet are subtracted from the county population, and the fleet does not operate within those cities' boundaries; and

(C) The fleet revenue is not based on special district assessments or fees.

(5) Calculating Number of Total Fleet Vehicles Required for Implementation.

(A) As of January 1 of each year where a compliance deadline is applicable, a municipality or utility shall calculate, for each engine model-year group, the number of vehicles in its total fleet for which compliance will be required. This fleet size by engine model-year group ($\#MUV_{by\ group}$) must be calculated using the following equation:

$$\#MUV_{by\ group} = \#\ Vehicles_{by\ group} + TotRetire_{by\ group}$$

Where:

$\#Vehicles_{by\ group} = $ the number of vehicles in an engine model-year group subject to the rule, and

$TotRetire_{by\ group} = $ the number of vehicles removed from the model-year group by retirement in prior years, beginning with January 1 of the initial applicable compliance deadline year for each group.

If a vehicle has left the total fleet for reasons other than retirement, it must not be included in the calculation of $\#MUV_{by\ group}$. 

---

2 "by group" means all vehicles in an engine model-year group as described in Table 1 under (c)(1).
(B) The municipality or utility shall use the following equation to determine the total number of vehicles in an engine model-year group that are required to be in compliance by the deadline in Table 1 (TotVeh<sub>by group</sub>):

\[ \text{TotVeh}_{by \text{ group}} = \text{Group}\% \text{BACT}_{by \text{ group}} \times \#\text{MUV}_{by \text{ group}} \]

Where:

- \text{Group}\% \text{BACT}_{by \text{ group}} = \text{the percentage of vehicles in an engine model-year group that must meet BACT requirements for a given year as specified in subsection (c), and}
- \#\text{MUV}_{by \text{ group}} = \text{the total fleet size by engine model-year group as defined in paragraph (5)(A) above}

(C) After the first compliance deadline for each group, the municipality or utility shall determine the number of additional vehicles in each model-year group to be brought into compliance each year that a compliance deadline is applicable (TotAddComp<sub>by group</sub>). The following equation must be used to calculate TotAddComp<sub>by group</sub>:

\[ \text{TotAddComp}_{by \text{ group}} = \text{TotVeh}_{by \text{ group}} - \text{TotBACT}_{by \text{ group}} - \text{TotRetire}_{by \text{ group}} \]

Where:

- \text{TotVeh}_{by \text{ group}} = \text{the total number of vehicles in an engine model-year group required to be in compliance, as defined in paragraph (5)(B) above,}
- \text{TotBact}_{by \text{ group}} = \text{the number of vehicles in an engine model-year group that have been brought into compliance since the earliest compliance deadline using the method listed in subsection (b), and}
- \text{TotRetire}_{by \text{ group}} = \text{the number of vehicles retired in prior years as defined in paragraph (5)(A) above}

If a vehicle has left the total fleet for reasons other than retirement, it must not be included in the calculation of TotAddComp<sub>by group</sub>.

(D) Notwithstanding subsection (C) above, in the 100 percent compliance deadline year for each engine model-year group, the municipality or utility shall bring the remaining vehicles into compliance.

(E) If the \text{TotVeh}_{by \text{ group}} or \text{TotAddComp}_{by \text{ group}} is not equal to a whole number, the municipality or utility shall round up a whole number
when the fractional part of $\text{TotAddComp}_{\text{by group}}$ is equal to or greater than 0.5, and round down if less than 0.5.

(d) **Compliance Extensions.** A municipality or utility may be granted an extension to a compliance deadline specified in subsection (c) for one of the following reasons:

(1) **Compliance Extension Based on Early Implementation.** A municipality or utility may be granted an extension based on compliance with one or more of the following early implementation schedules, provided the Executive Officer has received a letter by the applicable early compliance deadline stating the municipality’s or utility’s intent to comply with one of the following conditions and the municipality or utility meets the requirements set forth in paragraphs (A), (B), (C) or (D).

(A) If a municipality or utility has implemented best available control technology on fifty percent or more of its Group 1 vehicles in its total fleet by December 31, 2007, then the municipality or utility may delay the intermediate and final compliance deadlines for the remaining Group 1 vehicles to July 1, 2012.

(B) If a municipality or utility has implemented best available control technology on fifty percent or more of its Group 2 vehicles in its total fleet by December 31, 2007, then the municipality or utility may delay the intermediate and final compliance deadlines for the remaining Group 2 vehicles to July 1, 2012.

(C) If a municipality or utility has implemented BACT on 100 percent of its Group 1 and Group 2 engines by December 31, 2008, then the municipality or utility may follow the alternate implementation schedule for its Group 3 engines of 20 percent BACT by December 31, 2009, 60 percent BACT by December 31, 2011 and 100 percent BACT by December 31, 2012.

(D) If a municipality or utility employs significant quantities of advanced technology vehicles (for example, hybrid electric vehicles) to meet BACT requirements, then the municipality or utility may apply to the Executive Officer for approval of a longer implementation schedule for its Group 2 and Group 3 vehicles, or approval of credits to be used towards BACT compliance. The longer implementation schedule must be proportionate to the additional emissions benefits from the use of the advanced technology vehicles, and BACT credits cannot exceed the additional emissions benefits. The advanced technology vehicles must meet or exceed model-year 2007 and later emissions standards and significantly reduce greenhouse gas emissions and petroleum use.
(2) **Compliance Extension Based on No Verified Diesel Emission Control Strategy.** If the Executive Officer has not verified a diesel emission control strategy, or one is not commercially available, for a particular engine and vehicle combination, an annual extension in compliance may be granted by the Executive Officer under one of the conditions specified below:

(A) **Executive Officer Compliance Extension.** The Executive Officer shall grant a blanket one-year compliance extension if a diesel emission control strategy is not verified for an engine ten months prior to each compliance deadline specified in subsection (c).

1. For a Group 1 engine for which there is no verified diesel emission control strategy, the Executive Officer shall grant a one-year extension, after which the municipality or utility shall comply with subsection (b). If no diesel emission control strategy for the engine is verified during the extension period, the Executive Officer shall grant an additional one-year extension. The Executive Officer may grant one-year extensions until December 31, 2012, or December 31, 2018 for a municipality or utility located in a low-population county, or granted low-population county status, after which the municipality or utility shall comply with subsection (b).

2. For a Group 2 engine for which there is no verified diesel emission control strategy, the Executive Officer shall grant a one-year extension, after which the municipality or utility shall comply with subsection (b). If no diesel emission control strategy for the engine is verified during the extension period, the Executive Officer shall grant an additional one-year extension. The Executive Officer may grant one-year extensions until December 31, 2012, or December 31, 2017 for a municipality or utility located in a low-population county or granted low-population county status, after which the municipality or utility shall comply with subsection (b).

(B) **Municipality or Utility Application for Compliance Extension.** A municipality or utility may apply to the Executive Officer for a compliance extension pursuant to subsection (d)(2) for an engine no later than July 31 prior to each compliance deadline specified in subsection (c). Before requesting this extension, the municipality or utility shall demonstrate compliance or intent to comply with applicable deadlines for the remaining vehicles in the fleet. The municipality or utility shall meet the following application conditions and documentation requirements by providing the following to the Executive Officer:
1. Identification of each engine, by vehicle identification number; engine manufacturer, model-year, family, and series; and type of vehicle for which no diesel emission control strategy has been verified; or

2. Identification of each engine, by vehicle identification number; engine manufacturer, model-year, family, and series; and type of vehicle for which a specific diesel emission control strategy would void the original engine warranty and a statement from the engine manufacturer or authorized dealer stating the original engine warranty would be voided; or

3. Identification of each engine and vehicle combination, by vehicle identification number; engine manufacturer, model-year, family, and series; and type of vehicle for which no diesel emission control strategy is commercially available and a list of manufacturers that have been contacted, with the manufacturers’ responses to a request to purchase; and

4. A description of the reason for the request for a compliance extension for each engine or engine and fleet-vehicle combination; and

5. A copy of the statement of compliance as required in subsection (f)(1)(K); and

6. The application for compliance extension to be submitted to the Executive Officer no later than July 31 annually beginning 2007.

a. A municipality or utility. For a Group 1 engine, the Executive Officer will accept an annual compliance-extension application until July 31, 2011, after which the municipality or utility shall comply with subsection (b) by December 31, 2012. The Executive Officer will only grant one compliance extension for an engine in Group 1. For a Group 2 engine, the Executive Officer will accept an annual compliance extension application until July 31, 2011, after which the municipality or utility shall comply with subsection (b) by December 31, 2012.

b. A municipality or utility either located in a low-population county, or granted low-population county status. For a Group 1 engine, the Executive Officer will accept an annual compliance extension application until July 31, 2017, after which the municipality or utility shall comply with subsection (b) by December 31, 2018. The Executive
Officer will only grant one compliance extension for an engine in Group 1. For a Group 2 engine, the Executive Officer will accept an annual compliance extension application until July 31, 2016, after which the municipality or utility shall comply with subsection (b) by December 31, 2017.

(3) **Compliance Extension for a Municipality or Utility that Operates a Dual-Fuel or Bi-Fuel Engine.** A municipality or utility may delay implementation of a Group 1 or 2 dual-fuel or bi-fuel engine to the Group 3 compliance deadlines.

(4) **Compliance Extension for an Engine Near Retirement.** If a municipality or utility has applied best available control technology to all engines as required, and the next engine subject to implementation under subsection (c) is scheduled to be retired from the total fleet within one year of the applicable compliance deadline, then the municipality or utility shall be exempted from applying the best available control technology as defined in subsection (b) to that engine for a maximum of one year, provided documentation of the expected retirement date is kept in records as specified in subsection (f) and the engine is retired by the stated anticipated date.

(5) **Use of Experimental Diesel Emission Control Strategy.** A municipality or utility may use an experimental diesel emission control strategy provided by, or operated by, the manufacturer in no more than 20 vehicles, or ten percent of its total fleet, whichever is less, for testing and evaluation purposes. The municipality or utility shall keep documentation of this use in records as specified in subsection (f). Each vehicle will be considered to be in compliance for the duration of the experiment to a maximum of two years. The municipality or utility must bring the vehicle into compliance within six months of the end of the testing and evaluation period. No experimental diesel emission control strategy may be used on a vehicle after December 31, 2012.

(6) **Accelerated Turnover Option.** A municipality or utility either located in a low-population county or granted low-population county status may follow the accelerated turnover option provided in subsection (c)(3), provided the Executive Officer has received a letter by July 31, 2008, stating the municipality's or utility's intent to comply with this option.

(e) **Diesel Emission Control Strategy Special Circumstances.** A municipality or utility shall maintain the original level of best available control technology on each engine once that engine is in compliance, and will not be required to upgrade to a higher level of best available control technology, except under specified special circumstances, as follows:
(1) **Fuel Strategy Diesel Emission Control Strategy.**

(A) If a municipality or utility determines that the highest level diesel emission control strategy for a small percentage of its fleet would be a Level 2 fuel-based strategy, and implementation of this diesel emission control strategy would require installation of a dedicated storage tank, then the municipality or utility shall request prior approval from the Executive Officer to allow use of a lower level diesel emission control strategy; or

(B) If a municipality or utility elects to use a fuel-based diesel emission control strategy across its fleet, and some vehicles can use a Level 3 hardware diesel emission control strategy, then the municipality or utility shall request prior approval from the Executive Officer to allow use of a lower level diesel emission control strategy. This provision is only available if a minimum Level 2 diesel emission control strategy is used.

(2) **Diesel Emission Control Strategy Failure or Damage.** In the event of a failure or damage of a diesel emission control strategy, the following conditions apply:

(A) **Failure or Damage During the Warranty Period.** If a diesel emission control strategy fails or is damaged within its warranty period and the diesel emission control strategy manufacturer or authorized dealer determines it cannot be repaired, the municipality or utility shall replace the diesel emission control strategy with either the same level diesel emission control strategy or another best available control technology as defined in subsection (b).

(B) **Failure or Damage Outside of Warranty Period.** If a diesel emission control strategy fails or is damaged outside of its warranty period, and it cannot be repaired, the municipality or utility shall apply the best available control technology at the time of replacement, as defined in subsection (b).

(3) **Discontinuation of Fuel Verified as a Diesel Emission Control Strategy.** If a municipality or utility discontinues use of a fuel verified as a diesel emission control strategy, the municipality or utility shall apply best available control technology within 30 days of the date of discontinuation or submit a compliance plan to the Executive Officer no later than 30 days after discontinuation that demonstrates how the municipality or utility will bring the vehicles into compliance within six months of the date of discontinuation.

(4) **Limited Use of Level 1 Diesel Emission Control Strategy.** If a Level 1 diesel emission control strategy is identified as the best available control
technology pursuant to subsection (b), a municipality or utility is subject to the following limitations:

(A) **Group 1**

1. A municipality or utility may not use a Level 1 diesel emission control strategy on any Group 1 engine.

2. **Exception for low-population counties.** The limitation in (A)1. does not apply to a vehicle owned or operated by a municipality or utility located in a low-population county (Table 2), or to a vehicle owned or operated by a municipality or utility that has been granted low-population county status.

(B) **Group 2**

1. **Ten year limit.** A municipality or utility may use a Level 1 diesel emission control strategy in a Group 2 engine for up to ten years. The municipality or utility shall then replace the Level 1 diesel emission control strategy with the best available control technology from subsection (b). The replacement cannot be a Level 1 diesel emission control strategy.

2. **Exception for low-population counties.** The limitation in (B)1. does not apply to a vehicle owned or operated by a municipality or utility located in a low-population county (Table 2) or to a vehicle owned or operated by a municipality or utility that has been granted low-population county status.

(C) **Group 3**

1. **Five year limit.** A municipality or utility may use a Level 1 diesel emission control strategy in a Group 3 engine for up to five years. The municipality or utility shall then replace the Level 1 diesel emission control strategy with the best available control technology from subsection (b). The replacement cannot be a Level 1 diesel emission control strategy.

2. **Exception for low-population counties.** The limitation in (C)1. does not apply to a vehicle owned or operated by a municipality or utility located in a low-population county (Table 2) or to a vehicle owned or operated by a municipality or utility that has been granted low-population county status.

(f) **Record Keeping Requirement.** A municipality or utility shall maintain the following records. The municipality or utility shall provide the following records upon request to an agent or employee of the Air Resources Board for all vehicles in its total fleet subject to compliance with this regulation.
(1) **Records to be Kept For Inspection.** Beginning December 31, 2007, the municipality or utility shall keep the following records either in hard-copy format or as computer records:

(A) A list by vehicle identification number of vehicles, identifying each vehicle type; engine manufacturer, model-year, family, and series; and status as a total fleet or low usage vehicle; and

(B) Correlated to each vehicle, the installed diesel emission control strategy family name, its serial number, manufacturer, installation date, and if using a Level 1 or Level 2 verified diesel emission control strategy, the reason for the choice; and

(C) Records of maintenance for each installed diesel emission control strategy; and

(D) For fuel or fuel additives used as a diesel emission control strategy, the most recent two years’ worth of records of purchase that demonstrate usage; and

(E) For each low usage vehicle, or low-population county low usage vehicle, its mileage or engine hours as of December 31 of each year beginning 2007, and records to document its five-year mileage or engine hours, as of December 31 of each year beginning 2007, correlated to the vehicle identification information in paragraph (1)(A) above; and

(F) If a municipality or utility is located in a low-population county or has been granted low-population county status, documentation affirming that the vehicle is not operated at any time in a metropolitan statistical area as defined by the U.S. Census Bureau; and

(G) For each engine for which a municipality or utility is claiming an extension pursuant to paragraph (d)(4), the retirement date correlated to the vehicle identification information in paragraph (1)(A) above; and

(H) For each engine for which a municipality or utility is claiming an extension pursuant to paragraph (d)(5), the records of the test plan, including start and end dates of the experiment; diesel emission control strategy manufacturer name and contact information (representative, address, and phone number); name and type of experimental diesel particulate matter emission control strategy; and targeted data to be generated by experiment and correlated to the vehicle identification information in paragraph (1)(A) above; and
(I) For each engine for which a municipality or utility located in a low-
population county is following the accelerated turnover path in
Table 3, the date of each engine repower correlated to the vehicle
identification information in paragraph (1)(A) above; and

(J) Records to document the retirement of a vehicle. For each vehicle
or engine to be retired, list the vehicle identification number, engine
manufacturer, model-year, family, and series. For each vehicle that
will be transferred to another fleet in California, include also the
information required by sections 2022.1(f)(1)(B) and a statement of
compliance that the vehicle meets the provisions of
section 2022.1(b). For each vehicle or engine to be retired, provide
the date of retirement, and written confirmation from the recipient of
the retired vehicle or engine that the destination of the vehicle or its
engine meets the requirements of the definition of “retirement” or
“retire” in section 2022(b).

(K) A statement of compliance, prepared beginning December 31, 2007,
and renewed each December 31, thereafter until
December 31, 2012, with low-population counties continuing until
December 31, 2018, certifying that the municipality’s or utility’s
engines are in compliance as required, including the following:

1. “The [insert name of municipality or utility] vehicles at terminal
[insert terminal identification number or address] are in
compliance with title 13, California Code of Regulations,
section 2022.1”; and

2. The municipality’s or utility’s name, address, and business
telephone; and the signature of the municipality’s or utility’s
agent and the date signed.

(2) Inspection of Records at the Terminal. Beginning December 31, 2007, the
municipality or utility shall provide to any ARB representative any records
required to be maintained by the municipality or utility pursuant to
subsection (f)(1), by appointment, at the terminal where a vehicle normally
resides.

(3) Records Kept in the Vehicle. For each vehicle, beginning
December 31, 2007, the municipality or utility shall keep the following
information in the form of a legible and durable label affixed to the driver’s
side door jamb, or another readily accessible location known to the driver
of each vehicle:

(A) For each installed diesel emission control strategy, the diesel
emission control strategy family name as specified in title 13,
California Code of Regulations, section 2706(g)(2), and the installation date; or

(B) Engine model-year and planned compliance date, and a statement that the vehicle is following the accelerated turnover option, if applicable; or

(C) Designation as a low usage vehicle or low-population county low usage vehicle (as applicable) and the vehicle’s mileage or hours as of December 31 of each year beginning December 31, 2007; or

(D) Engine model-year and terminal where the vehicle is permanently housed if the municipality or utility is located in a low-population county or has been granted low-population county status; or

(E) Engine model-year and retirement date for an engine for which a municipality or utility is claiming an extension pursuant to paragraph (d)(4); or

(F) Engine model-year and the beginning and the ending dates for the test plan of an engine for which a municipality or utility is claiming an extension pursuant to paragraph (d)(5).

(4) Each municipality or utility shall maintain these records for each vehicle until it is sold outside of the State of California or is no longer owned or operated by the municipality or utility. If ownership is transferred, the seller shall convey these records to the buyer, or a third-party sales representative.

(g) Contractor Compliance Requirement. In any contract for services that a municipality or utility enters that has an effective date of December 31, 2007, or later, the municipality or utility shall include language requiring the contractor to be in compliance with all federal, state, and local air pollution control laws and regulations applicable to the contractor.

(h) Non-Compliance. Any violations of this section may carry civil penalties as specified in state law and regulations, including, but not limited to, Health and Safety Code Section 39674.

(1) A municipality or utility that fails to maintain the required records in paragraph (f)(1) may be subject to civil penalties of not less than $100 per day for every day past the required recordkeeping date.

(2) A municipality or utility that fails to maintain the required records in the vehicle as specified in paragraph (f)(3) may be subject to civil penalties of not less than $100 per day per vehicle for every day past the required recordkeeping date.
Final Regulation Order

Requirements to Reduce Idling Emissions From New and In-Use Trucks,
Beginning in 2008

NOTE: The regulatory amendments to existing language are shown in underline to indicate additions to the text and strikeout to indicate deletions. Paragraphs within a section that are not being amended in this rulemaking are indicated by "[No Change]." Subsection headings are shown in italics so they will be published in a distinctive font in Barclays California Code of Regulations.

Amend the following sections of Title 13, California Code of Regulations, to read as set forth in the following pages:

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>§ 1956.8</td>
<td>Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Year Heavy-Duty Engines and Vehicles</td>
</tr>
<tr>
<td>§ 2404</td>
<td>Emission Control Labels and Consumer Information – 1995 and Later Small Off-Road Engines</td>
</tr>
<tr>
<td>§ 2424</td>
<td>Emission Control Labels – 1996 and Later Off-Road Compression-Ignition Engines</td>
</tr>
<tr>
<td>§ 2425</td>
<td>Defects Warranty Requirements for 1996 and Later Off-Road Compression-Ignition Engines</td>
</tr>
<tr>
<td>§ 2485</td>
<td>Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling</td>
</tr>
</tbody>
</table>
Amend Title 13, California Code of Regulations, § 1956.8, to read:


(a)(1) [No Change.]

(a)(2)(A) The exhaust emissions from new 2004 and subsequent model heavy-duty diesel engines, heavy-duty natural gas-fueled and liquefied-petroleum-gas-fueled engines derived from diesel-cycle engines, and heavy-duty methanol-fueled diesel engines, and the optional, reduced-emission standards for 2002 and subsequent model engines produced beginning October 1, 2002, except in all cases engines used in medium-duty vehicles, shall not exceed:

Exhaust Emission Standards for 2004 and Subsequent Model Heavy-Duty Engines, and Optional, Reduced Emission Standards for 2002 and Subsequent Model Heavy-Duty Engines Produced Beginning October 1, 2002, Other than Urban Bus Engines (grams per brake horsepower-hour [g/bhp-hr])

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<thead>
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<tbody>
<tr>
<td>2004-2006</td>
<td>2.4 A, C, E, J</td>
<td>2.5 B, C, E, J</td>
<td>n/a</td>
<td>n/a</td>
<td>15.5</td>
<td>0.10 C</td>
</tr>
<tr>
<td>October 1, 2002 – 2006</td>
<td>n/a</td>
<td>1.8 to 0.3 A, D, F</td>
<td>n/a</td>
<td>n/a</td>
<td>15.5</td>
<td>0.03 to 0.01 G</td>
</tr>
<tr>
<td>2007 and subsequent</td>
<td>n/a</td>
<td>n/a</td>
<td>0.2</td>
<td>0.14</td>
<td>15.5</td>
<td>0.01 K</td>
</tr>
</tbody>
</table>

A This is the standard for the arithmetic sum of the oxides of nitrogen exhaust component certification value and the non-methane hydrocarbon exhaust component certification value, without individual restriction on the individual component values.

B This is the standard for the arithmetic sum of the oxides of nitrogen exhaust component certification value and the non-methane hydrocarbon exhaust component certification value, with the non-methane hydrocarbon individual component value not to exceed 0.5 g/bhp-hr.

C For 2004 through 2006 model years, emissions averaging may be used to meet this standard. Averaging must be based on the requirements of the averaging, banking and trading programs described in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" incorporated by reference in section 1956.8 (b), below.

D A manufacturer may elect to certify to an optional reduced-emission NOx+NMHC standard between the values, inclusive, by 0.3 grams per brake horsepower-hour increments. Engines certified to any of these optional reduced-emission NOx standards are not eligible for participation in any averaging, banking or trading programs described in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" incorporated by reference in section 1956.8 (b), below.

E May be used as the certification standard for the higher emitting fueling mode of an engine certified under the dual fueling mode certification process of section 1956.8 (a)(4), below.
May be used as the certification standard for the lower emitting fueling mode of an engine certified under the dual fueling mode certification process of section 1956.8 (a)(4), below.

A manufacturer may elect to certify to an optional reduced-emission PM standard between the specified values, inclusive, by 0.01 grams per brake horsepower-hour increments. Engines certified to any of these optional reduced-emission PM standards are not eligible for participation in any averaging, banking or trading programs described in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" incorporated by reference in section 1956.8 (b), below.

Engine manufacturers subject to the Heavy-Duty Diesel Engine Settlement Agreements (Settlement Agreements) must produce engines in compliance with the requirements contained in their respective Settlement Agreement. Most engine manufacturers subject to the Settlement Agreements are required to manufacture engines meeting the exhaust emission standards for 2004 and subsequent model years engines beginning October 1, 2002.

A manufacturer may elect to include any or all of its heavy-duty diesel engine families in any or all of the NOx emissions averaging, banking, or trading programs for heavy-duty diesel engines, within the restrictions described in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" incorporated in section 1956.8 (b), below. If the manufacturer elects to include engine families in any of these programs, the NOx family emission limit (FEL) may not exceed the following FEL caps: 2.00 grams per brake horsepower-hour (0.75 grams per megajoule) for model years before 2010; 0.50 grams per brake horsepower-hour (0.19 grams per megajoule) for model years 2010 and later. The FEL cap applies whether credits for the engine family are derived from averaging, banking, or trading programs.

For 2007 through 2009 model years, a manufacturer may use these emission standards in accordance with section 1956.8 (a)(2)(B). A manufacturer may elect to include any or all of its heavy-duty diesel engine families in any or all of the NOx plus NMHC emissions averaging, banking, or trading programs for heavy-duty diesel engines, within the restrictions described in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" incorporated in section 1956.8 (b), below. If the manufacturer elects to include engine families in any of these programs, the NOx family emission limit (FEL) may not exceed the following FEL caps: 2.00 grams per brake horsepower-hour (0.75 grams per megajoule) for model years. The FEL cap applies whether credits for the engine family are derived from averaging, banking, or trading programs.

A manufacturer may elect to include any or all of its heavy-duty diesel engine families in any or all of the particulate averaging, banking, or trading programs for heavy-duty diesel engines, within the restrictions described in "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" incorporated by reference in section 1956.8 (b), below. The particulate FEL for each engine family a manufacturer elects to include in any of these programs may not exceed an FEL cap of 0.02 grams per brake horsepower-hour (0.0075 grams per megajoule). The FEL cap applies whether credits for the engine family are derived from averaging, banking, or trading programs.

(a)(2)(B) through (a)(5) [No Change.]

Seven of the largest heavy-duty diesel engine manufacturers will be implementing measures to reduce emissions beginning October 1, 2002, to meet the requirements of the Heavy-Duty Diesel Engine Settlement Agreements reached with the ARB. The Heavy-Duty Diesel Engine Settlement agreements were reached in response to lawsuits brought by the United States Environmental Protection Agency and violations alleged by the ARB pertaining to excess in-use emissions caused by the use of defeat devices and unacceptable algorithms. Navistar signed its Settlement Agreement on October 22, 1998. Cummins, Detroit Diesel Corporation, Caterpillar, Volvo, Mack and Renault signed their Settlement Agreements on December 15, 1998.
(a)(6) Heavy-Duty Diesel Engine Idling Requirements.

(A) Engine Shutdown System. The requirements in this subsection apply to engine manufacturers and original equipment manufacturers, as applicable, that are responsible for the design and control of engine and/or vehicle idle controls.

1. Requirements. Except as provided in subsections (a)(6)(B) and (a)(6)(C), all new 2008 and subsequent model-year heavy-duty diesel engines shall be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to “neutral” or “park”, and the parking brake is engaged. If the parking brake is not engaged, then the engine shutdown system shall shut down the engine after 900 seconds of continuous idling operation once the vehicle is stopped and the transmission is set to “neutral” or “park.” The engine shutdown system must be tamper-resistant and non-programmable. A warning signal, such as a light or sound indicator inside the vehicle cabin, may be used to alert the driver 30 seconds prior to engine shutdown. The engine shutdown system must be capable of allowing the driver to reset the engine shutdown system timer by momentarily changing the position of the accelerator, brake, or clutch pedal, or other mechanism within 30 seconds prior to engine shutdown. Once reset, the engine shutdown system shall restart the engine shutdown sequence described in this paragraph above, and shall continue to do so until the engine shuts down or the vehicle is driven.

2. Engine Shutdown System Override. The engine shutdown system may be overridden, to allow the engine to run continuously at idle, only under the following conditions:

a. If the engine is operating in power take-off (PTO) mode. The PTO system shall have a switch or a setting that can be switched “on” to override the engine shutdown system and will reset to the “off” position when the vehicle’s engine is turned off or when the PTO equipment is turned off. Subject to advance Executive Officer approval, other methods for detecting or activating PTO operation may be allowed, or,

b. if the vehicle’s engine coolant temperature is below 60°F. The engine shutdown system shall automatically be activated once the coolant temperature reaches 60°F or above. The engine coolant temperature shall be measured with the engine’s existing engine coolant temperature sensor used for engine protection, if so equipped. Other methods of measuring engine coolant temperature may be allowed, subject to advance Executive Officer approval.

c. if an exhaust emission control device is regenerating, and keeping the engine running is necessary to prevent aftertreatment or engine damage, the engine shutdown system may be overridden for the duration necessary to complete the regeneration process up to a maximum of 30 minutes. Determination of what constitutes the need for regeneration will be based on data provided by the manufacturer at time of certification. Regeneration events that may require longer than 30 minutes of engine idling to complete shall require advance Executive Officer approval. At the end of the regeneration process, the engine shutdown system shall automatically be enabled to restart the engine.
shutdown sequence described in subparagraph (a)(6)(A)1. above. A vehicle that uses a regeneration strategy under engine idling operating conditions shall be equipped with a dashboard indicator light that, when illuminated, indicates that the exhaust emission control device is regenerating. Other methods of indicating that the exhaust emission control device is regenerating may be used with advance Executive Officer approval.

d. if servicing or maintenance of the engine requires extended idling operation. The engine’s electronic control module may be set to temporarily deactivate the engine shutdown system for up to a maximum of 60 minutes. The deactivation of the engine shutdown system shall only be performed with the use of a diagnostic scan tool. At the end of the set deactivation period, the engine’s electronic control module shall reset to restart the engine shutdown system sequence described in subparagraph (a)(6)(A)1. above.

(B) Exempt Vehicles. Heavy-duty diesel engines to be used in buses as defined in California Vehicle Code sections 233, 612 and 642, school buses as defined in California Vehicle Code section 545, recreational vehicles as defined in Health and Safety Code 18010, medium duty vehicles as defined in section 1900(b)(13) of title 13, California Code of Regulations, military tactical vehicles as defined in section 1905 of title 13, California Code of Regulations, and authorized emergency vehicles as defined in California Vehicle Code section 165 are exempted from these requirements.

(C) Optional NOx idling emission standard. In lieu of the engine shutdown system requirements specified in subsection (a)(6)(A) above, an engine manufacturer may elect to certify its new 2008 and subsequent model-year heavy-duty diesel engines to an optional NOx idling emission standard of 30 grams per hour. Compliance with this optional standard will be determined based on testing conducted pursuant to the supplemental NOx idling test cycle and procedures specified in section 86.1360-2007.B.4 of the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” as incorporated by reference in subsection (b). The manufacturer may request an alternative test procedure if the technology used cannot be demonstrated using the procedures in section 86.1360-2007.B.4, subject to advance approval of the Executive Officer. A manufacturer certifying to the optional NOx idling standard must not increase emissions of CO, PM, or NMHC, determined by comparing results from the supplemental NOx idling test cycle and procedures specified in section 86.1360-2007.B.4 of the referenced “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles” to emission results from the idle mode of the supplemental steady state test cycle or emission results from idle portions of the transient test cycle for heavy-duty diesel engines respectively specified in sections 86-1360-2007 and 86.1327-98 of the referenced “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles.” With advance Executive Officer approval, a manufacturer may use other methods of ensuring that emissions of CO, PM, and NMHC are not
adversely affected in meeting the optional NOx requirement. Also, manufacturers shall state in their application for certification that meeting the optional NOx idling requirement will not adversely affect the associated emissions of CO, PM and NMHC.

An engine manufacturer certifying its engine to the optional NOx idling emission standard must also produce a vehicle label, as defined in subsection 35.B.4 of the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” as incorporated by reference in subsection (b).

(D) Optional Alternatives to Main Engine Idling. All new 2008 and subsequent model year heavy duty diesel engines may also be equipped with idling emission reduction devices that comply with the compliance requirements specified in title 13, CCR, section 2485(c)(3).


(c) through (h) [No Change.]

Amend Title 13, California Code of Regulations, § 2404, to read:


(a) Purpose. Purpose. The Air Resources Board recognizes that certain emissions-critical or emissions-related parts must be properly identified and maintained in order for engines to meet the applicable emission standards. In addition, the Board recognizes that information regarding engines' emissions levels may influence consumer choice. These specifications require engine or equipment manufacturers to affix a label (or labels) on each production engine (or equipment, as applicable) to provide the engine or equipment owner and service mechanic with information necessary for the proper maintenance of these parts in customer use. These specifications further require engine or equipment manufacturers to make information regarding relative emissions levels available to potential ultimate purchasers. For engines used in auxiliary power systems which, in turn, are used to comply with the diesel-fueled commercial vehicle idling requirements of title 13, CCR, section 2485(c)(3)(A), additional labeling requirements for the engine or equipment manufacturers apply, as set forth in section 35.B.4 of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as incorporated by reference in title 13, CCR, section 1956.8(b).

(b) through (l) [No Change.]

Amend Title 13, California Code of Regulations, § 2424, to read:


(a) Purpose. **Purpose.** The Air Resources Board recognizes that certain emissions-critical or emissions-related parts must be properly identified and maintained in order for engines to meet the applicable emission standards. The purpose of these specifications is to require engine manufacturers to affix a label (or labels) on each production engine (or equipment) to provide the engine or equipment owner and service mechanic with information necessary for the proper maintenance of these parts in customer use. For engines used in auxiliary power systems which, in turn, are used to comply with the diesel-fueled commercial vehicle idling requirements of title 13, CCR, section 2485(c)(3)(A), additional labeling requirements for the engine or equipment manufacturers apply, as set forth in section 35.B.4 of the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” as incorporated by reference in title 13, CCR, section 1956.8(b).

(b) through (k) [No Change.]

Amend Title 13, California Code of Regulations, § 2425, to read:

§ 2425. Defects Warranty Requirements for 1996 and Later Off-Road Compression-Ignition Engines.

(a) through (d) [No Change.]

(e) Each manufacturer shall furnish with each new engine written instructions for the maintenance and use of the engine by the owner. The instructions shall be consistent with this article and applicable regulations contained herein. In addition, for engines less than 19 kilowatts, each manufacturer shall furnish with each new engine a written statement as follows: "In order to operate in California, a diesel-fueled engine in an auxiliary power system used to comply with the Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling requirements of the California Code of Regulations, must have one of the following apply: (1) be equipped with a verified Level 3 in-use strategy for particulate matter control, (2) have its exhaust routed directly into the vehicle’s exhaust pipe, upstream of the diesel particulate matter aftertreatment device, or (3) use an alternate particulate matter control strategy with prior Executive Officer approval. (For more details, please see the California Code of Regulations, title 13, section 2485(c)(3)(A.).)"

(f) through (g) [No Change.]

Amend Title 13, California Code of Regulations, § 2485, to read:


(a) **Purpose.** *Purpose.* The purpose of this airborne toxic control measure is to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles.

(b) **Applicability.** *Applicability.* This section applies to diesel-fueled commercial motor vehicles that operate in the State of California with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. This specifically includes:

(1) California-based vehicles; and

(2) Non-California-based vehicles.

(c) **Requirements.** *Requirements.*

(1) **Idling Restriction.**

On or after February 1, 2005, the driver of any vehicle subject to this section shall comply with the following requirements, except as noted in subsection (d) below:

(1A) the driver shall not idle the vehicle’s primary diesel engine for greater than 5.0 minutes at any location, except as noted in subsection (d); and

(2B) the driver shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 100 feet of a restricted area, except as noted in Subsection (d).

(2) **Use of Alternative Technologies.**

(A) On or after January 1, 2008, the driver shall not operate an internal combustion APS on any vehicle equipped with a 2007 and subsequent model year primary diesel engine unless the vehicle is:

1. equipped with an APS meeting the emissions performance requirements found in subsection (c)(3)(A), below; and
2. the vehicle is equipped with a label meeting the requirements pursuant to section 35.8.B.4 of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as incorporated by reference in title 13, CCR, section 1956.8(b).

(B) On or after January 1, 2008, the driver shall not operate a fuel-fired heater on any vehicle equipped with a 2007 and subsequent model year primary diesel engine unless the fuel-fired heater meets the emissions performance requirements found in subsection (c)(3)(B), below.

(C) On or after January 1, 2008, the driver of a vehicle equipped with a 2006 or older model year primary diesel engine may use and operate in California any certified internal combustion APS with or without the additional PM control specified in subsection (c)(3)(A)1, or any other certified alternative idling reduction technology.

(3) **Compliance Requirements.** As an alternative to idling the primary engine, diesel engines/vehicles may, as an option, be equipped with alternative technologies, as listed and defined below in (A), (B), and (C) of this subsection. If so equipped, these technologies are subject to the following requirements:

(A) **Internal Combustion APS.**

1. In order to operate in California, an APS utilizing an internal combustion engine must comply with applicable California off-road and/or federal non-road emission standards and test procedures for its fuel type and power category. In addition, diesel-fueled APSs installed on vehicles equipped with primary engines certified to the 2007 and subsequent model year heavy-duty diesel engine standards, pursuant to section 1956.8(a)(2)(A) of title 13, CCR, shall either,

   a. be equipped with a verified Level 3 in-use strategy for particulate matter control (see title 13, CCR, sections 2700 to 2710), or

   b. have its exhaust routed directly into the vehicle's exhaust pipe, upstream of the diesel particulate matter aftertreatment device.

2. With advance Executive Officer approval, a certifying/verifying APS manufacturer may petition for an alternate compliance strategy other than described in (A)1.a. or b. in this subsection above. However, this provision is limited to manufacturers that can
demonstrate, to the satisfaction of the Executive Officer, that their alternative strategy is equivalent (or "cleaner"), from an emissions standpoint, compared to the requirement described in (A)1.a. or b. in this subsection above. As an example, strategies that can use the available electric power infrastructure, instead of solely operating a diesel-fueled APS for engine and/or cab heating and cooling, may be able to use such a strategy to demonstrate compliance with these requirements.

(B) **Fuel-Fired Heaters.** Fuel-fired heaters must comply with the applicable California emission standards and test procedures as specified in the Low Emission Vehicle program requirements found in title 13, CCR, subsections 1961(a)(15) and (d), or in Part I.E.1.13 of the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," as incorporated by reference in title 13, CCR, section 1961(d). However, the specified requirement that limits fuel-fired heaters from being operated above 40°F does not apply.

(C) **Other Idle Reduction Technologies.** Other technologies that will reduce idling emissions may also be used, including the use of batteries, fuel cells, power inverter/chargers for on-shore electrical power, on-shore electric power infrastructure also known as truck stop electrification, and other technologies that produce minimal or no emissions. With the exception of battery and fuel cell powered APSs, power inverter/chargers, and electric power infrastructure, the use of other technologies are subject to advance Executive Officer approval and must be at least as effective in reducing idling emissions as the technologies described in subsections (c)(3)(A), above, or the NOx idling emission standard specified in title 13, CCR, section 1956.8(a)(6)(C). The Executive Officer shall use good engineering judgment and test data to determine if an idle reduction technology provides idling emission controls equivalent to the standards specified in subsection (c)(3)(A) above, or in title 13, CCR, section 1956.8(a)(6)(C).

(D) **Labeling Requirements.** 2007 and subsequent model year commercial diesel vehicles equipped with an internal combustion APS meeting the requirements specified in subsection (c)(3)(A) shall have a label affixed to the hood of the vehicle to allow operation of the APS in California. The labels shall meet the requirements specified in section 35.B.4 of the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles," as incorporated by reference in title 13, CCR, section 1956.8(b).
(d) **Exceptions.**

(1) Except when a vehicle is located within 100 feet of a restricted area, subsection (c)(1)(A) does not apply, if the vehicle is equipped with

(A) a primary diesel engine meeting the optional NOx idling emission standard pursuant to title 13, CCR, section 1956.8(a)(6)(C); and

(B) a label meeting the requirements pursuant to section 35.B.4 of the “California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles,” as incorporated by reference in title 13, CCR, section 1956.8(b).

(2) Subsection (c)(1) does not apply for the period or periods during which

(1A) a bus is idling for

(A1) up to 10.0 minutes prior to passenger boarding, or

(B2) when passengers are onboard;

(2B) prior to January 1, 2008, idling of the primary diesel engine is necessary to power a heater, air conditioner, or any ancillary equipment during sleeping or resting in a sleeper berth. This provision does not apply when operating within 100 feet of a restricted area;

(3C) idling when the vehicle must remain motionless due to traffic conditions, an official traffic control device, or an official traffic control signal over which the driver has no control, or at the direction of a peace officer, or operating a diesel-fueled APS or other device at the direction of a peace officer;

(4D) idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area;

(5E) idling of the primary diesel engine, or operating a diesel-fueled APS, or operating other devices when forced to remain motionless due to immediate adverse weather conditions affecting the safe operation of the vehicle or due to mechanical difficulties over which the driver has no control;

(6F) idling to verify that the vehicle is in safe operating condition as required by law and that all equipment is in good working order, either as part of a daily vehicle inspection or as otherwise needed, provided that such engine idling is mandatory for such verification;
idling of the primary diesel engine or operating a diesel-fueled APS or operating other devices is mandatory for testing, servicing, repairing, or diagnostic purposes, including regeneration or maintenance of the exhaust emission control device during engine idling when the dashboard indicator light, if so equipped, is illuminated indicating that regeneration or maintenance is in progress;

idling when positioning or providing a power source for equipment or operations, other than transporting passengers or propulsion, which involve a power take off or equivalent mechanism and is powered by the primary engine for:

(A1) controlling cargo temperature, operating a lift, crane, pump, drill, hoist, mixer (such as a ready mix concrete truck), or other auxiliary equipment;

(B2) providing mechanical extension to perform work functions for which the vehicle was designed and where substitute alternate means to idling are not reasonably available; or

(C3) collection of solid waste or recyclable material by an entity authorized by contract, license, or permit by a school or local government;

idling of the primary diesel engine or operating a diesel-fueled APS or operating other devices when operating defrosters, heaters, air conditioners, or other equipment solely to prevent a safety or health emergency;

idling of the primary diesel engine or operating a diesel-fueled APS or operating other devices by authorized emergency vehicles while in the course of providing services for which the vehicle is designed;

idling of military tactical vehicles during periods of training, testing, and deployment; and

idling when operating equipment such as a wheelchair or people assist lift as prescribed by the Americans with Disabilities Act;

(e) Relationship to Other Law. Relationship to Other Law.

Nothing in this section allows idling in violation of other applicable law, including, but not limited to:

(1) California Vehicle Code Section 22515;
(2) Title 13, Section 2480, California Code of Regulations;

(3) California Health and Safety Code Section 40720; or

(4) any applicable ordinance, rule, or requirement as stringent as, or more stringent than, this section.

(f) Enforcement. Enforcement. This section may be enforced by the Air Resources Board; peace officers as defined in California Penal Code, title 3, chapter 4.5, Sections 830 et seq. and their respective law enforcement agencies' authorized representatives; and air pollution control or air quality management districts.

(g) Penalties. Penalties. For violations of subsection (c)(1), (c)(2) or (c)(23), the driver of a subject vehicle is subject to a minimum civil penalty of 100 dollars and to criminal penalties as specified in the Health and Safety Code and the Vehicle Code.

(h) Definitions. Definitions.

The following definitions apply to this section:

(1) “Authorized emergency vehicle” is as defined in Vehicle Code Section 165.

(2) “Auxiliary power system” or “APS” means any device that is permanently dedicated to the vehicle on which it is installed and provides electrical, mechanical, or thermal energy to the primary diesel engine, truck cab, and/or sleeper berth, bus’s passenger compartment or any other commercial vehicle’s cab, as an alternative to idling the primary diesel engine.

(3) “Bus” means any vehicle defined in Title 13, California Code of Regulations, Section 2480, subsections (h) (13)-(16), inclusive or as defined in the Vehicle Code Section 233.

(4) “Commercial Motor Vehicle” means any vehicle or combination of vehicles defined in Vehicle Code Section 15210(b) and any other motor truck or bus with a gross vehicle weight rating of 10,001 pounds or more, except the following:
   (A) a zero emission vehicle; or
   (B) a pickup truck as defined in Vehicle Code Section 471.

(5) “Driver” is as defined in Vehicle Code Section 305.

(6) “Fuel-fired heater” means a fuel burning device that creates heat for the purpose of (1) warming the cab or sleeper berth compartment of a vehicle
or (2) warming the engine oil and/or coolant for easy start-up of the vehicle's engine but does not contribute to the propulsion of the vehicle.

(67) "Gross vehicle weight rating" is as defined in Vehicle Code Section 350.

(78) "Highway" is as defined in Vehicle Code Section 360.

(89) "Idling" means the vehicle engine is running at any location while the vehicle is stationary.

(910) "Motor truck" or "motortruck" means a motor vehicle designed, used, or maintained primarily for the transportation of property.

(1011) "Official traffic control device" is as defined in Vehicle Code Section 440.

(1412) "Official traffic control signal" is as defined in Vehicle Code Section 445.

(4213) "Owner" is as defined in Vehicle Code Section 460.

(4314) "Primary diesel engine" means the diesel-fueled engine used for vehicle propulsion.

(4415) "Queuing" means (A) through (C)
(A) the intermittent starting and stopping of a vehicle;
(B) while the driver, in the normal course of doing business, is waiting to perform work or a service; and
(C) when shutting the vehicle engine off would impede the progress of the queue and is not practicable.
(D) Queuing does not include the time a driver may wait motionless in line in anticipation of the start of a workday or opening of a location where work or a service will be performed.

(4516) "Restricted area" means any real property zoned for individual or multifamily housing units that has one or more of such units on it.

(4617) "Safety or health emergency" means:
(A) a sudden, urgent, or usually unforeseen, occurrence; or
(B) a foreseeable occurrence relative to a medical or physiological condition.

(4718) "Sleeper berth" is as defined in Title 13, California Code of Regulations, Section 1265.

(4819) "Vehicle" is as defined in the Vehicle Code Section 670.
Authority: Sections 39600, 39601, 39614(b)(6)(A), 39658, 39667, 43000.5(d), 43013(b), 43013(h), 43018(b) and 43018(c), Health and Safety Code; and Western Oil & Gas Assn. v. Orange County Air Pollution Control Dist. (1975) 14 Cal.3d 411.

APPENDIX K

SAN PEDRO BAY PORTS RAIL STUDY UPDATE
DECEMBER 2006
EXECUTIVE SUMMARY
San Pedro Bay Ports Rail Study Update

Executive Summary

Prepared for:

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LONG BEACH
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December 2006
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EXECUTIVE SUMMARY

I. Introduction

The San Pedro Bay Ports of Los Angeles and Long Beach (SPB) serve as the country’s primary gateway to international trade. International trade is a key economic engine for the local region and the country. The Ports serve as a vital link in the goods movement chain providing products for our local market as well as those shipped by rail throughout the country.

No other port is as well positioned as the Ports of Long Beach and Los Angeles to serve our country’s growing demand for international cargo. Bearing this responsibility, the SPB Ports are carefully planning the infrastructure necessary to accommodate demand while minimizing impacts to the surrounding communities. The landside transportation links are especially important since the resulting access issues have the highest potential to cause impacts to the local communities. Portions of the existing transportation system within and adjacent to the Ports are becoming constrained. Expected increases in cargo throughput will induce a considerable amount of rail and truck traffic onto this transportation system.

The Alameda Corridor opened April 15, 2002 and has generated significant improvements to the rail system’s ability to efficiently carry trains from the Ports to the inland rail system with improved train speed and removal of at-grade crossings that had previously impacted traffic in the adjacent communities. Any cargo that is moved by train from the Port is a benefit to the transportation system by reducing the truck volumes and the associated congestion and diesel emissions.

The rail system serving the SPB Ports is instrumental in enabling the efficient transportation of cargo, since rail service is both economically and environmentally beneficial. Maximizing use of on-dock rail yards is part of the SPB Ports Clean Air Action Plan. Without on-dock rail, intermodal cargo will add to local highway congestion and diesel truck emissions as it is hauled by truck to be loaded onto trains at inland rail yards. Therefore, the Ports have developed and are continuing to pursue development of on-dock rail yards so that cargo can be loaded onto trains at the marine terminal without generating truck trips on the local roadways and freeways. Unlike on-dock rail yards that are dedicated to a single marine terminal, near-dock rail yards have logistical advantages due to their ability to serve numerous marine terminals. Near-dock facilities are within five miles of the Port and are able to provide needed intermodal capacity with greatly reduced trucking impacts, compared to more remote off-dock facilities. Other advanced technologies that could be applied to the transport of containers in lieu of heavy rail or trucks are being considered under a separate study and are not considered by this “Rail Study Update”.

PARSONS

ES-1

December 2006
II. Study Goal

The goal of this “Rail Study Update” (Rail Study) is to evaluate the rail system performance and recommend enhancements to Port infrastructure. The Port of Long Beach previously conducted a Rail Master Planning Study (POLB, 2002) and the Port of Los Angeles conducted a Rail Capacity Analysis (POLA, 2003) based on year 2000 conditions. This Study incorporates changed market conditions, revised Port development plans, and modified cargo forecast based on the latest information available in 2005.

The SPB Ports were concurrently conducting the Truck Reduction Study and this Rail Study is considered to be a component of the Truck Reduction Study.

The objectives of this “Rail Study Update” are as follows:

- Establish existing conditions in 2005.
- Identify rail system deficiencies and propose necessary improvements based on rail yard capacity analyses using MPC Model, and rail network train simulation using RTS Model.
- Develop conceptual rail designs for mainline track, rail yards, operations and systems.
- Substantiate the actions required to meet rail yard demand and provide acceptable levels of service for trains on the rail network in 2010, 2015, 2020 and 2030.
- Develop a Rail Enhancement Program (REP) that coordinates conceptual improvements through a phased implementation plan with schedule and cost estimate for each project.

The goal for meeting rail yard demand is to maximize capacity and utilization of on-dock rail and supplement that capacity with near-dock facilities as necessary.

III. Benefits

Any cargo that is moved by train from the Port benefits the overall transportation system by reducing the truck trips and total truck mileage with the associated impacts. The graphic on the following page shows that each on-dock train can eliminate 750 truck trips and are at least twice as fuel efficient and clean as trucks on a ton-mile basis.

A single container ship may unload 5,000 twenty-foot equivalent units (TEU) to be delivered outside the Port boundaries by a fleet of trucks. However, the movement of cargo by trains loaded at on-dock rail yards is an effective method of reducing the truck traffic. Every train that is loaded on-dock can eliminate 750 truck trips from the highway, and a single ship can generate five trains worth of intermodal cargo. In other words, on-dock rail can potentially eliminate 3,750 truck trips for every vessel call.

As a measure of the benefits of on-dock rail, consider the hypothetical situation where all of the REP projects are built and operating today: the level of on-dock throughput would be nearly double that of existing and would remove nearly 6,000 trucks a day from the local roadways. As cargo volumes increase, the benefits of on-dock rail will increase as well. Given 2030 cargo forecasts and full development of the REP, on-dock rail would remove nearly 29,000 truck trips daily.

Since there is currently no viable opportunity to accommodate the forecast intermodal cargo volumes elsewhere on the West Coast, no action scenario, with regards to the REP, would result in extensive truck trips over long distances seeking out available locations for intermodal capacity. This would add millions of truck-miles to our local freeway system each day.
IV. Approach

The capacities of on-dock, near-dock and off-dock rail yards are analyzed for their ability to accommodate forecast intermodal demand. The maximum practical capacity (MPC) of existing and proposed rail facilities is estimated using a validated MPC Model. The demand for various rail yards considers cargo flow characteristics and specific requirements of direct intermodal, transload and domestic intermodal cargo.

The Port’s rail system infrastructure is evaluated using the Rail Traffic Control (RTC) simulation model. Train volumes are estimated for each rail yard by the MPC Model and then the RTC Model dispatches these trains onto the Port rail network and through the Alameda Corridor. The RTC Model simulates train movements based on rail line characteristics and availability, and provides results including train transit times and train delays. Based on these results, infrastructure deficiencies are identified and engineered improvements are recommended.

Rail yard expansion projects and infrastructure improvement projects recommended by this Study are compiled into a Rail Enhancement Program (REP) that establishes the schedule, cost and requirements of all projects in the REP. The information is also used to estimate the annual cost spread of the overall program. Finally, improvement projects are evaluated for their relative benefit/cost ratio.

The rail designs prepared by this study are conceptual. Each project design will subsequently be revised to address requirements that will be determined during environmental permitting, tenant negotiations and final engineering design.
V. Cargo Growth

The San Pedro Bay Ports Long-Term Cargo Forecast (Mercer Management, 1998) is tracking slightly lower than actual cargo volumes in 2005. The Mercer Forecast was adjusted to create a Revised Forecast based on the following: actual cargo throughput at the San Pedro Bay Ports during the period of 2000-2005. The Revised Forecast is also extended from 2020 out to 2030 considering expected continued growth rates and limited based on estimated marine terminal capacities. The Mercer Forecast and Revised Forecast are shown on Figure 1.

![Figure 1 - SPB Ports Cargo Forecast](image)

<table>
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<th>Year</th>
<th>2005 Actual</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
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<td>36.2</td>
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</tbody>
</table>

Cargo Type

Port intermodal cargo is projected to account for at least half of the total Port throughput during the forecast horizon. The other half is destined for regional markets. Port intermodal cargo has two components, as follows:

**Direct Intermodal:** is moved directly between the Port and rail yards and can be handled on-dock, near-dock or off-dock. Direct intermodal is expected to account for 40 percent of Port cargo.

**Transload Intermodal:** is rehandled through a warehouse somewhere between the Port and rail yards. Transload cargo is never handled on-dock due to the requirement to be transported off the marine terminal to a warehouse.

![Figure 2 - SPB Ports Cargo Breakdown](image)
Regional Cargo: is transported almost exclusively by truck, although there are proposals to use shuttle trains to transport some regional cargo to an inland distribution facility. Figure 2 shows the breakdown of these cargos with intermodal on the left side of the pie and regional to the right.

VI. Rail Yards Supporting San Pedro Bay Ports

Port intermodal cargo can be transferred to trains at any of three types of rail yards:

On-dock Rail: On-dock is defined as a rail yard located within the marine terminal. A marine terminal also has wharf, container storage areas, administration and support buildings and truck processing gates. The on-dock rail yard allows cargo to be transported without any gate transaction and without dispatching trucks onto local roadways. One disadvantage is that the rail yard encroaches on the container yard acreage and impedes traffic flow within the marine terminal, potentially reducing the throughput capacity of the terminal. However, given environmental benefits and through careful planning to minimize capacity constraints, the Ports are pursuing on-dock rail to the fullest extent possible. On-dock throughput is increasing each year and handled 24% of the total San Pedro Bay cargo in 2006.

Near-dock Rail: Near-dock is defined as a rail yard located outside of the marine terminals that requires a short truck trip (within 5 miles). Their advantage is the ability to combine cargo from various marine terminals and build trains that efficiently transport cargo to specific destinations throughout the country. The only existing near-dock rail yard for the San Pedro Bay Complex is the Intermodal Container Transfer Facility (ICTF). It is operated by Union Pacific Railroad on Port of Los Angeles property located north of Sepulveda Boulevard and east of Alameda Street. The Ports are contemplating other near-dock facilities to help meet the demand for efficient rail transport. Currently, ICTF handles 8 percent of the total San Pedro Bay cargo in 2006.

Off-dock Rail: Off-dock rail yards are located more remotely (greater than 5 miles) from marine terminals. Currently, off-dock rail yards that handle containers from the San Pedro Bay Ports are located near downtown Los Angeles, approximately 25 miles away. Both the BNSF Railway and Union Pacific Railroad have off-dock facilities that handle Port containers. These rail yards contribute significant truck miles to some of the most congested roadways in the region. Off-dock rail yards handled approximately 11 percent of the total San Pedro Bay cargo in 2006, down from 15 percent and 14 percent in 2003 and 2004, respectively.

The recent history of on-dock, near-dock and off-dock throughput is provided in Table 1.

| Table 1: SPB Direct Intermodal – Actual Throughput |
|-----------------------------|-------|-------|-------|-------|
| (TEU)                       | 2003  | 2004  | 2005  | 2006  |
| On-Dock                     | 1,885,642 | 2,369,853 | 2,934,850 | 3,801,892 |
| Percent of Port Throughput  | 15.9% | 18.1% | 20.7% | 24.1% |
| Near-Dock                   | 962,197 | 936,428 | 1,081,350 | 1,271,327 |
| Percent of Port Throughput  | 8.1%  | 7.1%  | 7.6%  | 8.1%  |
| Off-Dock                    | 1,805,791 | 1,846,188 | 1,689,890 | 1,671,489 |
| Percent of Port Throughput  | 15.3% | 14.1% | 11.9% | 10.6% |
| Total Direct Intermodal     | 4,653,630 | 5,152,469 | 5,706,090 | 6,744,708 |
| Percent of Port Throughput  | 39.3% | 39.3% | 40.2% | 42.8% |
| Total Port Throughput       | 11,837,064 | 13,101,292 | 14,194,442 | 15,759,219 |

Source: UP RR/BNSF
Table 1 includes only direct intermodal cargo, which excludes transload cargo. Transload cargo is estimated to be approximately 10 percent of total Port throughput volumes and all transload is handled off-dock.

The recent increases in rail throughput have been efficiently accommodated by the Port due to proactive construction of rail infrastructure improvements in the past. Additional investment will be needed to minimize impacts of continuing cargo growth. Development of on-dock/near-dock facilities and supporting rail infrastructure will improve intermodal efficiencies and reduce local and regional truck traffic.

On-Dock Development

On-dock rail yards are currently handling over 20 percent of Port cargo, but with cargo growth and the desire to maximize on-dock throughput, it has been proposed that these yards be expanded and new yards be developed over the next 20 years. This strategy aims to efficiently handle international cargo while minimizing environmental impacts. Recent actual on-dock throughput is provided in Table 2a and the projected on-dock throughput associated with planned improvements (as described in REP) is provided in Table 2b.

### Table 2a: Actual SPB On-Dock Intermodal Throughput

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POLB</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of POLB Throughput</td>
<td>11.0%</td>
<td>14.9%</td>
<td>16.3%</td>
<td>19.2%</td>
</tr>
<tr>
<td><strong>POLA</strong></td>
<td>1.37</td>
<td>1.51</td>
<td>1.84</td>
<td>2.40</td>
</tr>
<tr>
<td>Percent of POLA Throughput</td>
<td>19.1%</td>
<td>20.6%</td>
<td>24.6%</td>
<td>28.3%</td>
</tr>
<tr>
<td><strong>Total SPB</strong></td>
<td>1.88</td>
<td>2.37</td>
<td>2.93</td>
<td>3.80</td>
</tr>
<tr>
<td>Percent of Port Throughput</td>
<td>15.9%</td>
<td>18.1%</td>
<td>20.7%</td>
<td>24.1%</td>
</tr>
</tbody>
</table>

### Table 2b: Projected SPB On-Dock Intermodal Throughput

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POLB</strong></td>
<td>2.27</td>
<td>4.15</td>
<td>5.49</td>
<td>6.10</td>
</tr>
<tr>
<td>Percent of POLB Throughput</td>
<td>23%</td>
<td>32%</td>
<td>32%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>POLA</strong></td>
<td>2.79</td>
<td>4.33</td>
<td>6.25</td>
<td>6.84</td>
</tr>
<tr>
<td>Percent of POLA Throughput</td>
<td>27%</td>
<td>31%</td>
<td>33%</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Total SPB</strong></td>
<td>5.06</td>
<td>8.47</td>
<td>11.74</td>
<td>12.94</td>
</tr>
<tr>
<td>Percent of Port Throughput</td>
<td>25%</td>
<td>31%</td>
<td>32%</td>
<td>30%</td>
</tr>
</tbody>
</table>

The locations of existing and proposed Port rail yards are shown in Figure 3.
Figure 3 - Existing and Proposed Port Rail Yards

LEGEND

**POLB Rail Yards**
- 1 – Pier J On-Dock
- 2 – Pier G On-Dock
- 3 – Middle Harbor Terminal (Piers DEF) On-Dock
- 4 – Pier A On-Dock
- 5 – Pier S On-Dock
- 6 – Pier T On-Dock
- 7 – Pier B Rail Yard

**POLA Rail Yards**
- 8 – TICTF Shared On-Dock
- 9 – Pier 300 On-Dock
- 10 – Pier 400 On-Dock
- 11 – WBICTF On-Dock
- 12 – WB-East (TraPac) On-Dock
- 13 – PHL Base/Support Rail Yard

**Notes:**
1. Reconfiguration/expansion of existing yard.
2. Construction of new rail yard.
VII. Rail Yard Capacity/Demand

Capacity of planned off-dock, near-dock and on-dock rail yards will not meet projected demand for SPB intermodal cargo. However, the Ports are considering additional potential projects as described in the subsequent “Other Potential Projects” section.

The rail yard capacity/demand analysis indicates that demand for off-dock rail yards will outstrip the existing capacity. In fact, transload and domestic cargo alone (which cannot be handled at on-dock or near-dock rail yards) is expected to take up all existing off-dock capacity in the 2010-2015 timeframe, depending on domestic cargo growth rates (0% growth will leave capacity until 2015; 3% growth will take all capacity by 2010). Therefore, direct intermodal will need to be accommodated at on-dock or near-dock rail yards, which is also preferable from the standpoint of minimizing trucking impacts such as traffic congestion and diesel emissions.

Base and Alternative Rail Yard Capacity/Demand Scenarios

Several scenarios of on-dock development have been explored to understand their implications on rail yard capacity/demand. The MPC Scenario assumes all planned development occurs and is used as the basis for all further capacity/demand considerations in this report. The other scenarios are less optimistic and therefore result in greater capacity shortfall. The capacity shortfall, or latent demand, should be considered the amount of additional rail yard capacity needed to meet demand. The Ports are considering “Other Potential Projects” (described later) to provide this additional capacity.

MPC Scenario: This base capacity/demand analysis assumed that all projects in the REP are developed and that rail yards operate at their maximum practical capacity (MPC). The MPC Scenario assumes that on-dock rail yards use longshore labor to load and unload containers from trains. The assumption for working shifts when these operations are performed increase over time as follows: 1-shift in 2005; 2-shifts in 2010; 3-shifts in 2015 and 3-shifts with modified operating practices in 2020 and beyond. The modified operating practices assume that enhanced safety systems are implemented in all rail yards to allow loading trains while other trains are moving in the yard (when at least 30 feet away). The results from the MPC Scenario analysis are presented in Table 3a.

Two-Shift Scenario: The Two-Shift Scenario limits all future operating conditions to those modeled by MPC for 2010 (i.e. 1-shift in 2005 and 2-shifts in 2010 and beyond, with no change in labor practices). This assumption reduces the on-dock capacity and the ability to meet demand after 2010, as indicated in Table 3b. Note that this scenario still assumes all rail yard development as proposed by the REP.

No-Action Scenario: The No-Action Scenario limits all future development of on-dock rail yards, therefore retaining existing rail yard conditions. Rail yard loading is allowed to grow from 1-shift in 2005, to 2-shifts, in 2010 and 3-shifts in 2015; but no change in labor practices are assumed. This scenario further reduces the on-dock capacity and the ability to meet demand, as indicated in Table 3c.
### Table 3a: Direct Intermodal Demand & Capacity – MPC Scenario

<table>
<thead>
<tr>
<th>Direct Intermodal excludes Transload All values in millions of TEU</th>
<th>2005 Actual</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPB Cargo Forecast (Demand)</td>
<td>14.2</td>
<td>20.2</td>
<td>27.1</td>
<td>36.2</td>
<td>42.5</td>
</tr>
<tr>
<td>SPB Direct Intermodal (Demand)</td>
<td>5.70</td>
<td>8.10</td>
<td>10.84</td>
<td>14.48</td>
<td>17.01</td>
</tr>
<tr>
<td>POLB On-Dock Capacity</td>
<td>1.09</td>
<td>2.27</td>
<td>4.15</td>
<td>5.49</td>
<td>6.10</td>
</tr>
<tr>
<td>POLA On-Dock Capacity</td>
<td>1.84</td>
<td>2.79</td>
<td>4.33</td>
<td>6.25</td>
<td>6.84</td>
</tr>
<tr>
<td>SPB Off-Dock Capacity</td>
<td>1.69</td>
<td>0.67</td>
<td>0.04</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>SPB Near-Dock Capacity</td>
<td>1.08</td>
<td>1.40</td>
<td>1.84</td>
<td>1.84</td>
<td>1.84</td>
</tr>
<tr>
<td><strong>SPB Variance (negative = shortfall)</strong></td>
<td>0.0</td>
<td>-0.97</td>
<td>-0.48</td>
<td>-0.90</td>
<td>-2.23</td>
</tr>
</tbody>
</table>

Footnotes:
1. Capacity (Forecast Throughput from MPC Model) assumes all REP projects.
2. 2005 capacity reflects actual direct intermodal at on-dock, near-dock and off-dock.
3. Transload (10% of SPB Ports) + domestic (no growth) consume all off-dock capacity by 2015.
4. No expansion of near-dock facilities is assumed, except mini-ICTF at Pier B.

### Table 3b: Direct Intermodal Demand & Capacity – 2-Shift Scenario

<table>
<thead>
<tr>
<th>Direct Intermodal excludes Transload All values in millions of TEU</th>
<th>2005 Actual</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPB Cargo Forecast (Demand)</td>
<td>14.2</td>
<td>20.2</td>
<td>27.1</td>
<td>36.2</td>
<td>42.5</td>
</tr>
<tr>
<td>SPB Direct Intermodal (Demand)</td>
<td>5.70</td>
<td>8.10</td>
<td>10.84</td>
<td>14.48</td>
<td>17.01</td>
</tr>
<tr>
<td>POLB On-Dock Capacity</td>
<td>1.09</td>
<td>2.27</td>
<td>3.98</td>
<td>4.90</td>
<td>5.15</td>
</tr>
<tr>
<td>POLA On-Dock Capacity</td>
<td>1.84</td>
<td>2.79</td>
<td>4.11</td>
<td>4.78</td>
<td>4.78</td>
</tr>
<tr>
<td>SPB Off-Dock Capacity</td>
<td>1.69</td>
<td>0.67</td>
<td>0.04</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>SPB Near-Dock Capacity</td>
<td>1.08</td>
<td>1.40</td>
<td>1.84</td>
<td>1.84</td>
<td>1.84</td>
</tr>
<tr>
<td><strong>SPB Variance (negative = shortfall)</strong></td>
<td>0.0</td>
<td>-0.97</td>
<td>-0.87</td>
<td>-2.96</td>
<td>-5.24</td>
</tr>
</tbody>
</table>

Footnotes: Same as Table 3a

### Table 3c: Direct Intermodal Demand & Capacity – No-Action Scenario

<table>
<thead>
<tr>
<th>Direct Intermodal excludes Transload All values in millions of TEU</th>
<th>2005 Actual</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPB Cargo Forecast (Demand)</td>
<td>14.2</td>
<td>20.2</td>
<td>27.1</td>
<td>36.2</td>
<td>42.5</td>
</tr>
<tr>
<td>SPB Direct Intermodal (Demand)</td>
<td>5.70</td>
<td>8.10</td>
<td>10.84</td>
<td>14.48</td>
<td>17.01</td>
</tr>
<tr>
<td>POLB On-Dock Capacity</td>
<td>1.09</td>
<td>1.74</td>
<td>2.14</td>
<td>2.28</td>
<td>2.28</td>
</tr>
<tr>
<td>POLA On-Dock Capacity</td>
<td>1.84</td>
<td>2.47</td>
<td>3.08</td>
<td>3.08</td>
<td>3.08</td>
</tr>
<tr>
<td>SPB Off-Dock Capacity</td>
<td>1.69</td>
<td>0.67</td>
<td>0.04</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>SPB Near-Dock Capacity</td>
<td>1.08</td>
<td>1.40</td>
<td>1.40</td>
<td>1.40</td>
<td>1.40</td>
</tr>
<tr>
<td><strong>SPB Variance (negative = shortfall)</strong></td>
<td>0.0</td>
<td>-1.82</td>
<td>-4.18</td>
<td>-7.72</td>
<td>-10.25</td>
</tr>
</tbody>
</table>

Footnotes:
1. Capacity (Forecast Throughput from MPC Model) assumes existing infrastructure, no REP projects.
2. 2005 capacity reflects actual direct intermodal for on-dock, near-dock and off-dock.
3. Transload (10% of SPB Ports) + domestic (no growth) consume all off-dock capacity by 2015.
4. No expansion of near-dock facilities is assumed.
The Study uses the MPC Scenario as the basis to analyze SPB ability to meet demand for direct intermodal capacity.

The REP had included a near-dock facility located south of the existing UPRR ICTF, which would meet the demand for direct intermodal capacity to nearly 2030, and likely beyond. However, POLA is evaluating alternative developments to ensure that the most environmentally sensitive project is selected. The near-dock facility (SCIG) is still listed on the REP (Project II.5), but is now being evaluated through a comparative analysis with "Other Potential Projects" described in the next section.

VIII. Other Potential Projects

The capacity of on-dock and near-dock rail yards programmed in the REP (excluding II.5-New Near-Dock ICTF South of Sepulveda) will not meet demand in the 2010-2030 timeframe. Additional on-dock and near-dock facilities are being considered by the Ports to meet the latent demand. These additional developments will need to be pursued to avoid the significant impacts of intermodal cargo being trucked through the Southern California region. These "Other Potential Projects" are listed in Table 4 and further considered for their ability to meet demand and fit efficiently into the SPB Port rail network.

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Owner</th>
<th>Proposed Operator</th>
<th>Status</th>
<th>Annual MPC (TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLA Terminal Island Intermodal Facility</td>
<td>On-Dock</td>
<td>POLA</td>
<td>tbd</td>
<td>Conceptual</td>
<td>1,400,000</td>
</tr>
<tr>
<td>POLB Pier T Mole Expansion</td>
<td>On-Dock</td>
<td>POLB</td>
<td>tbd</td>
<td>Conceptual</td>
<td>1,100,000</td>
</tr>
<tr>
<td>Southern California International Gateway (SCIG)</td>
<td>Near-Dock</td>
<td>POLA</td>
<td>BNSF</td>
<td>Harbor Development Permit</td>
<td>1,800,000</td>
</tr>
<tr>
<td>Intermodal Container Transfer Facility (ICTF) Expansion</td>
<td>Near-Dock</td>
<td>JPA</td>
<td>UPRR</td>
<td>Conceptual</td>
<td>1,900,000</td>
</tr>
</tbody>
</table>

POLA Terminal Island Intermodal Facility

POLA is evaluating the development of additional intermodal facilities on Terminal Island. The primary area of focus is south of Seaside Avenue (SR-47), including the former LAXT site. Initial conceptual layouts have been developed. This facility has not been modeled for MPC throughput or simulated with RTC to understand train access issues.

The RTC simulations of existing and planned facilities indicate that the throat from Badger Bridge to Pier 300 (CP Mole) is constrained and any additional rail traffic should be carefully studied to understand how it would affect the stability of the rail network system. The RTC simulation was used to model increased train volumes associated with a surrogate Terminal Island facility (Pier T Mole at 1.1 million TEU) and found that the rail network system would become constrained, causing unacceptable Level of Service throughout the system. It is estimated that the rail network system would become gridlocked with Terminal Island rail yard expansion greater than approximately 1.5 million TEU beyond the REP expansions.
POLB Pier T Mole Expansion

POLB is also considering the development of additional intermodal capacity on Terminal Island. The primary area of focus is the Navy Mole. The expansion onto the Mole adjacent to Pier T would create unit-train length tracks, which would be efficient and provide high capacity. However, Pier T is a single-user, on-dock facility and it must be determined how the additional capacity would be utilized. Pier T would need to generate exceptionally high volumes of intermodal cargo, or the rail yard would need to accept containers from other marine terminals.

The RTC simulation was used to model increased train volumes associated with the expanded Pier T Mole concept (at 1.1 million TEU) and found that the rail network system became constrained, causing unacceptable Level of Service throughout the system.

An additional concern, if the rail yard were to be used as a multi-user facility, is that the marine terminals that are target users are located off of Terminal Island and will therefore generate truck traffic on the Gerald Desmond Bridge and Vincent Thomas Bridge. This traffic could exceed the volumes studied under current bridge analyses.

Southern California International Gateway (SCIG)

The Port of Los Angeles has evaluated and pursued development of property immediately south of the UPRR ICTF. This development has advanced to submittal of a Harbor Development Permit with BNSF as the proposed operator. BNSF refers to the project as Southern California International Gateway (SCIG). The site, north of Pacific Coast Highway, is bounded by Dominguez Channel and Terminal Island Freeway. The facility is estimated to have capacity in excess of 1.8 million TEU provided by a densified layout with large-gauge rail mounted cranes over six tracks. SCIG is ideally located adjacent to the Alameda Corridor for train access and adjacent to both Alameda Street and Terminal Island Freeway for truck access. BNSF has proposed to make this facility as “green” (environmentally friendly) as possible.

The SCIG project was included in the REP (Project II.5) based on prior development plans, but to facilitate comparative evaluation of “Other Potential Projects,” SCIG is not included in the capacity/demand analysis; instead it is being considered on equal footing with all “Other Potential Projects” described in this section.

ICTR Expansion

UPRR is considering plans to expand their existing ICTF facility north of Sepulveda Boulevard. The planning is in the conceptual development phase. The proposed facility could have a potential throughput capacity of 3.5 million TEU (1.9 million TEU over the existing 1.6 million TEU capacity). Since the rail access to ICTF occurs north of Thenard Junction, this expansion will not impact the constrained “Texaco Slot” portion of the Port rail network.

Summary of Other Potential Projects

The rail yard capacity expansion projects proposed in the REP (excluding SCIG) will not meet the forecast demand for intermodal facilities. As shown in Table 3a, latent demand for direct intermodal capacity is nearly one million TEU through 2020 and increases to at least two million TEU by 2030. The latent demand through 2020 could be met by any one of the “Other Potential Projects.”
Simulation modeling shows that development of one of the “Other Potential Projects” on Terminal Island will negatively impact the Port rail network performance (unacceptable Level of Service with less than 1.5 million TEU added to the REP), and the network will not support more than one of the “Other Potential Projects” on Terminal Island (more than 1.5 million TEU added to the planned Terminal Island throughput is expected to cause unstable rail system performance).

An additional concern with the development of multi-user rail facilities on Terminal Island is that the greatest needs for intermodal rail facilities are in other areas. Therefore, a project on Terminal Island will induce truck traffic over the Gerald Desmond Bridge and Vincent Thomas Bridge, both of which are critical to the Port transportation system.

Since only one of the “Other Potential Projects” can be accommodated on Terminal Island (and then with potentially unacceptable rail network performance), SCIG, ICTF Expansion or another project off Terminal Island would be required to meet the projected intermodal demand expected by 2030. Implementation of either SCIG or the ICTF Expansion project would, by itself, approach meeting all of the demand through 2030. The near-dock facilities (e.g. SCIG and ICTF) have the advantage of accommodating cargo from any of the marine terminals that need support; they are optimally located near the Port and adjacent to the Alameda Corridor; and the site configuration allows efficient track lengths, high productivity and “green” operating systems. SCIG has the benefit of providing competitively balanced near-dock facilities to the two Class I Railroads. ICTF has the advantage of rail access upstream of the Texaco Slot bottleneck, and it also has significant support track in Dolores Yard/ICTF Support Yard.

IX. Rail Simulation Model

Dynamic simulation modeling was used to analyze mainline system performance. Rail network system performance is typically evaluated based on delay ratio (train delay divided by unimpeded running time), but to assist in interpretation of the model results, a Level of Service (LOS) grade is assigned as defined in the adjacent inset.

<table>
<thead>
<tr>
<th>Level of Service (LOS)</th>
<th>Definition for SPB Ports Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOS</td>
<td>Delay Ratio</td>
</tr>
<tr>
<td>A 0-11%</td>
<td>Minimal / Light Traffic</td>
</tr>
<tr>
<td>B 12-21%</td>
<td>Minor / Light-Moderate</td>
</tr>
<tr>
<td>C 22-29%</td>
<td>Moderate / Moderate</td>
</tr>
<tr>
<td>D 30-36%</td>
<td>High / Heavy</td>
</tr>
<tr>
<td>E 37-42%</td>
<td>Significant / Unstable</td>
</tr>
<tr>
<td>F 43% +</td>
<td>Severe / Very Unstable</td>
</tr>
</tbody>
</table>

LOS of C or better is considered desirable based on experience at similar rail terminal environments and on the length of delays that were experienced by individual trains during simulation runs with those delay ratios. LOS D is undesirable and LOS E or F is considered unacceptable. Trains still reach their destination under LOS D, E or F, but delays become high with associated costs; and the system is fragile such that it cannot quickly recover from conflicts causing backups. Track outage events and maintenance will cause lasting impacts to the system performance.

The RTC Model was run with projected train volumes for each of the forecast years. These runs were similar to the previous model runs (POLB 2002/POLA 2003) except for the following:

- Pier W is not included in the planned rail yard expansions as previously modeled in 2020, although a similar Pier T Mole expansion was tested in 2030 runs herein;
- Southern California International Gateway (SCIG) is modeled as a near-dock rail yard;
- Pier B is expanded as a mini-ICTF and support yard extending north of 9th Street;
- Texaco Slot track expansion was replaced with a by-pass along the Wilmington Wye; and
- The switching operations inside of rail yards were modeled more explicitly.
Projected train volumes are indicated in Table 5 for peak day conditions. The RTC Model was run for a four-day simulated period with each day generating the peak day train volumes.

<table>
<thead>
<tr>
<th>Train Type</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Dock Intermodal</td>
<td>25</td>
<td>42</td>
<td>61</td>
<td>96</td>
<td>113</td>
</tr>
<tr>
<td>Non-intermodal</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Light Engine/Switching</td>
<td>30</td>
<td>38</td>
<td>40</td>
<td>47</td>
<td>55</td>
</tr>
<tr>
<td>Pier B Rail Yard</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>UP ICTF</td>
<td>14</td>
<td>14</td>
<td>26</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>SCIG</td>
<td>0</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Shuttle Trains (Typ.)</td>
<td>4</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>98</strong></td>
<td><strong>145</strong></td>
<td><strong>180</strong></td>
<td><strong>222</strong></td>
<td><strong>257</strong></td>
</tr>
</tbody>
</table>

Findings from the RTC Model runs are similar to the previous Rail Study, except that the need for triple track to Terminal Island south of Thenard Junction (including Badger Avenue Bridge) is not critical unless one of the “Other Potential Projects” is developed on Terminal Island. The model results still indicate that Badger Bridge needs to be locked down by 2010 to maintain desirable LOS. The model supports all other rail infrastructure improvements and shows that SCIG can be supported by the Port rail network. It should be noted that the RTC Model tends to provide optimistic results.

Table 6 presents LOS results from various model runs related to train access on Terminal Island. This table is presented to illustrate the use of simulation results in determining rail network infrastructure deficiencies and solutions. Desirable conditions are achieved by conditions below the bold line and in the shaded area. Table 6 shows the following results:

- Current train volumes – the rail network performs within desirable LOS, even with Badger Bridge lifting for vessel passage.
- 2010 train volumes – LOS is undesirable unless Badger Bridge is raised for emergencies only.
- 2015 train volumes – LOS is undesirable unless an additional track is provided from W.Thenard to Terminal Island. The previous Rail Study had indicated that extension of CTC could postpone this project, but current modeling indicates that congestion around CP Mole creates a need for the additional mainline to Terminal Island.
- 2020 train volumes – even with the additional mainline to Terminal Island, the LOS is undesirable, but has not reached unacceptable.
- Development of one of the “Other Potential Projects” on Terminal Island will result in LOS in the unacceptable range when operated in addition to SCIG. However, when SCIG switching impacts are reduced, then LOS improves, but is still in the unacceptable range.
### Table 6: Rail Network System Performance Results

<table>
<thead>
<tr>
<th>Scenario (Badger Bridge Up Time)</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>Other TI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bridge Lifts (280 minutes/day)</td>
<td>C (24%)</td>
<td>D*</td>
<td>E (38%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Bridge Lifts for Emergency Only (0 minutes/day)</td>
<td>C (26%)</td>
<td>D (34%)</td>
<td>D (36%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Scenario 2 plus Added Mainline to TI (0 minutes/day)</td>
<td>C (29%)</td>
<td>D (35%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Other Potential 1.1 MTEU Project on TI (0 minutes/day)</td>
<td></td>
<td></td>
<td>F (44%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Scenario 4 plus reduced SCIG switching (0 minutes/day)</td>
<td></td>
<td></td>
<td>E (37%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusion - Badger Bridge regmt for preferable LOS
- bridge lifts: okay
- no bridge lifts: undesirable
- triple track bridge: unacceptable
- w/TT J.1M: unacceptaable

*Use previous Rail Study run data for this Bridge Lift case.
TI – indicates Terminal Island

The 2020 model results did not indicate LOS improvement with the additional track from W. Thenard to Terminal Island (including third track on Badger Avenue Bridge), which is likely due to an unidentified upstream bottleneck; it is intuitive to expect that the triple track to Terminal Island would provide significant benefits to the Port rail network performance by the 2015 to 2020 timeframe.

### Terminal Island Line

The most important factors affecting Terminal Island performance are the mainline from CP W. Thenard to across Badger Bridge, and the configuration of main track crossovers and terminal leads at CP Mole. Improvements will be required for each of these to achieve acceptable rail system performance as intermodal cargo volumes increase to forecast 2015 volumes.

Allowing Badger Bridge to lift for vessel passage causes performance to decline significantly, compared with a locked-down bridge, even with the construction of second leads at terminals and some crossover reconfiguration. In 2010, lifting the bridge increases the delay ratio on Terminal Island by 35 percent.

Even with all the improvements shown in the Rail Enhancement Program list, the addition of another major rail facility, such as Pier T Mole expansion or a multi-user rail yard on the Los Angeles side of Terminal Island (“Other Potential Projects”), is shown by 2030 runs to result in a 73 percent increase in relative delays. The Level of Service under that condition is considered unacceptable.

### Long Beach Line

In general, the Long Beach Line performs well through 2010. By 2015, Pier J, Pier G and Middle Harbor Terminal are significantly expanded and Pier B is providing support. The simulations indicated a need for the following improvements:

- Dual leads connecting the G/J support yard and Pier J;
- A new lead on the north side of the Pier J working tracks;
- Receiving tracks at Pier G should fully chamber unit trains off the mainline; and
- An additional track at CP Ocean Blvd from Pier F to Pier B yards.
West Basin Line

Improvements proposed to be made by 2015 improve West Basin operations, especially the lockdown of Badger Bridge. Because trains move more efficiently to and from Terminal Island, delays are less for West Basin trains. However, there may be some problems in comparing West Basin delays with those of other lines, because of the high number of PHL switch jobs competing for space at the PHL yard and on its leads. Half of all delay is incurred by PHL jobs. There are nine jobs per day using the PHL yard and leads, experiencing an average of 3.3 total hours of delay per day. There are 8 expedited trains per day, incurring only an average of one hour delay per day.

All of the West Basin planned improvements are necessary, including a second north leg of the Wye at CP Anaheim.

Grade Crossings

The RTC Model collects data on duration of roadway blockages by trains. Individual grade crossing blockage times are presented in the main report. In general, any at-grade crossing (traffic must stop when a train is present) on mainlines of the Port rail network should be grade separated or closed. The following at-grade crossings are of particular interest:

- Edison Avenue crosses the mainlines to Port of Long Beach and will experience increasing blockage times as intermodal cargo volumes grow. The road would be crossing the expanded Pier B rail yard. This crossing should be closed immediately, and is one of the REP projects.

- 9th Street crosses the mainlines to Port of Long Beach and will experience increasing blockage times as intermodal cargo volumes grow. This road would be displaced by the expanded Pier B rail yard. 9th Street should be closed and traffic rerouted onto Pier B Street, which should provide connections to Anaheim Road, the SR-47 freeway (requires new access ramps) and the SR-710 freeway.

- Rail access to Port of Los Angeles-West Basin crosses several roads in the area of Neptune Avenue and Fries Avenue. A grade separation is proposed to provide free flowing traffic over the rail in this area.

- Henry Ford Avenue in the vicinity of Dominguez Channel crosses two tracks: the south leg of the Anaheim Wye, and the Terminal Island Lead Track (TILT) on the east side of Dominguez Channel. These tracks are ancillary to the Alameda Corridor mainlines, which are grade separated on elevated structures in this area. Therefore, the blockage times caused by the lesser used at-grade tracks are not excessive. The crossing protection and traffic signal systems need to be upgraded at the Anaheim Wye.

- Reeves Avenue crossing at the Pier 400 lead tracks has significant impact on rail operations. The Ports of Long Beach and Los Angeles have a contract with PHL with a stipulation that trains will not occupy an at-grade crossing for more than 10 minutes including stopping and switching (compliant with CPUC requirements). This causes train arrivals at Pier 400 to be performed by shoving trains into the yard. This allows rail cars that do not fit on the first landing track to be disconnected and quickly pulled back to clear Reeves crossing. The remaining rail cars can then be shoved onto a second landing track after roadway traffic has cleared.
The maneuver to turn the train to enable the shove into Pier 400 (rather than pulling the train) typically involves pulling the train onto the Long Beach Lead, then up the Manual Siding; the train then reverses direction and is shoved down TILT to Pier 400. This maneuver is highly obstructive to the Port rail network and will create unacceptable Level of Service and excessive train delays by as soon as 2010. The closure of Reeves Avenue crossing would result in acceptable LOS for the rail system, along with safer operations.

X. Rail Enhancement Program

The rail yard expansion projects and rail infrastructure improvement projects that have been proposed and approved by the Ports are now developed into a Rail Enhancement Program (REP) with schedule and cost estimate for each project.

Meetings with industry stakeholders (marine terminal operators, shipping lines, and railroads) have concluded that the new rail infrastructure in the REP is needed. The industry stakeholders have requested that the REP projects be implemented to support their operations.

Pier B Rail Yard (Projects III.1 and III.2) is vital to rail operations in the Port of Long Beach and the entire SPB rail network system. The Pier B Yard currently provides storage tracks; the Phase I expansion will greatly improve its ability to perform this function, which supports many other POLB rail facilities. Phase II of the project is important because it develops unit-train length holding tracks, which can serve as a buffer for trains arriving off the Alameda Corridor or waiting to leave POLB. This buffer area will ease congestion on the Corridor as well as at on-dock rail yards. The Pier B Rail Yard-Phase II has also been evaluated for its ability to serve as a near-dock facility and this feature is recommended as beneficial to POLB marine terminals.

The rail yard expansion projects are listed in Table 7 and rail infrastructure improvement projects are listed in Table 8. The projects locations are shown on Figure 4.

All of these REP projects are compiled together using the chart shown in Figure 5. The chart indicates the type of project (rail yard or rail network infrastructure); the responsible agency (Sponsor); development costs (in 2005 dollars); and development schedule. The development schedule is broken into three phases consisting of: 1) planning/environmental, 2) design/bid and 3) construction. Note that portions of the design may be performed during the planning/environmental period. Costs are also accumulated for all projects on an annual basis at the bottom of the schedule.
Rail Yard Projects

The Study proposes an ambitious program of rail yard capacity improvements including expansion of existing yards and development of new facilities. The projects are listed in Table 7 and project locations are shown on Figure 4.

Table 7: List of On-Dock Rail Yard Projects

<table>
<thead>
<tr>
<th>Rail Yard Project</th>
<th>Sponsor</th>
<th>Development Cost ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I  Short-term (by end of 2007)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Rail Yard Projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Phase II  Near-term (by end of 2010)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. 1 Pier A On-Dock Rail Yard Expansion to Carrack</td>
<td>POLB</td>
<td>19.6</td>
</tr>
<tr>
<td>II. 3 Pier S On-Dock Rail Yard</td>
<td>POLB</td>
<td>34.3</td>
</tr>
<tr>
<td>II. 5 New Near-Dock-South of Sepulveda (potential)</td>
<td>POLA</td>
<td>Na</td>
</tr>
<tr>
<td>II. 9 Pier G-New North Working Yard</td>
<td>POLB</td>
<td>14.1</td>
</tr>
<tr>
<td>II. 10 Pier G-South Working Yard Rehabilitation</td>
<td>POLB</td>
<td>40.7</td>
</tr>
<tr>
<td>II. 13 West Basin East-New ICTF (Phase I)</td>
<td>POLA</td>
<td>45.4</td>
</tr>
<tr>
<td><strong>Phase III  Medium-term (by end of 2015)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. 5 Navy Mole Road Storage Rail Yard</td>
<td>POLB</td>
<td>10.0</td>
</tr>
<tr>
<td>III. 8 Middle Harbor Terminal Rail Yard</td>
<td>POLB</td>
<td>68.9</td>
</tr>
<tr>
<td>III. 9 Pier J On-Dock Rail Yard Reconfiguration</td>
<td>POLB</td>
<td>100.0</td>
</tr>
<tr>
<td>III. 10 Pier 400 On-Dock Rail Yard Expansion (Phase I)</td>
<td>POLA</td>
<td>33.4</td>
</tr>
<tr>
<td>III. 11 Pier 300 On-Dock Rail Yard Expansion</td>
<td>POLA</td>
<td>23.4</td>
</tr>
<tr>
<td>III. 12 Terminal Island ICTF Rail Yard Expansion</td>
<td>POLA</td>
<td>18.9</td>
</tr>
<tr>
<td>III. 13 West Basin ICTF Rail Yard Expansion (Phase I)</td>
<td>POLA</td>
<td>6.2</td>
</tr>
<tr>
<td><strong>Phase IV  Long-term (beyond 2015)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV. 3 Pier A On-Dock Rail Yard East of Carrack</td>
<td>POLB</td>
<td>31.4</td>
</tr>
<tr>
<td>IV. 4 Pier 400 On-Dock Rail Yard Expansion (Phase II)</td>
<td>POLA</td>
<td>16.3</td>
</tr>
<tr>
<td>IV. 5 West Basin ICTF Rail Yard Expansion (Phase II)</td>
<td>POLA</td>
<td>12.5</td>
</tr>
<tr>
<td>IV. 6 West Basin East-ICTF Expansion (Phase II)</td>
<td>POLA</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Subtotal POLA Cost (millions) $163.9
Subtotal POLB Cost (millions) $318.9
Total Potential Rail Yard Cost (millions) $482.8
Infrastructure Projects

Rail network improvement projects identified and validated through the RTC simulation efforts are listed in Table 8 and project locations are shown on Figure 4.

<table>
<thead>
<tr>
<th>Rail Infrastructure Project</th>
<th>Sponsor</th>
<th>Development Cost ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I  Short-term (by end of 2007)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. 1  Closure of Edison Avenue Grade Crossing</td>
<td>POLB</td>
<td>0.3</td>
</tr>
<tr>
<td>I. 2  Expanded Control Points to POLB/POLA</td>
<td>ACTA</td>
<td>4.9</td>
</tr>
<tr>
<td>I. 3  Thenard Track Connection at Alameda Street/K-Pac</td>
<td>ACTA</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Phase II  Near-term (by end of 2010)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. 2  Terminal Island Wye Track Realignment</td>
<td>POLB</td>
<td>3.6</td>
</tr>
<tr>
<td>II. 4  Pier B Street Realignment</td>
<td>POLB</td>
<td>12.6</td>
</tr>
<tr>
<td>II. 6  Constrain Badger Bridge Lifts</td>
<td>POLB/LA</td>
<td>1.0</td>
</tr>
<tr>
<td>II. 7  Track Realignment at Ocean Boulevard/ Harbor Scenic Drive</td>
<td>POLB</td>
<td>20.0</td>
</tr>
<tr>
<td>II. 8  Pier F Support Yard</td>
<td>POLB</td>
<td>3.4</td>
</tr>
<tr>
<td>II. 11 Double Track Access from Pier G to Pier J</td>
<td>POLB</td>
<td>1.7</td>
</tr>
<tr>
<td>II. 12 West Basin Rail Access Improvements</td>
<td>POLA</td>
<td>150.0</td>
</tr>
<tr>
<td><strong>Phase III  Medium-term (by end of 2015)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. 1  Pier B Rail Yard Expansion (Phase I)</td>
<td>POLB</td>
<td>85.4</td>
</tr>
<tr>
<td>III. 2  Pier B Rail Yard Expansion (Phase II)</td>
<td>POLB</td>
<td>159.9</td>
</tr>
<tr>
<td>III. 3  Grade Separation for Reeves Crossing</td>
<td>POLB/LA</td>
<td>60.0</td>
</tr>
<tr>
<td>III. 4  Closure of Reeves At-grade Crossing</td>
<td>POLB/LA</td>
<td>1.0</td>
</tr>
<tr>
<td>III. 6  Pier 400 Second Lead Track</td>
<td>POLA</td>
<td>7.7</td>
</tr>
<tr>
<td>III. 7  Reconfiguration at CP Mole</td>
<td>POLB/LA</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>Phase IV  Long-term (beyond 2015)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV. 1  Triple Track Badger Bridge</td>
<td>ACTA</td>
<td>91.0</td>
</tr>
<tr>
<td>IV. 2  Triple Track South of Thenard Jct.</td>
<td>ACTA</td>
<td>16.5</td>
</tr>
<tr>
<td><strong>Subtotal ACTA Cost (millions)</strong></td>
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<tr>
<td><strong>Subtotal POLA Cost (millions)</strong></td>
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<td>$157.7</td>
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<td><strong>Subtotal POLB Cost (millions)</strong></td>
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<td>$286.8</td>
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<tr>
<td><strong>Subtotal Shared POLB/LA Cost (millions)</strong></td>
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<td>$82.0</td>
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<tr>
<td><strong>Total Potential Infrastructure Cost (millions)</strong></td>
<td></td>
<td><strong>$643.6</strong></td>
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</tbody>
</table>
San Pedro Bay Ports
Potential Rail Enhancement Projects

<table>
<thead>
<tr>
<th>Capacity Improvement Project Description</th>
<th>On-Track Costs ($ Millions)</th>
<th>Development Costs ($ Millions)</th>
<th>Sponsor</th>
<th>Implementation Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I - Short-term (by end of 2019)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Close 9th Street Crossing</td>
<td>0.3</td>
<td>PGLB</td>
<td></td>
<td></td>
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<tr>
<td>1.3 Fire/Rescue Roadway Improvement</td>
<td>4.6</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II - Medium-term (by end of 2019)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Fire 9th Street Crossing</td>
<td>10.0</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3 Fire/Rescue Road Improvement</td>
<td>3.9</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 Fire/Rescue Road Improvement</td>
<td>3.4</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5 Fire/Rescue Road Improvement</td>
<td>5.6</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.7 Fire/Rescue Roadway Improvement</td>
<td>1.0</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.9 Fire/Rescue Road Improvement</td>
<td>3.4</td>
<td>PGLB</td>
<td></td>
<td></td>
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<tr>
<td>1.10 Fire/Rescue Roadway Improvement</td>
<td>4.0</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.11 Fire/Rescue Roadway Improvement</td>
<td>1.7</td>
<td>PGLB</td>
<td></td>
<td></td>
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<tr>
<td>2.11 Fire/Rescue Roadway Improvement</td>
<td>150.0</td>
<td>PGLB</td>
<td></td>
<td></td>
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<tr>
<td>Phase IV - Long-term (Beyond 2019)</td>
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<tr>
<td>3.1 Fire/Rescue Roadway Improvement</td>
<td>3.0</td>
<td>PGLB</td>
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<tr>
<td>3.2 Fire/Rescue Roadway Improvement</td>
<td>8.5</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3 Fire/Rescue Roadway Improvement</td>
<td>153.2</td>
<td>PGLB</td>
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<tr>
<td>3.4 Fire/Rescue Roadway Improvement</td>
<td>125.0</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5 Fire/Rescue Roadway Improvement</td>
<td>125.0</td>
<td>PGLB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Development costs are in 2008 dollars. Costs include administration, design, construction management, environmental permitting, and construction. Construction costs include not known buildings, facilities, utilities, skidwork, and design and coordination.
2. Construction costs are based on Cost: 1 business-mil and include 20% contingency for unforeseen costs. Administrative costs are estimated at 15% of construction costs in cover agency administration and environmental permitting. Design and CM are not.
3. Preliminary estimate includes 4 months for project definition/conceptual engineering plus 12 months for detailed engineering and 12 months for permitting, as part of "planning." Some design effort may occur during the "planning."
XI. Conclusions

Purpose

This Rail Study provides an update to the Rail Master Planning Study (POLB 2002) and Rail Capacity Analysis (POLA 2003). The Study identifies all rail related issues, including mainline track, storage capacities, operations and systems, and substantiates the actions required to provide acceptable levels of service for trains in 2005, 2010, 2015, 2020 and 2030. The study provides a Port Rail Enhancement Program (REP) that identifies necessary improvements and provides a phased implementation plan. This study was the first of the proposed 5 year updates, as recommended by the 2002 Rail Master Planning Study to incorporate revised cargo forecast, updated terminal plans and consider current operating conditions.

Benefits

As a measure of the benefits of on-dock rail, consider the hypothetical situation where all of the REP projects are built and operating today: the level of on-dock throughput would be nearly double that of existing and would remove nearly 6,000 trucks a day from the local roadways. As cargo volumes increase, the benefits of on-dock rail will increase as well. Given 2030 cargo forecasts and full development of the REP, on-dock rail would remove nearly 29,000 truck trips daily. Since there is currently no viable opportunity to accommodate the forecast cargo volumes elsewhere on the West Coast, the no action scenario would result in extensive truck trips over long distances seeking out available locations for intermodal capacity. This would add millions of truck-miles to our local freeway system each day.

Capacity & Demand

The San Pedro Bay Ports of Long Beach and Los Angeles will need to rely on their on-dock and near-dock facility plans to meet demand for intermodal capacity. Beginning in 2010, the current plans for on-dock rail yard expansion will not meet the projected demand. Additional capacity will be required and the Ports are evaluating other potential rail yard projects.

Potential near-dock expansion projects (e.g. SCIG or ICTF) appear to provide good opportunities for developing rail yard capacity to meet the projected demand. These facilities have ready rail access, efficient layout opportunities, good truck access and are committed to be “green.” Other potential rail yard development projects on Terminal Island (beyond the REP projects) are shown by simulation to increase train delays on the entire Port rail network.

Off-dock rail yards that handle transload cargo (10 percent of total Port throughput) and domestic cargo will run out of capacity by the 2010-2015 timeframe, depending on domestic cargo growth rates (0% growth will leave capacity until 2015; 3% growth will take all capacity by 2010). To meet this latent demand, new off-dock rail yards will need to be developed, and the most likely location for the new facilities is in the Inland Empire or further inland. Another potential for accommodating some of the transload cargo is to expand near-dock facilities and allow these to handle larger containers from warehouses in the Port vicinity.
Rail Network Performance

Rail simulation modeling indicates that all rail infrastructure projects in the Rail Enhancement Program are needed to provide a rail network that performs without unacceptable train delays and gridlock. This investment will accommodate projected train traffic through 2030. These projects will require significant investment, but the benefit to cost ratio appears favorable.

It should be noted that if one Other Potential Project (a rail yard not included in the REP) is developed on Terminal Island, then simulation modeling indicates that the rail system performance will degrade to an unacceptable Level of Service. Based on simulation results, any additional Terminal Island development (beyond the one Other Potential Project) will cause such congestion and train delays as to cause the rail network system to fail.

Recent Operational Changes

Efforts of the Truck Reduction Study (including this Rail Study) and the Rail Action Planning Committee have identified key issues affecting goods movement and resulted in operational changes, including:

- Rail crews report at SPB
- Railroad dispatchers stationed at PHIL
- Standardized rail data maintained between terminals/railroads
- Increased railroad work force and equipment
- Longer trains to/from SPB
- Train fueling within SPB
- New PHIL agreement

The Rail Action Planning Committee was created in January 2006 with the goal of maximizing utilization of existing rail infrastructure. The Rail Action Planning Committee includes representation from POLB, POLA, marine terminal operators, shipping lines, railroads and ACTA. The following strategies are proposed to maximize on-dock rail utilization:

- Utilize LAXT tracks
- Maximize train lengths
- Improve switching efficiencies
- Improve locomotive availability
- Reduce marine terminal operational constraints
- Provide in-ground air system for trains
- Improve container stowage on ships
- Provide better system for planning and coordination
- Improve railcar utilization and Customs holds

The Rail Action Committee is also in the implementation stage of a project known as the San Pedro Bay Ports Rail Business Exchange. This project has the goal of improving Port rail operations by facilitating communications, maximizing intermodal cargo velocity, streamlining administrative processes and providing visibility about how cargo is moving and fits into other traffic.
The SPB Rail Business Exchange is an internet based communication/planning tool with features including:

- Input vessel rotations and train schedules for advanced planning
- Input vessel manifest/stowage plan 72 hrs prior to arrival for tactical planning
- Provide eastbound train lineup, pull times and departure slots
- Provide westbound train consist and estimated time of arrival for vessel planning
- Make Switch Job plans available to railroads and marine terminals
- Optimize daily conference call with each railroad customer
- Coordinate Plan to avoid asset and resource congestion
- Provide message board to post changes in status and otherwise document events

Non-traditional Rail Concepts

Non-traditional rail concepts involve uses of trains that are not currently employed. These include the following concepts.

**Inland Shuttle Train:** Defined as rail transport to an “inland port” for distribution of local cargo. The inland port concept may prove beneficial due to the level of highway congestion and the potential value of truck traffic reductions as a mitigation measure. However, this concept will increase the demand on Port rail yard capacity as well as mainline rail capacity.

**Inland Block-Swap:** The concept of an inland rail yard to sort trains can provide several rail operating improvements that coincide with the recommendations of this Study. Features of this concept and associated benefits are described as follows:

- Provide the ability to build multi-destination trains by blocks at each on-dock rail yard. Trains can then be block-swapped at the inland yard to create single destination trains. This will increase the potential volume of on-dock cargo by alleviating the challenges with building long destination trains.

- Provide the ability to block-swap westbound trains at the inland yard to create Port-terminal specific trains. This will reduce inter-terminal switching movements at the Port.

- Provide dedicated regional shuttle engines that handle the train movements between the inland yard and the Port. These locomotives will be fueled for round trip, readily manage crew changes, and have the ability to drop a westbound train and pick-up an eastbound train without turning the locomotive (have both ends functional so locomotive can simply be reversed). This will significantly reduce the light engine traffic moving around the Port by eliminating the need to turn engines, reach crew change points and transit to engine services facilities. This concept could also facilitate application of green technologies to locomotives in the sensitive Southern California Air Basin.

The Ports should work closely with the Railroads to define and pursue these non-traditional concepts as well as near-dock rail yard capacity enhancements. This relationship should be expanded to include other area government agencies for a critical evaluation of regional mainline capacity.
XII. Summary

The cargo that is forecast to arrive at the San Pedro Bay Ports will create the need for significant improvements in terminal throughput capabilities. The increased cargo volumes will also require careful evaluation of the landside transportation system. The 2001 Port of Long Beach/Los Angeles Transportation Study defined highway congestion that would result from the increased cargo volumes and recommended that at least 30 percent of the cargo should be moved by on-dock rail. This “Rail Study Update” defines the rail yard, mainline, systems and operations improvements necessary to achieve and exceed this goal.

The goal of this “Rail Study Update” is to maximize capacity and utilization of on-dock rail, and to evaluate the rail system performance and recommend enhancements to Port infrastructure that are necessary to meet forecast cargo demands. This Study incorporates recent market conditions, revised Port development plans, and modified cargo forecast based on the latest information available in 2005.

The key points of this Study are as follows:

- Rail yards are conceptualized for each of the proposed terminals at the San Pedro Bay Ports of Long Beach and Los Angeles (SPB). These rail yards have the combined throughput capacity to handle at least 30 percent of the Port cargo during the forecast period 2015 to 2030. Rail concepts will be refined through the environmental process, tenant negotiations and engineering design.

- Even after maximizing the potential on-dock rail yards proposed in the REP, the demand for intermodal rail service creates a shortfall in rail yard capacity by at least 2010.

- In addition to maximizing on-dock rail, it is recommended that rail yard capacity be developed at near-dock facilities in the vicinity of the Alameda Corridor and south of the I-405 freeway.

- If additional on-dock or near-dock capacity is proposed on Terminal Island (beyond that already recommended by the REP), this capacity should not exceed 1.5 million TEU to avoid potentially severe train delays or gridlock to the entire SPB Port rail network.

- The train volumes generated by on-dock rail yards are forecast to exceed 100 trains per day. Total train volumes on the Port rail network will exceed 250 trains per day and those on the Alameda Corridor will approach 200 trains per day by the year 2030. Alameda Corridor traffic is averaging 50 trains per day in 2005.

- Various mainline, system and operational improvements will be required within SPB to accommodate the projected train volumes. These required projects are compiled into a phased Rail Enhancement Program (REP). The total cost of this program is over one billion dollars split nearly equally between rail yard projects and rail network infrastructure.

- Even with REP infrastructure improvements, the rail network will suffer increasing train delays that will increase operating costs and potentially disrupt cargo flow.
NOTABLE CONCLUSIONS

1. Implementation of the Rail Enhancement Plan (REP) is critical to support intermodal goods movement at the Port.

2. Planned rail yard expansions are not big enough to handle the cargo volumes that are forecast for 2010 and beyond. More rail yard capacity is needed and potential near-dock rail yards have beneficial features to complement the planned on-dock facilities.

3. Even with all planned rail network infrastructure improvements, cargo volumes forecast for 2020 and beyond will cause increased train delays and operating costs and could constrain intermodal throughput.

4. This Study evaluated the San Pedro Bay rail network and the Alameda Corridor to downtown Los Angeles. The Study did not evaluate the inland rail system beyond downtown Los Angeles, which could potentially present additional bottlenecks to Port intermodal throughput.
THE PORT OF LONG BEACH

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