

Chapter 10

COMMENTS RECEIVED AND REPONSES TO COMMENTS

10.1 PUBLIC COMMENT PROCESS

The public comment period is a critical part of the NEPA and CEQA public participation process. It provides the opportunity for other responsible agencies and interested parties to analyze the proposed Project and provide any comments they might have on the adequacy of the environmental document. The responses to comments are then intended to provide complete explanations to the commenters and to improve the overall understanding of the Project.

10.2 COMMENTS ON THE DRAFT EIS/EIR

The POLB received 64 comment letters on the Draft EIS/EIR during the public review period. Table 10-1 presents a list of the agencies, businesses, and

individuals that provided comment letters on the Draft EIS/EIR. The written comments are grouped by the affiliation of the commenter, including Federal Government, State Government, Regional Government, Local Government, National Organizations, Community Groups, Industry and Business Groups, and Individuals. Each letter is given a letter code based on the name of the commenter (e.g., National Marine Fisheries Service is given the letter code "NMFS"). The individual comments within the letter are annotated in the margin using the letter code and consecutive numbering (e.g., DTSC-1, DTSC-2, and so on). The responses to comments use the same annotation in order to easily correspond with the comment letter. These letters, in addition to the responses to comments, are located on the following pages.

Table 10-1. Public Comments Received on the Middle Harbor Redevelopment Project Draft EIS/EIR

Individual /Organization	Letter Code	Date	Page #
Federal Government			
National Marine Fisheries Service	NMFS	07/10/08	10-3
U.S. Department of Homeland Security, FEMA Region IX	FEMA	05/19/08	10-15
U.S. Department of the Interior, Office of Environmental Policy and Compliance,	DOI	07/11/08	10-19
U.S. Environmental Protection Agency	USEPA(A)	07/11/08	10-23
U.S. Environmental Protection Agency	USEPA(B)	08/08/08	10-33
State Government			
California Department of Transportation	CT	08/22/08	10-63
Department of Conservation	DOC	07/10/08	10-73
Department of Justice	DOJ	08/14/08	10-77
Department of Toxic Substances Control	DTSC	06/04/08	10-117
Native American Heritage Commission	NAHC	06/05/08	10-123
Regional Government			
South Coast Air Quality Management District	SCAQMD	08/08/08	10-129
Southern California Association of Governments	SCAG	06/12/08	10-167
Local Government			
City of Commerce	CC	08/13/08	10-171
City of Riverside	CR	08/12/08	10-181
City of Seal Beach	CSB	06/25/08	10-267
Long Beach Unified School District	LBUSD	08/02/08	10-273
Riverside County Transportation Commission	RCTC	07/09/08	10-289
National Organizations			
Center for Biological Diversity, et. al	CBD	08/08/08	10-327
Community Groups			
Coalition for Clean and Safe Ports	CCSP	06/11/08	10-439
Coalition for Environmental Health and Justice	CEHJ	08/07/08	10-443
Coalition for a Safe Environment	CSE(A)	06/11/08	10-447
Coalition for a Safe Environment	CSE(B)	08/06/08	10-459
Harbor Vision Task Force, LA Chapter, Sierra Club	HVTF	06/18/08	10-495
Prometheus	PROM	08/08/08	10-499
Southern California Environmental Health and Sciences Center	SCEHSC	08/08/08	10-503

Table 10-1. Public Comments Received on the Middle Harbor Redevelopment Project Draft EIS/EIR (cont.)			
Individual /Organization	Letter Code	Date	Page #
Industry and Business Groups			
BNSF Railway	BNSF	08/08/08	10-523
Dockside Machine & Ship Repair	DMSR	06/18/08	10-531
Foreign Trade Association of Southern California	FTA	06/27/08	10-535
Harbor Industrial	HI	06/16/08	10-539
Hunsaker & Associates	HA	06/18/08	10-543
Jacobson Pilot Service, Inc.	JPS	06/11/08	10-547
The Klabin Company	KC	07/27/08	10-551
K&R Transportation Inc.	KR	Undated	10-555
Long Beach Area of Chamber of Commerce	LBACC	08/08/08	10-559
Los Angeles County Economic Development Corporation	LAEDC	07/03/08	10-563
MACTEC	MACTEC	06/30/08	10-567
Pacific Coast Recycling	PCR	06/20/08	10-571
PMT Logistics, LLC	PMT	Undated	10-575
Re: Trans	RET	Undated	10-579
Roberts & Kehagiaras LLP	RK	07/25/08	10-583
Southern California Edison	SCE	07/24/08	10-587
TIMA Power Systems	TIMA	Undated	10-591
URS Washington Division	URS	06/25/08	10-595
Weston Solutions	WS	06/24/08	10-599
Individuals			
Richie Aldarete	RA	06/17/08	10-603
Deborah Berg	DB	Undated	10-607
Narcisa Boen	NB	Undated	10-611
Terry Brennan	TB	06/18/08	10-615
Rita Brenner	RB	Undated	10-619
Rita and Jeff Brenner	RJB	06/18/08	10-623
Julie Brown	JB	07/02/08	10-627
Jonathan Glasgow	JG(A)	06/18/08	10-631
Jonathan Glasgow	JG(B)	08/05/08	10-635
Gunner L. Gose	GG	06/15/08	10-639
Larry Keller	LK	06/18/08	10-643
Andrew Lee	AL	06/19/08	10-647
Barry Molnaa and Anna-Maria Kanauka	BMAK	06/18/08	10-651
Alan J. Reid	AR	06/16/08	10-655
Janelle Saunders	JS	07/03/08	10-659
Bill Spooner	BS	08/03/08	10-663
Joseph A. Towers	JT	06/29/08	10-667
D. A. Trehuba	DT	06/19/08	10-671
James P. Whelan	JW	07/11/08	10-675
Robert M. White, Jr.	RW	08/08/08	10-679
Public Hearing Transcript	PT(A)	06/11/08	10-683
Public Hearing Transcript	PT(B)	06/18/08	10-705



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

JUL 10 2008

In response, refer to:
2008/03121:BC/MD

U.S. Army Corps of Engineers
Los Angeles District
Regulatory Branch - Ventura Field Office
ATTN: CESPL-CO-2004-01053-AOA
2151 Alessandro Drive, Suite 110
Ventura, California 93001

Dear Colonel Magness:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the U.S. Army Corps of Engineers' (Corps) Public Notice (PN) SPL-2004-01053-AOA regarding the Port of Long Beach's (POLB) proposed Middle Harbor Redevelopment project and the associated Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR). NMFS offers the following comments pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Endangered Species Act (ESA), Marine Mammal and Protection Act (MMPA) and the Fish and Wildlife Coordination Act.

NMFS-1

Proposed Project

POLB proposes to redevelop and consolidate two existing container terminals for the construction of a 345-acre marine terminal including redevelopment of 294 acres of existing land and the placement of dredged material in open water to create approximately 54.6 acres of new land (65.3 total acres of fill, minus 10.7 acres of new open water created). The proposed project would include dredge and fill activities, new wharf construction and terminal expansion on adjacent areas that consist of existing and newly created land. The proposed project would reconfigure existing wharves and berths at Piers D, E and F into one 4,250-foot-long wharf with four deep-water berths, a container terminal yard that includes 54.6 acres of new land and 294 acres of rehabilitated land, and an intermodal rail yard. The proposed project would generate approximately 680,000 cubic yards of dredged material and approximately 1,290,000 cubic yards of excavated material. Approximately 6,730,000 cubic yards of imported fill from sources both inside and outside the POLB would be required to complete all the proposed discharges of dredged and fill material in waters of the United States.



Action Area

The proposed project occurs in essential fish habitat (EFH) for various federally managed fish species within the Pacific Groundfish and Coastal Pelagics Fishery Management Plans (FMPs). In addition, the project occurs within estuarine habitat, which is considered a habitat area of particular concern (HAPC) for various federally managed fish species within the Pacific Groundfish FMP. HAPC are described in the regulations as subsets of EFH which are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under MSA; however, federally permitted projects with potential adverse impacts to HAPC will be more carefully scrutinized during the consultation process.

Effects of the Action

Adverse impacts to EFH from the introduction of fill material may include 1) loss of habitat function and 2) changes in hydrologic patterns. Based on preliminary design, approximately 65.3 acres of marine habitat would be permanently lost due to fill placement in Slip 1 and the East Basin. Widening Slip 3 would create approximately 6.3 acres of marine habitat, and excavation at Berth F201 would create about 4.4 acres of marine habitat. The net loss of marine habitat would be an estimated 54.6 acres.

Pursuant to the Inter-Agency Bolsa Chica Memorandum of Agreement signed by NMFS and a number of other regulatory and resource agencies, areas of the harbor designated as "Inner Harbor" for habitat mitigation purposes require the application of 0.5 credit to offset each acre of lost habitat, whereas areas designated as "Outer Harbor" require the application of 1.0 credit per acre of loss. The proposed project is expected to result in a net impact of approximately 29.3 acres of Inner Harbor habitat and 25.3 acres of Outer Harbor habitat. To mitigate for these losses, the POLB anticipates using 40.0 credits from their established mitigation bank. Final allocation of credits would be determined by the results of as-built surveys.

The adverse effects of dredging on EFH may include 1) direct removal/burial of organisms; 2) turbidity/siltation effects, including light attenuation from turbidity; 3) contaminant release and uptake, including nutrients, metals, and organics; 4) release of oxygen consuming substances; 5) entrainment; 6) noise disturbances; and 7) alteration to hydrodynamic regimes and physical habitat. Dredging for the proposed wharf upgrades and to deepen Slip 3 would temporarily impact 21.1 acres of soft bottom habitat. Based upon calculations in the DEIS, approximately 1.3 metric tons of invertebrates living in the sediments would be temporarily lost. This would adversely affect EFH by reducing the prey resources for various fish species. The exact rate of recovery is unknown for this area, but the range identified in the literature is a few months to several years. The DEIS suggests that a similar invertebrate community is expected to develop within five years based on surveys in 1987 of areas dredged in 1982.

The proposed project also involves the removal and subsequent installation of rocky dike, bulkheads, and pilings. Ultimately, there will be a net loss of 1.7 acres of rocky dike, 5,487

linear feet of bulkhead, and a reduction in the number of concrete piles. Much of this loss of artificial hard substrate will occur due to the fill, which is proposed to be mitigated via the Bolsa Chica mitigation bank.

NMFS-2

The construction activities associated with this project may generate significant underwater noise. For example, pile driving can generate intense underwater sound pressure waves that may adversely affect the ecological functioning of EFH. These pressure waves have been shown to injure and kill fish. Injuries associated directly with pile driving are poorly studied, but include rupture of the swimbladder and internal hemorrhaging. Sound pressure levels (SPL) 100 decibels (dB) above the threshold for hearing are thought to be sufficient to damage the auditory system in many fishes. Of particular concern in this project is the driving of 36-inch steel piles. Hollow steel piles as small as 14-inch diameter have been shown to produce SPLs that can injure fish.

Another potential project concern is the spread of the invasive alga *Caulerpa taxifolia* from project activities. As you may be aware, this alga has been introduced to our coastline. Evidence of harm that can ensue as a result of an uncontrolled spread of the alga has already been seen in the Mediterranean Sea where it has destroyed local ecosystems, impacted commercial fishing areas, and affected coastal navigation and recreational opportunities. Although it is not known to be present within POLA, it has been detected in two other locations in Southern California. If the invasive alga is present within the project area, the dredging activities would adversely affect EFH by promoting its spread and increasing its negative ecosystem impacts. According to the DEIS/EIR, pre-construction surveys for *Caulerpa* will be conducted as part of the pre-dredging program and will be consistent with the *Caulerpa* Control Protocol.

EFH Conservation Recommendations

As described in the above effects analysis, NMFS has determined that the proposed action would adversely affect EFH for various federally managed fish species within the Coastal Pelagics Species and the Pacific Coast Groundfish FMPs.

The proposed action currently contains measures that avoid, minimize, mitigate, or otherwise offset the adverse effects to EFH. Specifically, NMFS believes the use of Bolsa Chica mitigation credits for fill impacts and implementation of procedures identified in the *Caulerpa* Control Protocol are sound conservation measures.

However, NMFS believes measures should be taken to address noise impacts as well. Therefore, pursuant to section 305(b)(4)(A) of the MSA, NMFS offers the following EFH conservation recommendation to avoid, minimize, mitigate, or otherwise offset the adverse effects to EFH.

NMFS-3

- The POLB should utilize a vibratory hammer when driving the steel piles. If an impact hammer is required for reasons of seismic stability or substrate type, it is recommended that the steel piles be driven as deep as possible with a vibratory hammer prior to use of the impact hammer. Driving hollow steel piles with impact hammers produce intense, sharp spikes of sound which can easily reach levels that injure fish. Vibratory hammers, on the other hand, produce sounds of lower intensity, with a rapid repetition rate. Thus,

NMFS-3 ↑

utilizing a vibratory hammer will minimize the adverse effects to EFH associated with underwater noise.

NMFS-4 | Statutory Response Requirement

Please be advised that regulations at section 305(b)(4)(B) of the MSA and 50 CFR 600.920(k) of the MSA require your office to provide a written response to this letter within 30 days of its receipt and at least 10 days prior to final approval of the action. A preliminary response is acceptable if final action cannot be completed within 30 days. Your final response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the activity. If your response is inconsistent with our EFH conservation recommendations, you must provide an explanation of the reasons for not implementing those recommendations. The reasons must include the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

NMFS-5 | Supplemental Consultation

Pursuant to 50 CFR 600.920(l), the Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations.

NMFS-6 | Endangered Species Act Comments

Section 7 of the Endangered Species Act (ESA; see 16 U.S.C. § 1536(a)(2)) requires Federal agencies to consult with the Secretary of Commerce to insure that "any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species . . ." See also 50 C.F.R. part 400.

If the proposed project may affect a listed species, the Federal action agency must initiate consultation with NMFS pursuant to section 7 of the ESA. To assist the Corps we are providing a list of ESA-listed marine mammal and sea turtle species that may be found within the immediate project and nearshore areas, including the shipping lanes (see Enclosure).

The DEIS describes that vessel transport of construction materials to the proposed project site from outside of the Port of Long Beach would occur at unspecified intervals over approximately 10 years. In addition, the DEIS states on page 3.4-10, that the majority of the vessels would be traveling at less than 10 knots, which would reduce the risk of a fatal collision with a whale (when vessels travel at greater than 10 knots, collisions are usually fatal to the animal). The project estimates an increase in 179 vessel calls per year during the proposed project construction and operation, however, the DEIS did not provide any information on transit routes for the support vessels for this project. It is difficult to assess the possibility of a ship strike with a marine mammal without this information, since we can not assess whether these vessels will be transiting through areas where marine mammals have been observed. NMFS recommends that the Corps provide information on the proposed vessel routes.

Several sea turtle species are found in the Pacific Ocean (see Enclosure). Sightings of sea turtles have been observed in the Port of Los Angeles/Long Beach over the years. Green sea turtles (*Chelonia mydas*) have been observed in Alamitos Bay and in the San Gabriel River, and it is possible that they may be found occasionally in the Outer Harbor areas in the Ports. NMFS recommends that the final EIS discuss possible project impacts to sea turtles.

NMFS-7

Lastly, on page 3.4-10 of the DEIS, the Corps makes a determination that the proposed project would have "no effect" on blue whales, yet on page 3.4-19, the DEIS states that "the USACE would complete informal consultation with the USFWS [United States Fish and Wildlife Service] and NMFS to facilitate compliance with the ESA." Please note that the Corps should formally request concurrence from NMFS regarding any effects determination of possible impacts to those ESA-listed species under NMFS' jurisdiction.

NMFS-8

Marine Mammal Protection Act Comments

NMFS-9

Marine mammals likely to be in the immediate project area are the California sea lion (*Zalophus californianus*) and the Pacific harbor seal (*Phoca vitulina richardii*). In addition to the California sea lion and harbor seal, several marine mammal species may be encountered by vessels, during construction and operations (see Enclosure).

Whales, dolphins, porpoises, seals, and sea lions are protected under the Marine Mammal Protection Act (MMPA). See 16 U.S.C. § 1361 *et seq.* Under the MMPA, it is generally illegal to "take" a marine mammal without prior authorization from NMFS. "Take" is defined as harassing, hunting, capturing, or killing, or attempting to harass, hunt, capture, or kill any marine mammal. Except with respect to military readiness activities and certain scientific research conducted by, or on behalf of, the Federal Government, "harassment" is defined as any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal in the wild, or has the potential to disturb a marine mammal in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.

The DEIS mentions possible impacts to marine mammals from underwater sound from project-related vessels or pile-driving of steel piles. The noise generated from pile-driving or other construction could affect marine mammals located within the vicinity of the project site, however, the DEIS did not provide information on underwater sound pressure levels associated with construction and operation, the timing, or the duration of the activity. NMFS recommends including detailed information on possible impacts to marine mammals from underwater sound in the final EIS.

Sounds introduced into the sea by man-made devices could have a deleterious effect on marine mammals by causing stress or injury, interfering with communication and predator/prey detection, and changing behavior. Acoustic exposure to loud sounds, such as those produced by pile-driving activities, may result in a temporary or permanent loss of hearing (termed a temporary (TTS) or permanent (PTS) threshold shift) depending upon the location of the marine mammal in relation to the source of the sound.

NMFS-10

NMFS-10

NMFS is currently in the process of determining safety criteria (*i.e.*, guidelines) for marine species exposed to underwater sound. However, pending adoption of these guidelines we have preliminarily determined, based on past projects, consultations with experts, and published studies, that 180 dB re 1 $\mu\text{Pa}_{\text{RMS}}$ (190 dB re 1 $\mu\text{Pa}_{\text{RMS}}$ for pinnipeds) is the impulse sound pressure level that can be received by marine mammals without injury. Marine mammals have shown behavioral changes when exposed to impulse sound pressure levels of 160 dB re 1 $\mu\text{Pa}_{\text{RMS}}$. Table 3.9-8 in the DEIS, estimates the in-air noise level at 97 dBA for pile-driving operations. Studies have shown that when exposed to the 90 dBA sound pressure level (the presumed cause) harbor seals flushed from the beach on San Nicholas Island, CA, but many returned to land within several hours (see 68 FR 52132 September 2, 2003).

Based on the information provided in the DEIS, it may be necessary to receive authorization from NMFS under the MMPA for this proposed project. Most incidental take authorizations to date have involved the incidental harassment of marine mammals by noise.

Thank you for consideration of our comments. If you have any questions regarding our EFH comments, please contact Mr. Bryant Chesney at 562-980-4037 or Bryant.Chesney@noaa.gov. For questions related to our ESA and/or MMPA comments, please contact Monica DeAngelis at 562-980-3232 or Monica.DeAngelis@noaa.gov.

Sincerely,



for

Robert S. Hoffman
Assistant Regional Administrator
for Habitat Conservation Division

Enclosure

Enclosure

List of species of marine mammals and sea turtles under NMFS' jurisdiction that may occur along the vessel route and in the vicinity of the Middle Harbor Redevelopment Project in Long Beach, CA

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u> ¹
<i>Marine Mammals</i>		
California sea lion	<i>Zalophus californianus californianus</i>	M
Pacific harbor seal	<i>Phoca vitulina richardii</i>	M
Northern elephant seal	<i>Mirounga angustirostris</i>	M
Northern fur seal	<i>Callorhinus ursinus</i>	M
Gray whale	<i>Eschrichtius robustus</i>	M
Blue whale	<i>Balaenoptera musculus</i>	M/E
Fin whale	<i>Balaenoptera physalus</i>	M/E
Minke whale	<i>Balaenoptera acutorostrata</i>	M
Humpback whale	<i>Megaptera novaeangliae</i>	M/E
Northern right whale	<i>Eubalaena glacialis</i>	M/E
Short-beaked common dolphin	<i>Delphinus delphis</i>	M
Long-beaked common dolphin	<i>Delphinus capensis</i>	M
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	M
Risso's dolphin	<i>Grampus griseus</i>	M
Dall's porpoise	<i>Phocoenoides dalli</i>	M
Bottlenose dolphin	<i>Tursiops truncatus</i>	M
Northern right whale dolphin	<i>Lissodelphis borealis</i>	M

¹M= MMPA Protected, E= Endangered under the ESA, C= Species of Concern

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u> ¹
<i>Marine Mammals cont'd</i>		
Short-finned pilot whale	<i>Globicephela macrohynchus</i>	M
Killer whale	<i>Orcinus orca</i>	M
Baird's beaked whale	<i>Berardius bairdii</i>	M
Mesoplodont spp.		M
<i>Sea Turtles</i>		
Leatherback turtle	<i>Demochelys coriacea</i>	E
Green turtle	<i>Chelonia mydas</i>	T/E
Olive Ridley turtle	<i>Lepidochelys olivacea</i>	T/E
Loggerhead turtle	<i>Caretta caretta</i>	T

¹M= MMPA Protected, E= Endangered under the ESA, T= Threatened

RESPONSE TO COMMENTS

National Marine Fisheries Service, July 10, 2008

NMFS-1. This comment summarizes information in the Draft EIS/EIR. No revisions to the Final EIS/EIR are required.

NMFS-2. This comment summarizes the Draft EIS/EIR EFH analysis. The comment notes the potential for Project construction activities to generate underwater noise levels that could adversely affect the ecological function of EFH. Final EIS/EIR Section 1.7.3 has been revised to include an environmental control that would ensure construction contractors use sound abatement techniques during pile driving activities, and implement a “soft-start” technique in which the hammer would be operated at less than full capacity (i.e., approximately 40 to 60 percent energy levels) with no less than a one-minute interval between each strike for a five-minute period. Implementation of this environmental control would ensure impacts on EFH would remain less than significant during pile driving activities.

The comment states that Project activities have the potential to spread the invasive alga *Caulerpa taxifolia*. As stated in Draft EIS/EIR Section 3.4.2.3 (Impact BIO-5.1), introduction to or spread of invasive species, such as *Caulerpa taxifolia* in Long Beach Harbor and other areas of southern California is a concern. Because this species would most likely be introduced from disposal of aquarium plants and water, and is spread by fragmentation rather than from ship hulls or ballast water, the risk of introduction mostly would be associated with movement of plant fragments from infected to uninfected areas by activities such as dredging and/or anchoring. Preconstruction surveys for *Caulerpa taxifolia* would be conducted as part of the pre-dredging program, consistent with the NMFS/CDFG protocol (*Caulerpa* Control Protocol; Version 4, February 25, 2008). These monitoring surveys would help to avoid or minimize potential effects if *Caulerpa* were detected, reducing the potential for spread of this invasive species during Project activities.

NMFS-3. The comment recommends using a vibratory hammer for driving steel piles to minimize adverse effects to EFH associated with underwater noise. Vibratory hammers would be used for sheet pile installation and driving steel piles. However, a vibratory hammer is unlikely to be able to drive the concrete piles to the depth needed due to sediment type. In this event, the concrete piles would be driven as deep as possible with a vibratory hammer prior to use of an impact hammer. Furthermore, Final EIS/EIR Section 1.7.3 has been revised to include an environmental control that would require the construction contractor to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. Sound abatement techniques would include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, and after breaks of more than 15 minutes, the pile driving would also employ a “soft-start” in which the hammer would be operated at less than full capacity (i.e., approximately 40 to 60 percent energy levels) with no less than a one-minute interval between each strike for a five-minute period. Final EIS/EIR Section 1.7.3 also has been revised to include an environmental control that requires the Port to utilize a biologist to monitor the area in the vicinity of pile driving activities for fish kills or the presence of marine mammals within 100 meters of the pile driving, which conditions would result in a halt in pile driving activities. Use of an impact hammer would also incorporate a “soft start” to disperse fish and aquatic mammals before driving under full power.

Approximately three steel piles would be driven for a temporary mooring dolphin in Phase 1, and eight steel piles would be driven for a permanent mooring dolphin in Phase 2. It is estimated that each pile would take less than one hour to drive. Based on the distribution and abundance of Pacific Groundfish FMP species in the Project area (Draft EIS/EIR Table 3.4-2), the short duration of steel pile driving, and the small number of steel piles to be driven, it is unlikely that any individuals of those species would be adversely affected. For the Coastal

Pelagics FMP species, northern anchovy is common in the Project area as well as throughout the harbor. The number of individuals that could be affected by pile driving would represent a small proportion of the population in the harbor and would not adversely affect that population. The other species in this FMP are less abundant than the northern anchovy and fewer individuals would be affected, also resulting in less than significant impacts to populations of these species. Disturbances due to other construction activities are also likely to cause individuals of these species to avoid the work area, thereby reducing the potential for effects of the pile driving.

NMFS-4. Thank you for this information. USACE prepared an interim response letter that was submitted to NMFS on August 8, 2008. A final response letter will be provided in conjunction with the Final EIS/EIR.

NMFS-5. The USACE would reinitiate EFH consultation with NMFS should the proposed action be revised in a way that could adversely affect EFH beyond what is evaluated in the EIS/EIR.

NMFS-6. USACE does not have federal control and responsibility over shipping lanes and transit routes outside the harbor, either during the construction or operation of the Project, however the applicant has proposed to implement measures to minimize ship strikes and other hazards to marine mammals.

During Project construction, support/supply vessels would come from many locations, depending on the materials being transported. The source of the piles would be at the discretion of the construction contractor and is unknown at this time. Revetment/dike rock would most likely come from a Catalina Island quarry. Dredged material from Pier S could be delivered by barge or hydraulic dredge. The origin of the remaining fill material is unknown at this time, but presumably would come by barge from within San Pedro Bay or as agreed upon by the CSTF. Potential sources of imported fill material include Marina del Rey or the Los Angeles River mouth.

During operations, an estimated 179 additional vessels would call at the Middle Harbor container terminal. These vessels could come from all over the world, and many would be from China and Japan. The exact routes used by these vessels would depend on various factors, including weather, sea state, any intermediate stops, and shortest route that uses the least amount of fuel while going to and from the Middle Harbor container terminal. All vessels would be required to slow to 12 knots when within 40 nm of Point Fermin as part of the VSRP. Normal swimming speeds of blue whales are 22 km/hr, which is approximately 10 knots; however, blue whales can swim up to 48 km/hr when alarmed (Wilson and Ruff 1999). Therefore, it is very unlikely that Project-related vessels traveling at 12 knots would increase the potential for whale strikes. No feasible measures are currently available to reduce whale strikes in the open ocean at greater than 40 nm from the harbor.

Final EIS/EIR Section 3.4.2.3 (Impact BIO-1.1) has been revised to clarify that the potential for a Project-related support vessel collision with a blue whale or gray whale, or a sea turtle, while in transit within the Long Beach Breakwater and Outer Harbor would be unlikely due to the infrequent presence of these animals. In addition, all vessels are required to travel at speeds of 12 knots or less upon entering the Precautionary Area.

NMFS-7. The comment suggests that the Final EIS/EIR be revised to address potential Project impacts on sea turtles. Final EIS/EIR Sections 3.4.1.2 and 3.4.2.3 have been revised consistent with this comment. USACE has determined that their federal action would have no effect on sea turtles.

No sea turtles have been observed within the SPBP during more than 20 years of biological surveys (MEC Analytical Systems, Inc 1988, MEC Analytical Systems, Inc. 2002, MBC 1984). However, several species have regional distributions in southern California. Therefore, it is possible that sea turtles could be occasional visitors to the offshore and Outer Harbor areas of the SPBP, including the loggerhead (*Caretta caretta*), green (*Chelonia mydas*),

leatherback (*Dermochelys coriacea*), and olive ridley (*Lepidochelys olivacea*) (NMFS 2007a). The leatherback sea turtle is federally listed as endangered, and the other three species are listed as threatened. In 2006, a juvenile green sea turtle was found in Alamitos Bay, approximately six miles southeast of Middle Harbor (K. Helin, Grunion Gazette 18 September 2006). The turtle was radio tagged and released in October 2006 (Coastal Resources Management 2007). It moved south to the San Clemente area and then back to Alamitos Bay. In August 2008, several sea turtles that appeared to be green sea turtles were observed in the San Gabriel River at a power plant cooling water discharge (Aquarium of the Pacific 2008).

Although vessel transport of construction materials to the Project site from outside the POLB would occur at intervals over approximately 10 years, the potential for a Project-related vessel collision with a sea turtle, in offshore waters would be unlikely considering the small number of these vessels relative to existing vessel traffic in this area. The potential for a Project-related support vessel collision with a sea turtle, while in transit within the Long Beach Breakwater and Outer Harbor would be unlikely due to the unlikely presence of these animals. Furthermore, much of the Project-related vessel traffic would include barges carrying materials, such as rock, and support vessels that travel at less than 10 knots.

NMFS-8. USACE determined that two federally listed threatened or endangered species occur in the Project area and may be affected by the portion of the Project within the USACE's scope of analysis: The California least tern (*Sterna antillarum browni*) and California brown pelican (*Pelecanus occidentalis californicus*), which may forage in the immediate Project vicinity. USACE has initiated informal consultation with the USFWS, requesting concurrence that the proposed action would not adversely affect these species. The USACE has reviewed the list of threatened and endangered species under NMFS' jurisdiction that were included with the comment letter and determined that there would either be no effect to these species or that any potential effects were outside USACE's federal control and responsibility.

NMFS-9. Thank you for the list of marine mammals that could be present in the Project area and for the information on the MMPA. Most piles for the Project would be concrete with only three steel piles in Phase 1 and eight in Phase 2. Steel piles and sheet pile would be driven using a vibratory hammer. A vibratory hammer would also be used to drive concrete piles to the maximum extend practicable before using an impact hammer. For concrete piles (24-inch diameter), the impulse pressure (RMS) measured in the marine environment is 176 dB re 1 μ Pa and the pressure is 192 dB re 1 μ Pa for 30-inch steel piles at 33 feet (10 meters) from the piles (Hastings and Popper 2005). For 24-inch concrete piles, RMS measurements at five projects in the San Francisco Bay area ranged from 172 to 181 dB re 1 μ Pa at a distance of 33 feet (10 meters) (Illingworth & Rodkin 2007). During driving of 30-inch steel pipe piles for the Richmond-San Rafael Bridge, RMS measurements at 33 feet (10 meters) were 190 dB re 1 μ Pa and less at greater distances (Illingworth & Rodkin 2007). Driving 40-inch steel piles produced RMS of 193 to 195 dB without any sound attenuation devices while the measured RMS was 178 to 182 dB with an air bubble curtain in place. Concrete pile driving would occur over 226 days (divided among three stages) in Phase 1 and 106 days in Phase 2 with approximately eight piles driven per day. Each pile is estimated to take 30 minutes to drive. The only marine mammals likely to be within approximately two miles of the pile driving are a few California sea lions, with harbor seals less likely to be present. As stated in Draft EIS/EIR Section 3.4.2.3, sea lions are expected to avoid sound levels that could affect them. Furthermore, Final EIS/EIR Section 1.7.3 has been revised to include an environmental control that would ensure construction contractors use sound abatement techniques during pile driving activities, and implement a "soft-start" technique in which the hammer would be operated at less than full capacity (i.e., approximately 40 to 60 percent energy levels) with no less than a one-minute interval between each strike for a five-minute period. Final EIS/EIR Section 1.7.3 also has been revised to include an environmental control that requires the Port to utilize a biologist to monitor the area in the vicinity of pile driving activities for fish kills or the presence of marine mammals within 100 meters of the pile driving, which conditions would result in a halt in pile driving activities. Therefore, pile driving would have less than

significant impacts on marine mammals as discussed in the Draft EIS/EIR. Underwater sound from Project-related vessels during operations was addressed in the Draft EIS/EIR (Section 3.4.2.3). These vessels would not add substantially to the existing underwater sound from vessels in the harbor or in the ocean outside the harbor for the reasons discussed in the Draft EIS/EIR.

NMFS-10.

Please see response to comment NMFS-9. Sound abatement techniques and a “soft start” environmental control would be implemented during Project pile driving activities, meaning a gradual increase in the force and, consequently, the associated noise for these activities. The impulse pressures from driving 24-inch octagonal concrete piles would be below the guideline of 190 dB re 1 μ Pa for California sea lions and harbor seals based on measured sound levels at five projects in the San Francisco Bay area (Illingworth & Rodkin 2007; http://www.dot.ca.gov/hq/env/bio/files/pile_driving_snd_comp9_27_07.pdf). For the 11 steel piles to be driven, the impulse pressure would be slightly above that guideline at 33 feet and would be less at greater distances based on measurements during steel pile driving in San Francisco Bay described in response to comment NMFS-9. Therefore, with sound abatement techniques, no impacts to pinnipeds are expected to occur during pile driving for the Project. Some behavioral pattern changes (i.e., breeding, feeding, or sheltering) would be possible for the few individuals that could be exposed to 160 dB re 1 μ Pa or more during the short duration of the pile driving.

The 97 dBA sound levels in the air from pile driving would be at a distance of 50 feet from the pile driver. Most California sea lions haul out on the breakwaters over two miles from the Project site, and sound (in air) would attenuate to less than 55 dBA at that distance. Therefore, pile driving associated with Project construction would not cause California sea lions or harbor seals to flush from the breakwaters. No changes to the Final EIS/EIR are required.

Any necessary authorizations under the MMPA would be obtained from NMFS prior to Project construction.

MAY 23 2008

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

MAY 23 2008



FEMA

May 19, 2008

Antal J. Szijj, Project Officer
U. S. Army Corps of Engineers, Los Angeles District Regulatory Branch
Ventura Field Office
Attn: CESPL-CO-2004-01053-AOA
2151 Alessandro Drive, Suite 110
Ventura, California 93001

Dear Mr. Szijj:

This is in response to your request for comments on the Public Notice/Application for Permit, Notice of Availability for a Draft EIS/EIR and Public Hearing for the Port of Long Beach Middle Harbor Redevelopment Project in the City of Long Beach, Los Angeles County, California.

FEMA-1

Please review the current effective Flood Insurance Rate Maps (FIRMs) for the City of Long Beach (Community Number 060136), Map revised July 6, 1998. Please note that the City of Long Beach, Los Angeles County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.
- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any *development* must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.



Antal J. Szijj, Project Officer

Page 2

May 19, 2008

FEMA-1

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.
- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at <http://www.fema.gov/business/nfip/forms.shtm>.

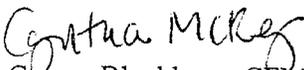
FEMA-2

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Long Beach floodplain manager can be reached by calling Frank Sanchez, Civil Engineer, Department of Public Works, at (562) 570-6293. The Los Angeles County floodplain manager can be reached by calling Rick Sun, Principal Engineer, Department of Public Works, at (626) 458-5911.

If you have any questions or concerns, please do not hesitate to call Cynthia McKenzie of the Mitigation staff at (510) 627-7190.

Sincerely,


Cynthia McKenzie
Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:

Frank Sanchez, Civil Engineer, Department of Public Works, City of Long Beach
Rick Sun, Principal Engineer, Department of Public Works, Los Angeles County
Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources,
Southern District

Cynthia McKenzie, Floodplanner, CFM, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

U.S. Department of Homeland Security, FEMA Region IX, May 19, 2008

- FEMA-1.** This comment requests review of the City of Long Beach FIRMs and summarized the NFIP floodplain management building requirements. The 100-year flood zone depicted in the Draft EIS/EIR (Section 3.3) is consistent with the current City of Long Beach FIRMs. Final EIS/EIR Section 3.3.2.2 has been revised to clarify that consistent with federal regulations, the Project would be required to comply with the NFIP floodplain management building requirements.
- FEMA-2.** Thank you for the local community's floodplain manager's contact information. The Port would ensure that all local floodplain management building requirements are taken into account when designing the Project.

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
1111 Jackson Street, Suite 520
Oakland, California 94607



IN REPLY REFER TO:
(ER 08/572)

Hardcopy Filed

11 July 2008

US Army Corps of Engineers
Regulatory Division
1325 J Street, Room 1480
Sacramento, CA 95814

Subject: Review of the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR), and Application Summary Report (ASR), for the Middle Harbor Redevelopment Project of the Port of Long Beach, Los Angeles County, CA

DOI-1

Gentlepersons,

The Department of the Interior has received and reviewed the subject document and has no comments to offer.

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port
Regional Environmental Officer

cc:
Director, OEPC

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Department of the Interior, Office of Environmental Policy and Compliance, July 11, 2008

DOI-1. Thank you for your letter of July 11, 2008, acknowledging receipt of the Draft EIS/EIR.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

Colonel Thomas H. Magness
U.S. Army Corps of Engineers, Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053-2325

Subject: Public Notice (PN) 2004-01053-AOA for the proposed Middle Harbor
Redevelopment Project, Port of Long Beach (POLB), Los Angeles County, CA

Dear Colonel Magness:

Thank you for the opportunity to review the PN and draft Environmental Impact Statement (DEIS) for the subject project to redevelop and consolidate two existing container terminals into a single 345-acre marine terminal. The proposed project involves the discharge of dredged or fill material into 65.3 acres of marine waters within Long Beach Harbor. The enclosed comments were prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA), and EPA's ocean dumping regulations promulgated at 40 CFR 220-227 under the Marine Protection, Research and Sanctuaries Act (MPRSA). Additional comments on the DEIS and a broader spectrum of environmental concerns will be provided in subsequent correspondence pursuant to EPA's authorities under the Clean Air Act and National Environmental Policy Act (NEPA).

USEPA
(A)-1

As detailed below, we respectfully object to the issuance of a CWA §404 permit for the subject project on the basis that the applicant has not demonstrated compliance with the CWA §404(b)(1) Guidelines (Guidelines). Specifically, alternatives involving no discharges, or fewer discharges, to waters of the U.S. may be practicable, and the applicant has not demonstrated that creation (reconfiguration) of open water areas under the preferred alternative will adequately replace the functions of waters that are to be filled. In our detailed comments, we have outlined a number of recommendations that will help ensure compliance with EPA's Guidelines.

We look forward to working with the Corps and POLB to resolve important environmental issues surrounding the proposed project. If you wish to discuss this matter further, please call me at (415) 972-3464 or refer your staff to Jorine Campopiano, at (213) 244-1808.

Sincerely,

FOR
7/11/03
David W. Smith, Chief
Wetlands Regulatory Office

Printed on Recycled Paper

USEPA
(A)-1

cc:

David J. Castanon, Regulatory Branch Chief
2151 Alessandro Drive, Suite 110, Ventura, CA 93001

Antal Szijj, Corps Ventura Field Office
2151 Alessandro Drive, Suite 110, Ventura, CA 93001

Bryant Chesney, NOAA Fisheries
501 W. Ocean Blvd Suite 4200, Long Beach, CA 90802

Mike Lyons, LA Regional Water Quality Control Board
320 W. 4th Street, Suite 200, Los Angeles, CA 90013

LB Nye, LA Regional Water Quality Control Board
320 W. 4th Street, Suite 200, Los Angeles, CA 90013

California Coastal Commission, South Coast District Office
200 Oceangate, 10th Floor, Long Beach, CA 90802-4416

Larry Simon, California Coastal Commission, San Francisco
45 Fremont Street, Suite 2000, San Francisco, CA 94105-2219

Larry Eng, California Department of Fish and Game, South Coast Region 5
4949 Viewridge Avenue, San Diego, CA 92123

Project Description

The Port of Long Beach proposes to conduct dredging and/or filling activities within waters of the U.S. associated with the Middle Harbor Redevelopment Project. Proposed activities include redevelopment and consolidation of two existing container terminals for the construction of a 345-acre marine terminal. This includes the redevelopment of 294-acres of existing land and the placement of dredged and/or imported fill material in open water to create 54.6 acres of new land. The project purpose is to accommodate a portion of forecasted increases in containerized cargo throughput volumes at the Port.

Compliance with the Federal Guidelines under CWA Section 404(b)(1)

The Guidelines require applicants to clearly demonstrate that the proposed project represents the least environmentally damaging practicable alternative (LEDPA) that achieves the basic project purpose, plus the costs, technical, and logistical feasibility factors associated with that basic purpose. To make such a demonstration, a project proposal must comply with all restrictions on discharges outlined in the Guidelines [40 CFR 230.10(a)-(d)].

Analyses of Alternatives -- 40 CFR 230.10(a)

The Guidelines state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem.

POLB has partially analyzed four alternatives:

- Alternative 1 – 345 Acre Alternative (the proposed project, including 65 acres of fill)
- Alternative 2 – 315 Acre Alternative (24.7 acres of fill)
- Alternative 3 – Landside Improvements Alternative (no fill)
- Alternative 4 – No Project

Based on the available information, alternatives 2 and 3 may be practicable and meet the project purpose with fewer impacts to aquatic resources. Alternative 2 proposes to fill less than half the acreage of waters (25 acres as opposed to 65 acres) when compared to the POLB's preferred alternative. The DEIS states that Alternative 2 "would meet part of the project purpose and need and improve cargo handling efficiency necessary to accommodate project growth in containerized cargo." Discussion of Alternative 3 in the DEIS is insufficiently detailed to determine its practicability at this time.

In addition, it is our understanding that a fifth alternative has been proposed subsequent to publication of the PN and DEIS. This alternative would fill minimal to no waters, but would also include a channel deepening component so that large containerhips could enter the terminal. EPA requests that this alternative's practicability be formally explored with

USEPA (A)-3 opportunity for public review and comment, including proposed disposal alternatives for the increases in channel dredged material.

Mitigation 40 CFR 230.10(d)

USEPA (A)-4 The Guidelines state that no discharge of dredged or fill material shall be permitted unless appropriate and practical steps have been taken to minimize adverse impacts to the aquatic ecosystem. In addition, the Corps requires compensatory mitigation to replace aquatic resource functions unavoidably lost or adversely affected by authorized activities.

The POLB has proposed to compensate for the loss of waters totaled after considering the creation (reconfiguration) of 10.7 acres of open water habitat on-site. The DEIS states that 6.3 acres of marine habitat would be created through the widening of Slip 3, and 4.4 acres of marine habitat would be created by the excavation at Berth F201. As the newly created waters will be used to off-set the lost aquatic function of 10.7 acres of fill, a functional assessment of the newly created areas should be completed to support the claim that the project offsets these impacts and therefore needn't compensate for them separately. We also recommend that temporal losses (e.g., due to delay in construction of habitat at Berth F201 until Phase 2), should be assessed for the project's 10-year timeframe, and appropriate mitigation should be proposed.

USEPA (A)-5 The Corps and EPA recently issued new regulations (40 CFR 230.91 to 230.98; the "Mitigation Rule") governing compensatory mitigation that establish performance standards and criteria for the use of permittee-responsible compensatory mitigation, mitigation banks, and in-lieu fee programs. Included within the Mitigation Rule are provisions for "grandfathering" the instruments of existing mitigation banks that were established before the rule took effect, and that any modification to "grandfathered" banking arrangements after July 9, 2008 will require the bank to come into full compliance with the new standards of the rule (40 CFR 230.98(v)(1)).

Along with the Port of Los Angeles, POLB has an existing compensatory mitigation arrangement with federal and state agencies to provide "credits" for fill impacts at the ports via Port funding of restoration activities at the Bolsa Chica wetlands project. Although not organized as a formal CWA mitigation bank, EPA has determined that the MOA governing this arrangement, to which EPA is a signatory, meets the criteria outlined in the Mitigation Rule for "grandfathering" existing banking instruments and does not object to POLB's proposed use of Bolsa Chica credits for this project. However, compliance with 230.10(a) must first be established so that only unavoidable impacts occur and are credited. We also note that Table 3.4-4 in the DEIS shows 270.7 credits currently available for use, whereas Section 15 of the 1996 MOA provides for only 227 credits to begin with (454 credits total to be divided equally between POLA and POLB). We recommend that the final EIS include a discussion of the Bolsa Chica mitigation agreement in light of the new Mitigation Rule, and a clarification of the status of both expended and available credits at Bolsa Chica.

Dredged and Fill Material Management

USEPA (A)-6 POLB should document the best currently available information on the sources of proposed fill material for the project. The DEIS documents the source (within the Harbor District) of only 4.4

million cubic yards (mcy) of the 6.7 mcy necessary for the project. At minimum, POLB should determine and disclose whether material generated from local projects can make up the difference, or if material would need to be brought in from an off-site location. Any material proposed for placement within waters must be appropriately characterized consistent with the Guidelines in terms of its chemical, physical and biological qualities, regardless of whether it originates on- or off-site.

↑
USEPA
(A)-6

We also note that upper sediments to be dredged from Slip 3 exceed the ER-L for fourteen of eighteen contaminants of concern including PAHs, PCBs, and DDT. In the absence of acute toxicity tests demonstrating otherwise, this material should be treated as contaminated and managed separately than the "cleaner" sediments below. The final EIS should identify chemical, physical, and biological characterization methods used to assess both reused onsite and imported material for suitability for unconfined placement in waters of the U.S., and at minimum provide a summary of sediment chemistry information in the final EIS.

USEPA
(A)-7

Finally, we support the further exploration of appropriate use of contaminated sediments as a component of this project, and appreciate POLB's efforts to play a major role in the regional management of these sediments, consistent with the goals of the Los Angeles Contaminated Sediment Task Force (CSTF). If testing indicates the material used in this project is potentially unsuitable for unconfined aquatic placement, the final EIS should describe special handling measures (e.g., isolation and capping) to ensure protection of the aquatic environment.

USEPA
(A)-8

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U.S. Environmental Protection Agency, July 11, 2008

USEPA(A)-1. A 404(b)(1) analysis of alternatives has been completed for the Project as described in response to comment USEPA(B)-27. The 404(b)(1) analysis is included in Appendix E of the Final EIS/EIR.

USEPA(A)-2. Please see response to comments USEPA(A)-1 and USEPA(B)-27. The Middle Harbor 404(b)(1) analysis concluded that the proposed Project is the least environmentally damaging practicable alternative that meets the overall project purpose and need. Specifically, the analysis found that there are no available, practicable alternatives which would cause less adverse impacts on the aquatic ecosystem, and without other significant adverse environmental consequences that do not involve discharges into "waters of the U.S." or at other locations within these waters. Please refer to Final EIS/EIR Appendix E, 404(b)(1) analysis, for additional details.

Alternative 2 (315-Acre Alternative) would be similar to the proposed Project except that the East Basin area would not be filled and the Berth E23 wharf would not be constructed. The elimination of the East Basin fill and Berth E23 wharf would decrease container movement efficiency compared to the Project. Alternative 2 would result in the consolidation of common operations and wharves of the existing two terminals on Piers E and F into one terminal, as would occur under the proposed Project. However, under this design the available area along the railyard would be substantially limited in width and, consequently, would not support efficient access by trucks transporting containerized cargo. Therefore, under Alternative 2 the proposed terminal areas would not support the activities and modern equipment necessary to efficiently and safely handle the anticipated containerized cargo volumes. Overall, Alternative 2 would be less environmentally damaging than the Project; however, it would not meet the overall project purpose and need of increasing container terminal efficiency to accommodate a portion of the predicted future containerized cargo throughput volumes necessary to fulfill the Project's purpose. Therefore, Alternative 2 is not considered the environmentally preferred alternative.

Alternative 3 (Landside Improvements Alternative) would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. The alternative would include redevelopment and backland expansion on existing lands within the Project site (the Berth E23 oil area would be abandoned and redeveloped as container yard area); construction of a new 66 kV Pier E Substation; construction of shore-to-ship infrastructure at Piers E and F to cold-iron vessels while at berth; construction of a Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive and the Pier F storage yard and tracks; and expansion of the existing Pier F intermodal railyard to six tracks. Under this alternative, there would be no in-water activities (e.g., dredging, filling Slip 1 and the East Basin, new wharf construction) as proposed for the Project, no wharf upgrades would occur (except the provisions for shore-to-ship power), and channel and berth deepening would not occur. Buildout under Alternative 3 would not support the modern cargo vessels that transport goods to and from the Port. Consequently, Alternative 3 would not meet the overall Project purpose of increasing container terminal efficiency to accommodate a portion of the predicted future containerized cargo throughput volume and the modern cargo vessels that transport those goods to and from the Port.

USEPA(A)-3. This comment identifies an additional alternative that would potentially minimize impacts on aquatic resources. The proposed alternative would not include any fill activities, but would provide deeper water (-55 feet MLLW) at berths and in basins and channels to accommodate the current and expected future generations of cargo vessels. However, under this alternative the existing terminal areas would remain insufficient to support the activities and modern equipment necessary to efficiently and safely handle the anticipated containerized cargo volumes. Furthermore, (1) Slips 1 and 3 would remain too narrow (395 feet and 364 feet, respectively) for the current larger vessels that require a width of approximately 480 feet to

maneuver safely up to and away from the existing berths; and (2) Pier E docks and adjacent backland areas would be separated from the intermodal rail facilities on Pier F, resulting in a terminal that would be inadequately connected to the essential infrastructure required to handle intermodal containerized cargo. Also, as dredged material would not be reused under this alternative, the Port would need to locate new disposal locations and conduct additional sediment characterization. For these reasons, and because the alternative does not meet the overall purpose and need and objectives of the Project, this alternative was eliminated from further consideration in the Final EIS/EIR. Final EIS/EIR Section 1.6.2 has been revised to include a feasibility discussion of the alternative identified by EPA.

- USEPA(A)-4.** Please see response to comment USEPA(B)-10 and USEPA(B)-29. Because the excavation would occur immediately prior to placement of the material in the fill, no temporal loss of water surface or water column habitat would occur for either of the excavated areas. The water column created would be used by mobile species such as plankton and fish immediately, and the new substrate would be colonized by invertebrates. No changes to the Final EIS/EIR are required.

This comment notes the mitigation requirements set forth in 40 CFR Section 230.10(d) which states that “[e]xcept as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which would minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps.” As set forth in Sections 1.6.3.1 and 1.7.3 of the Draft EIS/EIR, all appropriate and practical steps have been included in the proposed Project and the alternatives to minimize any potential adverse effects of excavation and filling. A functional assessment is not required because these assessments are used for wetlands and headwaters streams, neither of which exist or would be created at the Project site. However, Habitat Evaluations were done in the POLB in 1994 and 1996 and used to support the “Agreement to Establish a Project for Wetlands Acquisition and Restoration at the Bolsa Chica Lowlands in Orange County, California, for the Purpose, Among Others, of Compensating for Marine Habitat Losses Incurred by Port Development Landfills within the Harbor Districts of the Cities of Los Angeles and Long Beach, California” (Agreement). The Agreement was signed, in 1996, by the following agencies: USFWS, NMFS, USACE, USEPA, DF&G, Coastal Conservancy, Resources Agency, CSLC, and cities of Los Angeles and Long Beach. The Agreement entitles the POLB to immediately use up to half of 454 acres of outer harbor landfill mitigation credits to offset impacts of permitted landfills. The Agreement also specifies that one acre of Inner Harbor landfills shall be debited from the account at half the rate of Outer harbor landfills since the inner harbor has less habitat value per acre than the Outer Harbor. Exhibit C of the Agreement shows the Inner and Outer Harbor areas of the Ports. In 2000, the Ports, in cooperation with the resource agencies, embarked on a year-long Habitat Evaluation of San Pedro Bay, which was used, in 2002, to amend Exhibit C of the Agreement. In 2008, the Ports initiated a new Habitat Evaluation of San Pedro Bay, the results of which should be available in Fall 2009. The Port is committed to conducting Habitat Evaluations every five to 10 years to monitor the marine habitats of San Pedro Bay.

- USEPA(A)-5.** The Bolsa Chica mitigation agreement is a grandfathered mitigation bank under the new USACE and EPA mitigation rule (33 CFR Parts 325 and 332, and 40 CFR Part 230) that would not be changed by use of existing credits in that mitigation bank to offset impacts of the Project fill. Any future wetland restoration projects conducted for mitigation purposes would be subject to the new rule.

The following table shows the number of credits currently available and has been used to update the Final EIS/EIR (Table 3.4-4).

PROJECT	CREDITS	DEBITS	BALANCE
Upper Newport Bay (1986)	42.1		42.1
Minor Fills, 1986-1990		26.2	15.9
Anaheim Bay (1990)	153.1		169.0
Pier J Expansion Fill (1990)		146.4	22.6
(in escrow)		14.0	8.6
Berths 95-97 Fill (1994)		3.9	4.7
Berths 88-94 Fill (1996)		4.0	0.7
Release of Escrow (1997)	14.0		14.7
Bolsa Chica Initial (1997)	227.0		241.7
Bolsa Chica Subsequent (1997)	40.0		281.7
Slip 2 Pier E 29-Acre Fill (1999)		14.5	267.2
Pier S/T Mole 22-Acre Fill (2000)		22.0	245.2
Pier G/J Ph I 10.1-Acre. Fills (2003)		10.1	235.1
Pier T Navy Mole Fill (2003)		2.4	232.7
Bolsa Chica 3rd Amendment (2005)	38.0		270.7
<i>Notes:</i>			
1) Credits as of 1997 are expressed as Outer Harbor fill; fills prior to 1997 were deducted as Outer Harbor regardless of location.			
2) As of 1997, pursuant to Exhibit C of the Bolsa Chica Interagency MOA, mitigation credits utilized for harbor fills would be deducted at the ratio of 1.0 credit:1.0 acre of fill in the Outer Harbor, and at the rate of 0.5 credit:1.0 acre of fill in the Inner Harbor.			

USEPA(A)-6. The comment correctly notes that fill material would be imported from sources that have not been specified in the Draft EIS/EIR. The Draft EIS/EIR identifies sources for approximately 4.4 million cy of the required fill (6.73 million cy) material in Section 1.6.3. The amount of imported material from currently undetermined dredge and borrow locations in the Outer Harbor would be approximately 2.29 million cy. Fill material from the identified sources, which would be from inside the Port, would be delivered by barge and/or pipeline. Impacts associated with generating and delivering fill from the identified sources would be disclosed in the environmental documents for the projects that would supply the material, as the material would be generated from the construction for those projects.

Much, if not all, of that material from currently unidentified sources would be generated by specific projects, such as dredging projects in the Los Angeles River, Marina del Rey, and Orange County that would use the Middle Harbor Project as a disposal site for material unsuitable for aquatic disposal, thus beneficially re-using a construction resource. Some of the material also could come from unidentified dredge and borrow locations in the Outer Harbor, and Final EIS/EIR Section 1.6.3.1 has been revised to include this information. All material to be used as fill would be appropriately characterized through testing to determine its suitability for unconfined aquatic disposal. The results of that testing would be provided to the USACE as part of the Section 404 permit application. The USACE provides public notices of permit applications in compliance with 33 CFR Part 325.3. During the permit process, the USACE coordinates with other agencies in compliance with Section 401 of the CWA and Section 7 of the ESA. If some of the material is not suitable for unconfined aquatic disposal, it would either not be used or it would be placed in a confined disposal site within the fill area. The material could be delivered by barge, pipeline, truck, or a combination of these methods. The environmental documents for those projects would be required to identify and evaluate the air quality impacts of generating and delivering the fill material to the Project site. Given the information currently available, the Draft EIS/EIR can only speculate concerning the nature, size, and timing of those projects. Accordingly, the Draft EIS/EIR has identified and evaluated the impacts of placing and handling the material from all identified sources (Appendix A.1.1). The air quality impacts associated with placing the material in the various Middle Harbor fills have been disclosed in the Draft EIS/EIR (Appendix A.1.1, Table A.1.1-Alt1-142). Please see response to comment USEPA(B)-4 for additional details.

USEPA(A)-7. Please see response to comment USEPA(B)-32. The upper sediments to be dredged from Slip 3 would be placed in a CDF within part of the Project fill to allow beneficial use of the

material, or additional testing in conformance with EPA and USACE protocols, including the Evaluation of Dredged Material Proposed for Ocean Disposal Testing Manual (USEPA and USACE 1991) and the Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. Testing Manual (USEPA and USACE 1998) would be conducted to verify its suitability for unconfined disposal.

- USEPA(A)-8.** Please see responses to comments USEPA(B)-30 and USEPA(B)-32. The Project consistency with the goals and objectives of the CSTF has been included in the Final EIS/EIR. The upper sediments to be dredged from Slip 3, which would be removed separately from lower sediments, as well as any other material found to be unsuitable for unconfined aquatic placement, would be placed in a CDF within part of the Project fill to allow beneficial use of the material, or additional testing in conformance with EPA and USACE protocols would be conducted to verify the upper sediment suitability for unconfined disposal.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

August 8, 2008

Mr. Antal Szijj
U.S. Army Corps of Engineers
Los Angeles District
Attn: Regulatory Division
P.O. Box 532711
Los Angeles, California 90053-2325

Subject: Draft Environmental Impact Statement (DEIS) for the Port of Long Beach Middle Harbor Redevelopment Project, Long Beach, CA (CEQ # 20080206)

Dear Mr. Szijj:

The U.S. Environmental Protection Agency (EPA) has reviewed the above project pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. These comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA) and EPA's ocean dumping regulations promulgated at 40 CFR 220-227 under the Marine Protection, Research and Sanctuaries Act (MPRSA). Our detailed comments are enclosed.

USEPA(B)-1

Thank you for the opportunity to meet with you and Port of Long Beach (Port) staff during our visit on July 15, 2008 to discuss the Middle Harbor Redevelopment Project (Project). We very much appreciate the opportunity to have met, and look forward to continued coordination as Port projects proceed. We also appreciate meeting with you on the phone on August 8, 2008 to discuss our preliminary comments. Based on our review of the DEIS, we have rated the document EC-2, Environmental Concerns -- Insufficient Information. While the document is well done, and mitigation efforts have been identified, we remain concerned with significant and unavoidable impacts to air quality, environmental justice communities, waters of the U.S., and biological resources.

USEPA (B)-2 EPA commends the Corps and Port for the implementation of a high quality Health Risk Assessment to identify cancer risk in the Port area as a result of the Project. We consider this an example analysis for other federal agencies to refer to, but recommend including analysis of additional alternatives. We remain concerned with the cumulative impacts to the already health burdened community and recommend the Port and Corps commit, in the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD), to implementing measures that will reduce cancer risks as described in the DEIS. It is unclear whether the DEIS also considered emissions resulting from the import of 6.73 million cubic yards of fill material, and we recommend this be described in the FEIS, consistent with our discussion on August 8, 2008. In general, we have continuing concerns with unmitigated impacts to air quality in the South Coast Air Basin from construction and operations. We recommend the Ports and Corps commit, in the FEIS and ROD, to implementing mitigation measures that go beyond the San Pedro Bay Ports Clean Air Action Plan (CAAP) by implementing the latest emission standards as soon as they are available and by implementing the best available emission control technologies. We also recommend general conformity with the 1997/1999 South Coast State Implementation Plan be clarified.

USEPA (B)-7 With regard to environmental justice (EJ), we recognize the efforts of the Port and Corps to assess and disclose impacts to the already disproportionately affected community adjacent to the Project; however, we remain concerned over the significant and unavoidable impacts to the community and the absence of measures to fully offset these impacts. We suggest the Corps and Ports develop a Health Impact Assessment to better identify these impacts and work with the community to identify appropriate offset measures. We have provided possible measures to offset impacts. We also recommend the Port develop a community mitigation fund, with input from neighboring EJ communities, to help offset cumulative impacts from Port projects.

USEPA (B)-9 The Proposed Project alternative would result in the net fill of approximately 55 acres of waters of the U.S. primarily to provide for construction of additional backlands and on-dock rail. We recognize the intent of the Port to increase throughput capacity and efficiency, and we support the expansion of on-dock rail as a means to reduce truck traffic and emissions, but remain concerned that the Project purpose and need could be sufficiently met without 55 acres of additional fill. EPA does not consider the preferred alternative to be the Least Environmentally Damaging Practicable Alternative (LEDPA), consistent with Clean Water Act Section 404 (b)(1) Guidelines. We recommend the FEIS further analyze and disclose the practicability of Alternatives 2 and 3, as well as the modified Alternative 3 discussed at our July 15, 2008 meeting at the Port. For Alternatives 1 and 2, an additional 10.7 acres of waters would be created as a result of excavating Slip 3, and a functional assessment is recommended to assure that the new waters will adequately replace the San Pedro Bay Inner Harbor functions lost due to fill. This should be described in the FEIS. We also recommend chemical characterization of excavated and import material that would be used as fill, as well as a discussion of methods to safely dispose of contaminated sediments from Slip 3 to partially fill Slip 1.

USEPA (B)-12 The Port and Corps have identified vessel strikes to whales and other marine mammals as a significant but unavoidable impact, and EPA remains concerned that additional mitigations beyond the CAAP Vessel Speed Reduction Program are not provided. We recommend the Port

work with the Port of Los Angeles to develop a port-wide vessel strike reduction program, similar to the one under development at Cape Cod Bay, to better identify whales through audible detection.

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We appreciate the opportunity to review this DEIS and look forward to continued coordination with the Corps and the Port. When the FEIS is published, please send a copy to the address above (Mail Code: CED-2). If you have any questions, please contact Paul Amato, the lead reviewer for this project, at (415) 972-3847 or amato.paul@epa.gov, or me at (415) 972-3521 .

USEPA
(B)-13

Sincerely,



Kathleen M. Goforth, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating System
EPA's Detailed Comments

cc:

Richard Cameron, Director of Environmental Planning, Port of Long Beach
Stacey Crouch, Senior Environmental Specialist, Port of Long Beach
Cindy Tuck, Assistant Undersecretary, California Environmental Protection Agency;
Cynthia Marvin, Assistant Division Chief for Planning and Technical Support, California Air Resources Board;
Susan Nakamura, South Coast Air Quality Management District;
Hassan Ikrhata, Executive Director, Southern California Association of Governments;
Paul Simon, Director, Division of Chronic Disease and Injury Prevention, Los Angeles County Department of Health

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

Air Comments

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Commit in the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) to fully implement mitigations that will reduce cancer risks. EPA commends the efforts of the Port of Long Beach (Port) and U.S. Army Corps of Engineers (Corps) to conduct a high quality health risk assessment (HRA) for toxic air contaminants (TACs) emitted from the 345-Acre Alternative, Proposed Project (Project). We consider this HRA to serve as an excellent example of the level of analysis that should be conducted for projects of this scale, and will encourage other federal agencies to refer to it in developing HRAs to assess health impacts and appropriate mitigations for their projects; however, we suggest the Port consider including all alternatives in future HRAs to allow for a more balanced review of health risks for decision makers.

While the cumulative impacts to air quality in the Port region should be considered significant, we recognize the mitigation efforts that have reduced additional Project-related cancer risks from 18 in a million to 5 in a million for residents, from 19 in a million to 11 in a million for occupational, and from 12 in a million to 5 in a million for sensitive receptors.

EPA continues to have concerns with any increases in cancer risks that may result from Project emissions, while acknowledging the level of effort of the Port and Corps to assess these risks and mitigate them through the San Pedro Bay Ports Clean Air Action Plan (CAAP). For questions regarding air quality issues, please contact Francisco Donez, EPA Air Division, in our Los Angeles Office at (213) 244-1834, or by email at donez.francisco@epa.gov.

Recommendations:

The Port and Corps should commit, in the FEIS and the ROD, that CAAP mitigation measures necessary to reduce cancer risk will be fully implemented, as described in the HRA. This should include a commitment to implement additional mitigations if CAAP implementation measures are delayed or insufficient to meet cancer risk reduction targets.

The Port and Corps should include all project alternatives in future HRAs to allow for a more balanced review.

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Commit, in the FEIS and ROD, to implement, in a timely manner, mitigation measures that exceed CAAP emission reductions. EPA is concerned about the significant and unavoidable direct and cumulative impacts of construction and operational air emissions associated with the Project, even after mitigation measures have been taken into account. The DEIS includes a thorough air quality analysis and description of the mitigation measures that will be implemented to reduce the significant adverse air impacts identified in the DEIS; however, even with implementation of these aggressive mitigation measures, the DEIS describes significant impacts to air quality. According to the analysis, peak daily emissions from construction would exceed South Coast Air Quality Management District (SCAQMD) emissions significance levels for volatile organic compounds (VOC), carbon monoxide (CO), nitrogen oxides (NOx) and particulate matter smaller than 10 and 2.5 microns (PM₁₀, and PM_{2.5}), as well as exceed SCAQMD offsite ambient air pollutant concentrations for one-hour nitrogen dioxide (NO₂) and

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USEPA (B)-16 24-hour PM₁₀ thresholds. Project operations emissions would exceed SCAQMD thresholds for annual average daily emissions of VOCs and NO_x and peak daily emissions of VOCs, CO, NO_x, sulfur dioxide (SO₂), and PM_{2.5}. Operations would also exceed SCAQMD one-hour and annual NO₂ thresholds.

Given the severe air quality problems within the project area, all feasible measures should be implemented to reduce and mitigate air quality impacts to the greatest extent possible. This is especially important for the South Coast Air Basin (SCAB) nonattainment criteria pollutants SO_x, NO_x, PM₁₀ and PM_{2.5}. The DEIS states that Project-specific mitigations are largely consistent with the CAAP and, in some cases, exceed CAAP emission reduction strategies (p. 3.2-20). However, the CAAP includes a number of port-wide requirements and is still in the implementation phase. Changes to the CAAP measures may occur, such as specific implementation dates, compliance rates, and other requirements. The Port and Corps should ensure that CAAP measures and additional mitigation measures that go beyond the CAAP are implemented on a schedule that will reduce construction and operational emissions to the maximum extent feasible.

Recommendations:

All proposed mitigation measures in the DEIS should be included in the FEIS and the ROD. The FEIS should describe how these mitigation measures will be made an enforceable part of the project's implementation schedule. We recommend implementation of applicable mitigation measures prior to or, at a minimum, concurrent with the construction of Phase 1, Stage 1 of the Project.

The ROD should demonstrate how measures beyond the CAAP meet or exceed current CAAP emissions requirements. EPA recommends that the ROD ensure that mitigation measures that exceed the CAAP emissions reductions continue to do so despite potential future changes to the CAAP measures.

USEPA (B)-17 ***The FEIS should assess additional air quality impacts that would result from imported fill.*** The DEIS states that an additional 6.73 million cubic yards of fill material would be imported from within and outside the Harbor District, but it is not clear how this material would be imported and whether emissions from this activity have been accounted for in the DEIS. The Ground Transportation section of the DEIS does state that the Project is not expected to have recurrent heavy trucks delivering materials to the site (p. 3.5-8). EPA supports the Port's minimization of truck traffic.

Recommendation:

Consistent with our conversation between the Port, Corps, and EPA, on August 8, 2008, the FEIS will describe emissions from importing fill material and include them as part of the air quality impacts analysis. Impacts to other resources, resulting from importing fill, should also be included.

USEPA (B)-18 ***Commit to Tier 4 standards for non-road construction equipment.*** The DEIS states that Tier 4 non-road engine standards will be used for construction were feasible and that standards will be available in 2012 (p. 3.2-27). Because of Project impacts to currently impaired air quality in the Project area and South Coast Air Basin (SCAB), the Corps and Port should commit to using Tier

4 standards when they become available, and ensuring the use of best available emission control technology for construction equipment that is used prior to Tier 4 standard availability.

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Recommendation:

The FEIS and ROD should commit to using non-road construction equipment that meets Tier 4 emission standards, when available, and best available emission control technology, for construction that occurs prior to Tier 4 standards availability.

Update tugboat emission assumptions and commit to using Tier 2 and Tier 3 standards. It is unclear why the tugboat emissions were calculated "conservatively" in Section 3.2-27, assuming partial implementation of Tier 2 engine standards, when the DEIS commits to using only construction tugs that meet Tier 2 marine engine standards. Similar to our previous comment on non-road construction equipment, the Port and Corps should commit to using tugs that meet Tier 3 standards, or best availability emission control standards, for construction prior to Tier 4 availability. This is especially important in light of the statement that construction tugs are the main source of construction emissions (p. 3.2-28).

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Recommendation:

The FEIS should clarify the emissions assumptions used in calculating the tugboat emissions and include the commitment to use, at a minimum, construction tugs with Tier 2, and where feasible, Tier 3 marine engine standards. Because Tier 3 standards become available in 2009, their use should be feasible.

Commit to supporting and using best available emission control technology for construction equipment. The DEIS states that there are few feasible mitigation measures available to further reduce combusive emissions from construction sources. EPA appreciates the efforts of the Port, through implementation of the CAAP and other measures, to reduce emissions from Project construction. However, the Project construction timeframe is ten years (2009-2019) and air quality in and around the Port and SCAB is already heavily impacted. The Port and Corps should commit to supporting development of, and implementing, best available emission control technologies for construction.

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Recommendation:

The FEIS and ROD should include a commitment that the Port and Corps will support development of, and implement best available technologies for reducing construction emissions.

General Conformity

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Demonstrate general conformity with the South Coast State Implementation Plan (SIP). A complete analysis is required to determine if the emissions associated with the Federal action (both construction and operational emissions) are subject to the requirements of a formal conformity determination under the General Conformity rule codified at 40 CFR 93, subpart B. The "applicability" analysis involves quantification of emissions caused by a Federal action that are generated within nonattainment or maintenance areas, that are reasonably foreseeable, and that the Federal agency can practicably control and will maintain control over, due to a

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continuing program responsibility. A formal conformity determination is required for all such emissions that exceed de minimis thresholds set forth in the rule.

The discussion in the DEIS regarding whether the Project meets the applicable general conformity requirements does not demonstrate that the emissions associated with the Federal Action are explicitly accounted for in the 1997/1999 SIP. For questions regarding general conformity, please contact Rebecca Rosen, EPA Air Division, at (415) 947-4152, or by email at rosen.rebecca@epa.gov.

Recommendation:

EPA recommends that the FEIS clarify consistency with the 1997/1999 South Coast SIP. The FEIS should demonstrate whether the emissions associated with the Federal Action are specifically accounted for in the 1997/1999 South Coast SIP.

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Environmental Justice

While we recognize the level of effort that has gone into the DEIS Environmental Justice (EJ) analysis, the EJ section lacks appropriate mitigations to fully offset the adverse Project-related impacts to the local community. The EJ section concludes that there will be disproportionately high and adverse effects on minority and low-income populations due to air quality and noise impacts. The local community is already heavily impacted, a condition which could be exacerbated by the many projects currently planned at and around the Port. In addition, we note that Long Beach is designated as a Medically Underserved Area.¹ Therefore, all impacts, even seemingly small ones, are important to consider and mitigate in order to fully offset the adverse Project-related impacts to the local community.

As stated by the Council on Environmental Quality, the identification of disproportionately high and adverse human health or environmental effects on a low-income or minority population does not preclude a proposed agency action from going forward nor compel a finding that a proposed project is environmentally unacceptable. Instead, the identification of such effects is expected to encourage agency consideration of alternatives, mitigation measures, and preferences expressed by the affected community or population.

The DEIS does not propose any measures to mitigate significant and unavoidable impacts identified in Section 3.15. Considering the magnitude of potential cumulative health impacts related to the Project and the CEQ guidance to encourage agency consideration of mitigation measures and preference of the local community, EPA has developed, and suggested below, potential measures for mitigating the impacts to the local community. For further coordination on EJ issues, please contact Steven John, Director of the Los Angeles Office at (213) 244-1804, or by email at john.steven@epa.gov.

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Include additional environmental justice (EJ) information in the FEIS. Section 3.15.3 of the DEIS discusses public outreach efforts for the project. In addition, The Port's website for the

¹ <http://muafind.hrsa.gov/>

Project provides *The White Paper on Environmental Justice: Opportunities in Port of Long Beach Projects*, which makes numerous recommendations on public outreach opportunities in the Sections titled *Public Participation Principles, Reaching Out to Communities, Strengthening Ties to Communities, and Specific Tactics to Consider*. Section 3.15.3 should summarize which public outreach opportunities from the White Paper were used for the Project.

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We have identified additional information that was included in the Port of LA China Shipping DEIS EJ Chapter that should be included in the FEIS to strengthen the analysis:

- On page 5-1, the China Shipping DEIS includes consideration of the high cost of living in Southern California, and factors that into the low income calculations. Please include this consideration in the FEIS.
- In the China Shipping DEIS, Section 5.3 on Applicable Regulations contains a more thorough and detailed discussion of applicable regulations than is found in the Project DEIS. Please include this information in the FEIS.
- In the China Shipping DEIS, Section 5.4.2 summarizes the public comments that have been received. Please include this type of information in the FEIS or include a reference to another section of the DEIS where this information can be found.
- In the China Shipping DEIS, Table 5-3 presents a clear, relatively easy to understand summary of the environmental justice impacts. Please provide a similar table in the FEIS.

Recommendation:

We recommend the FEIS include the additional information described above in order to strengthen the analysis and clarify which public outreach opportunities were used.

The Port and Corps should conduct a port-wide health impact assessment (HIA). There is a growing body of evidence that environmental justice communities are more vulnerable to pollution impacts than other communities.² As discussed in EPA's *Framework for Cumulative Risk*³ and the *National Environmental Justice Advisory Council's Ensuring Risk Reduction in Communities with Multiple Stressors: Environmental Justice and Cumulative Risks/Impacts*⁴, disadvantaged, underserved, and overburdened communities are likely to come to the table with pre-existing deficits of both a physical and social nature that make the effects of environmental pollution more, and in some cases, unacceptably, burdensome. Thus, certain subpopulations may be more likely to be adversely affected by a given stressor than is the general population.

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² O'Neill M, Jerrett M, Kawachi I, Levy J, Cohen AJ, Gouveia N, Wilkinson P, Fletcher T, Cifuentes L, Schwartz J. Health, Wealth, and Air Pollution: Advancing Theory and Methods. *Environmental Health Perspectives*. Vol 111, No 16, December 2003. This article evaluated 15 different studies of particulate air pollution and socioeconomic conditions and found the majority of the studies evaluating individual-level characteristics did show effect modification with higher health impacts (such as mortality or asthma hospitalizations) among those with lower socioeconomic position. Low educational attainment seemed to be a particularly consistent indicator of vulnerability in these studies.

³ Available at: <http://cfpub.epa.gov/ncea/raf/recordisplay.cfm?deid=54944>

⁴ Available at: <http://www.epa.gov/environmentaljustice/nejac/past-nejac-meet.html>

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Low-income and minority communities are potentially experiencing more health impacts than would be predicted using traditional risk assessments. An HIA is a potential tool for examining this complex issue. HIAs look at health holistically, considering not only bio-physical health effects, but also broader social, economic, and environmental influences. HIAs also explicitly focus on health benefits and the distribution of health impacts within a population. HIAs strive to anticipate potential impacts for decision-makers and to deliver a set of concrete recommendations targeted at minimizing health risks and maximizing benefits.⁵

A helpful resource for examples of HIAs is the Dannenberg et al (2008)⁶ study that examined 27 case studies of Health Impact Assessment in the US, with six HIAs in California and Alaska conducted in conjunction with environmental impacts assessment processes. The study includes eleven HIA analyses in California. Most of the HIAs evaluated included recommendations to mitigate predicted adverse health impacts of the proposed policy or project and/or to increase predicted health-promoting components of the proposal.

Recommendation:

We recommend the Ports and Corps consider development of a port-wide HIA. Given the magnitude and complexity of potential health impacts related to Port projects, EPA recommends the Corps and Port partner with the local health department and the local community to conduct an HIA which encompasses this project and all upcoming Corps/Port projects. An additional resource that provides information about HIAs is the following Center for Disease Control and Prevention (CDC) website:
<http://www.cdc.gov/healthyplaces/hia.htm>.

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Provide additional mitigations to fully offset impacts to the environmental justice community.

The Port should use both information from an HIA and continued input from the local community to identify mitigation measures that would help fully offset port-related health impacts. The Los Angeles Environmental Justice (LAEJ) Network is an example of a forum that the Port could engage to solicit input on priority mitigation measures. In addition, many groups impacted by ports and goods movement came together in late 2007 at Moving Forward, the first North American community-oriented gathering on this topic, which was organized by The Impact Project and cosponsored by private groups, along with National Institute of Environmental Health Scientists and the EPA-funded Children's Environmental Health Sciences Center. The Corps and Port should contact the conference organizers to see if potential mitigation measures were discussed at this conference and whether they would be appropriate for this project.

Furthermore, the Corps and Port should contact those involved with the mitigation trust fund associated with the expansion of the TraPac Terminal Expansion Project to get their input on appropriate mitigation measures.

⁵ Bhatia, Rajiv and Wernham, Aaron. Integrating Human Health into Environmental Impact Assessment: An Unrealized Opportunity for Environmental Health and Justice. Environmental Health Perspectives. Available online April 16, 2008.

⁶ Dannenberg, A, Bhatia R, Cole B, Heaton S, Feldman J, Rutt, C. Use of Health Impact Assessment in the US. 27 Case Studies, 1999-2007. American Journal of Preventive Medicine. 2008; 34(3).

EPA is available to participate as a partner with the community, the Port, and the Corps to assist in the identification of mitigation measures to reduce the impacts on the affected communities for this and future projects. For further coordination on EPA involvement with the EJ community, please contact Steven John, Director of the Los Angeles Office at (213) 244-1804, or by email at john.steven@epa.gov.

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Recommendation:

The Port and Corps should consider and work with communities to further develop the following mitigation measures to more fully offset health impacts of the Project to the already burdened community in the Project area:

- Proactive efforts to hire local residents and train them to do work associated with the construction and long term operations at the facility in order to improve economic status and access to healthcare;
- Provide public education programs about environmental health impacts and land use planning issues associated with the Port to better enable local residents to make informed decisions about their health and community;
- Ensure enforcement of anti-idling requirements;
- Establish Environmental Management Systems at the Port to improve efficiency and reduce environmental impacts from operations;
- Improve access to healthy food through establishment of farmer's markets or retail outlets on Port lands;
- Continue expansion of, and improvements to, the local community's parks and recreation system in order to provide increased access to open space and exercise opportunities. EPA supports increased parks and open space, but strongly encourages the Port to implement emission reduction measures as soon as possible to prevent increased health risk from greater exposure opportunities.

Develop a mitigation fund for priority mitigation measures for air quality impacts to the community. EPA acknowledges the current efforts on behalf of the Ports to reduce pollutant levels and cancer risks. However, based on the substantial list of proposed and approved projects, EPA anticipates cumulative air quality impacts to the LA and Long Beach communities will continue to be a significant health issue. To help address immediate impacts of the proposed Project and impacts of future projects, EPA recommends the development of a mitigation fund, similar to what was created for the TraPac project in the Port of Los Angeles, to mitigate cumulative community impacts caused by Port operations. The fund should be financially supported by the Port and other project proponents in the area and include appropriate involvement of members from the impacted communities. Mitigation measures such as health clinics and air filtration systems, or other measures identified by the community, could be developed and funded through this mitigation fund to help address immediate needs of the communities.

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Recommendation:

EPA recommends the Corps and Port work with the local communities to develop a mitigation fund that directly addresses health related air quality impacts of the proposed

Fill of Water of the U.S.

The FEIS should describe compliance with Clean Water Act Section 404(b)(1) Guidelines.

Clean Water Act Section 404(b)(1) Guidelines (Guidelines) require applicants to clearly demonstrate that the Proposed Project represents the least environmentally damaging practicable alternative (LEDPA) that achieves the basic project purpose, taking into account the costs, technical, and logistical feasibility factors associated with that basic purpose. To make such a demonstration, a project proposal must comply with all restrictions on discharges outlined in the Guidelines [40 CFR 230.10(a)-(d)].

The Guidelines state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem. The DEIS reviewed four alternatives:

- Alternative 1 – 345 Acre Alternative (The proposed Project, 55 net acres of fill)
- Alternative 2 – 315 Acre Alternative (24.7 acres of fill)
- Alternative 3 – Landside Improvements Alternative (no fill)
- Alternative 4 – No Project

Based on information provided in the DEIS, Alternatives 2 and, potentially, 3 appear to be practicable under the Guidelines. The first of these, Alternative 2, proposes to fill less than half as many acres (24.7 acres as opposed to 55 acres), would provide the same on-dock rail facilities, and according to the DEIS, “would meet part of the project purpose and need and improve cargo handling efficiency necessary to accommodate project growth in containerized cargo” (p. 1-42). This statement supports the practicability of this alternative. We also note that the DEIS identifies Alternative 2 as the environmentally preferred alternative as it would reduce impacts to several resources, including hydrology and water quality, and biota in the harbor. Even though Alternative 3’s annual twenty-foot equivalent unit (TEU) container capacity would be closer to Alternative 1 than Alternative 2, it is unclear whether it is practicable, as discussion of such is missing from the DEIS.

During discussions between the Port, Corps, and EPA during the DEIS review period, a fifth alternative was proposed. This alternative would be a variant of Alternative 3, which would include no fill, but would add on the channel deepening and widening components of Alternatives 1 and 2, so that large containerhips could enter the terminal. As described by the Port at our July 15, 2008 meeting, this modified alternative would not provide sufficient backlands and on-dock rail to meet the project purpose, and dredged sediment identified as fill for Alternatives 1 and 2 would need a new disposal location(s) and additional sediment characterization. EPA requests that this alternative’s practicability be described in the FEIS. For questions regarding CWA compliance and other issues related to fill and dredging, please contact Jorine Campopiano, EPA Water Division, in our Los Angeles Office at (213) 244-1808, or by email at campopiano.jorine@epa.gov.

Recommendation:

The FEIS should include a detailed discussion of the practicability of Alternatives 2 and 3. Additionally, the Alternative discussed by EPA which involves minimal to no fill and channel deepening and widening should be explored.

USEPA
(B)-27

Describe the Bolsa Chica mitigation agreement in light of the new Compensatory Wetlands Mitigation Rule and clarify available mitigation credits. The applicant has proposed to mitigate for unavoidable impacts at Bolsa Chica, a quasi-mitigation bank, governed by an interagency memorandum of agreement (MOA). Under the new Corps and EPA approved *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* (Mitigation Rule) 33 CFR Parts 325 and 332, and 40 CFR Part 230, EPA views the Bolsa Chica mitigation agreement as a grandfathered bank, with the MOA acting as a quasi-banking instrument. The Mitigation Rule states that mitigation banks approved prior to July 9, 2008 may continue to operate under the terms of their existing instruments (40 CFR 230.98(v)(1)). However, any future modifications to the MOA, will subject the Bolsa Chica MOA to comply with the new mitigation rule.

USEPA
(B)-28

Table 3.4-4 in the DEIS provides a summary of mitigation credits at the Bolsa Chica mitigation site. According to the table, as of January 2006, the Port had 270.7 credits available for use. However, according to the Section 15 of the 1996 MOA, the POLB received only 227 credits (454 credits total to be divided equally between POLA and POLB). It is unclear why this discrepancy exists.

Recommendation:

The FEIS should disclose the acceptability of the Bolsa Chica mitigation agreement in the context of the new Mitigation Rule. Additionally, the FEIS should clarify the above noted discrepancy in the Bolsa Chica "credit ledger".

Provide a functional assessment of created waters. The POLB has proposed to mitigate at Bolsa Chica for the "net loss" of waters, after considering the creation of 10.7 acres on-site to offset loss of aquatic functions. The DEIS states that 6.3 acres of marine habitat would be created through the widening of Slip 3, and 4.4 acres of marine habitat would be created by the excavation at Berth F201. As the newly created waters will be used to offset the lost aquatic function of 10.7 acres of fill, a functional assessment of the newly created areas should be completed to ensure that there is no net loss of aquatic function. Since this project has a 10-year timeframe, an assessment of temporal impacts should also be included. For instance, Table 3.4-3 states that the 4.4 acres of created waters from the excavation of Berth F201 will not be created until construction Phase 2. This will result in a significant temporal loss.

USEPA
(B)-29

Recommendation:

The FEIS should clearly demonstrate that the created waters adequately replace lost aquatic functions from 10.7 acres of fill in both inner and outer harbor. This information should be based on a functional assessment, using methodologies approved by the Corps and EPA. This assessment should also account for temporal losses. If temporal losses are significant, additional mitigation for temporal losses should be proposed.

Describe consistency with goals of the Los Angeles Contaminated Sediment Task Force: EPA acknowledges and appreciates the Port's willingness to accept contaminated sediments from

USEPA
(B)-30

USEPA
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throughout the Los Angeles Region, and the DEIS statements about the potential to use contaminated "borrow material". The incorporation of contaminated sediment into projects is critical to effectively manage contaminated sediment in the Los Angeles Region and is in line with the Los Angeles Contaminated Sediment Task Force (CSTF) goals.

Recommendation

While the DEIS does acknowledge that contaminated sediments could be used, the text should be expanded in the FEIS to specifically discuss this project's consistency with CSTF goals.

USEPA
(B)-31

Provide additional information describing imported fill. The DEIS documents that 6.7 million cubic yards of import material are needed to complete the fill. However, the DEIS is unable to fully delineate the origination sources of the material, and the anticipated environmental effects to import such material (truck traffic, air quality, etc.). The DEIS does identify a volume of approximately 4.4 million cubic yards from within the Harbor District, but that leaves a 2.3 million cubic yard shortfall of unidentified material.

Recommendation:

To the extent possible, source sites for the entire anticipated fill should be identified in the FEIS. If this is not practicable, the Port should, at minimum, determine whether other local projects would make up for the shortfall, or if material would need to be brought in from an off-site location. Environmental effects of bringing in a large amount of a material from off-site should also be examined in the FEIS.

USEPA
(B)-32

Discuss management of contaminated materials in Slip 3. Table 3.3-4 (p. 3.3-6) summarizes pollutant levels in the sediments of Slip 3, which are proposed to be dredged and placed into the adjacent fill site of Slip 1 and East Basin. The top layer of material exceeded the Effects Range Low (ER-L) for fourteen of eighteen contaminants including PAHs, PCBs, DDT and several others. Without acute toxicity tests demonstrating otherwise, this material should be treated as contaminated material and managed separately than the bottom cleaner sediments.

Recommendation:

The FEIS should discuss special management of the Slip 3 material (top). To avoid potential harm to marine resources, this material should be capped and isolated by the placement of uncontaminated materials on top and the sides. If special management is not proposed, additional tests will be necessary to demonstrate its suitability for unconfined disposal into marine waters.

USEPA
(B)-33

Discuss sediment chemistry of excavated and imported materials. The DEIS does not discuss any chemical characterization of the proposed material to be excavated for the widening of Slip 3 nor of import fill material. This material and any other material coming from upland sites should be adequately characterized.

Recommendation:

At the minimum, chemical characterization of sediment for both excavated and imported fill material should be described in the FEIS.

Biological Resources

USEPA
(B)-34

A port-wide marine mammal vessel strike reduction program should be developed. The DEIS describes impacts to marine mammals, including gray and blue whales, to be less than significant. According to the document, few vessel strikes to whales are known to occur in the area. Based on the Port of LA China Shipping Recirculated DEIS, over the past twenty-five years, reported whale strikes along the California coast have averaged less than three per year. Low frequency of recorded vessel strikes is misleading in that it is limited to strikes that were both known and reported. Based on the likelihood that not all whale strikes are known and reported, it can be assumed that the actual number is higher.

NOAA Fisheries has identified vessel strikes as a major, if not the single most significant, human-caused direct impact to whales. EPA recognizes the benefits of the Port's Vessel Speed Reduction Program with regard to potentially reduced vessel strikes, as well as air quality; however, we do not necessarily agree impacts would be less than significant.

Recent research at Cornell University has found that listening for whales using underwater microphones has improved the ability to locate whales near shipping lanes, when compared to visual observation⁷. This research in Cape Cod Bay has led to a warning system for vessels to reduce their speed to 10 knots when whales are observed in the area. With the cumulative increase of projected ship traffic, the Port should consider improving methods to identify whales in and near shipping lanes serving the San Pedro Bay Ports.

Recommendation:

Consistent with EPA's comment in our July 21, 2008 letter regarding the China Shipping DEIS, the Port should work with the Port of LA to institute improved methods for identifying whales that are potentially in harm's way from vessels using the San Pedro Port. A sound-based system similar to that used in Cape Cod should be considered as a way to inform ships of whales detected in the area and as a trigger to reduce their speeds. This is particularly important given the increasing vessel calls to the ports that are likely to result from increased throughput.

⁷ Lindsay, Jay. The Associated Press, *Eavesdropping on Whales to Avoid Ship Strikes* describes, May 7, 2007. Available on line at: <http://www.msnbc.msn.com/id/24501872/>

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U.S. Environmental Protection Agency, August 8, 2008

- USEPA(B)-1.** Thank you for participating in the Draft EIS/EIR public review process. We appreciate your time and effort.
- USEPA(B)-2.** Thank you for participating in the Draft EIS/EIR public review process. We appreciate your time and effort. The Port and USACE concur that the HRA is high quality, and we note and agree with the commenter's conclusion that it may be used as an "example analysis" for other agencies. With regard to the comment about including additional alternative analysis, ten alternatives were considered for analysis in the Draft EIS/EIR. Of those, the four alternatives determined to best meet the Project objectives were carried forward for detailed analysis, and were included in the Project HRA. The Project alternatives studied in the Draft EIS/EIR represent a reasonable range of alternatives that are sufficient to permit informed decision making and public participation. The Draft and Final EIS/EIRs provide estimates of health impacts from each of these Project alternatives.
- USEPA(B)-3.** USACE and the Port share the concerns expressed regarding adverse cumulative health effects in the area. It is the Port's/USACE's goal to apply mitigation to the source of emissions in order to reduce health effects from the Project and Port development. The Final EIS/EIR incorporates all feasible mitigation measures (i.e., **Mitigation Measures AQ-1 through AQ-29**) for reducing toxic air pollution impacts from proposed construction and operational emission sources that could be accomplished in a successful manner within a reasonable period of time, taking into consideration economic, environmental, legal, social, and technological factors (CEQA Guidelines Section 15364). In the Project ROD, the USACE would commit to full implementation of all mitigation measures identified in the Final EIS/EIR. In its Mitigation Monitoring and Reporting Program (MMRP), the Port would also commit to the full implementation of all mitigation measures identified in the Final EIS/EIR.
- USEPA(B)-4.** The comment questions whether emissions associated with transporting imported fill was included in the Draft EIS/EIR analysis. As stated in the referenced August 8, 2008 meeting, the Draft EIS/EIR estimated emissions from the excavation, dredging, transport, and placement of all fill material needed to complete construction of the proposed landfill areas (i.e., 6,730,000 cy). These volumes are presented in Draft EIS/EIR Section 1.6.3.1 and summarized in Table 1.6-3. Draft EIS/EIR Appendix A-1, Tables A.1.1-Alt 1-128, A.1.1-Alt 1-135, A.1.1-Alt 1-142, and A.1.1-Alt 1-148 present the equipment usages and resulting emission estimations for these construction activities, such as hydraulic dredging and placement of approximately 4,900,000 cy of material from the Outer Harbor area during Phase 2, Stages 1 and 2 for Alternative 1, as well as accounting for the entire imported fill amount of 6,730,000 cy, which was also assumed to be taken from the Outer Harbor over the course of the Project. However, there are several other potential sources of fill material available to the Project. While the Outer Harbor is the most readily available source of fill material, the Port would consider other sources of dredge material (e.g., Ballona Creek, Los Angeles River mouth) at the request of regulatory agencies and/or third parties. Accordingly, the Draft EIS/EIR assumed all material was sourced within Harbor District since the Port currently does not know what third parties may request to dispose of their dredge material within the Middle Harbor fill. Through the dredge and fill permit process, the Port would include an opportunity for third parties to provide disposal opportunities for completion of the proposed landfills.
- USEPA(B)-5.** The Final EIS/EIR incorporates all feasible mitigation measures that would reduce air emissions from proposed construction and operational sources. These measures are consistent with or go beyond the applicable CAAP requirements, as stated in response to comment USEPA(B)-16. Regarding the proposed schedule for implementation of the latest emission standards, please see responses to comments USEPA(B)-18 through USEPA(B)-20. Regarding implementation of best available emission control technologies (BAECT), please see response to comment USEPA(B)-20.

USEPA(B)-6. Please see response to comment USEPA(B)-21. The Final EIS/EIR Appendix A-4 includes a conformity analysis which clarifies that the proposed action would conform with the applicable SIP.

USEPA(B)-7. The comment requests that the Port develop a Health Impact Assessment (HIA) to assess impacts on the surrounding community. Although different definitions of HIAs are available, they share the concept that an HIA is a multidisciplinary process that addresses potential health effects of a policy, program, project or other proposal by considering economic, political, social, psychological, and environmental factors.¹ An HIA considers cumulative health effects of multiple stressors to communities, and typically identifies community-based solutions. It is similar to initiatives underway at OEHHA and SCAQMD (e.g., the SCAQMD's Clean Communities Plan). As part of development of the Clean Communities Plan, SCAQMD is working with stakeholders to develop approaches to evaluating and mitigating cumulative health impacts on communities, including communities surrounding the Port.

The Port also notes that the area in and around the SPBP is one of the most intensively-studied areas in the state.² In part because of those studies (many of which the Port actively reviewed and provided comments), the SPBP have been proactive in developing strategies to better understand the impacts of the SPBP on local and regional air quality, and to develop and implement strategies that reduce health risks in the surrounding communities. The SPBP have been actively responding to concerns of local communities, community groups, environmental groups, as well as those expressed by federal, state, and local agencies. They have worked to implement multiple initiatives and programs that focus on decreasing pollution, improving air quality, and improving public health. The CAAP, originally adopted in 2006, is an important example of such an initiative. In addition to source-specific standards (such as cleaner Port trucks), a key component of the 2006 CAAP was a commitment to establish a series of Bay-wide Standards that would (1) reduce health risk from Ports-related emissions; (2) achieve 'fair share' mass emission reductions of criteria pollutants; and (3) to comply with ambient air standards at the Ports' air monitoring stations. The EPA, ARB, and SCAQMD have participated in the development of these standards for the upcoming revision to the CAAP. As part of this effort, the SPBP developed a Bay-wide HRA tool that is being used to develop a more comprehensive understanding of (1) the relationship between port sources and health risk impacts; and (2) the effect of regulatory and CAAP control strategies to reduce Port-related DPM emissions on related risks in nearby communities.

Members of the local community have been actively participating in the implementation of the CAAP, have a central role in the development of the SCAQMD's Clean Communities Plan, have been actively involved in the NEPA/CEQA public process for this Project, and have the opportunity through other community outreach programs to express their concerns about environmental management at the Port.

The Port notes that NEPA and CEQA evaluations are intended to address the impacts of specific projects and not overall Port operations. These evaluations address the project specific environmental health impacts in the adjacent communities. The NEPA and CEQA processes provide another mechanism by which local communities are actively involved in the evaluation of community health impacts and associated mitigation measures. Because the Draft EIS/EIR discloses the environmental impacts, including health risk impacts, of the proposed Project, and because an HIA evaluates many factors beyond those applicable to a specific project there is no requirement to additionally conduct and include a separate HIA.

1 Northern and York Public health Observatory, 2001 as cited in UCLA School of Public Health, <http://www.ph.ucla.edu/hs/health-impact/whatishia.htm>. See also World Health Organization, <http://www.who.int/hia/en/>

2 Examples of such studies and plans include, but are not limited to, the 2004 ARB Children's Health Study -- Epidemiologic Investigation to Identify Effects of Ambient Air Pollutants in southern California ; the 2005 SCAQMD MATES II and 2008 MATES III ; the 2006 ARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach, the 2006 ARB Proposed Emission Reduction Plan for Ports and Goods Movement in California, and the SCAQMD 2007 AQMP for the South Coast Air Basin.

Moreover, EPA did not request that an HIA be completed in for this project in its comment letter (dated February 27, 2006) submitted on the NOP during the public scoping process.

The HRA included in the Draft EIS/EIR provides adequate descriptions of public health impacts for NEPA/CEQA purposes. The Port's primary means of mitigating air quality and health impacts is through reducing the source of emissions causing the impact. Twenty-nine mitigation measures proposed to reduce air quality and health impacts are included in Section 3.2. For example, with regard to Impact AQ-6, exposure of sensitive receptors to TACS, which is identified as a disproportionate, cumulative air quality impact in the environmental justice analysis, **Mitigation Measures AQ-4 through AQ-11** are already identified in Section 3.2. For a detailed listing of mitigation measures, please see Table ES.8-1, which is summarized as follows: **Mitigation Measure AQ-4:** Expanded VSRP; **Mitigation Measure AQ-5:** Shore-to-ship Power ("Cold Ironing"); **Mitigation Measure AQ-6:** Low-sulfur Fuels in OGV; **Mitigation Measure AQ-7:** Container Handling Equipment; **Mitigation Measure 7a:** Replacement of diesel-powered RTGs with electric-powered RMGs; **Mitigation Measure AQ-8:** Heavy Duty Trucks; **Mitigation Measure AQ-9:** Clean Railyard Standards; **Mitigation Measure AQ-10:** Truck Idling Reduction Measures; and **Mitigation Measure AQ-11:** Slide Valves on OGV Main Engines. In addition, please see response to comment USEPA(B)-8 for a description of two programs the Port has implemented recently to reduce potential cumulative impacts of its projects.

- USEPA(B)-8.** The comment requests that the Port establish a community mitigation fund to offset cumulative impacts from Port projects. To help address the cumulative impacts of the Middle Harbor Redevelopment Project, the Port would require this Project to fund the Schools and Related Sites Grant Program. This money would be used for mitigation projects and prevention programs for people sensitive to air pollutants, as well as certain noise mitigation projects. Projects/programs would be submitted to the Board of Harbor Commissioners by applicants for review and approval. The Grant Guidelines, adopted on March 23, 2009, establish: (1) the eligibility criteria for applicants and projects/programs; (2) the ranking criteria for proposed projects/programs if proposal requests exceed available funding; and (3) review and approval procedures. Funding established by the approval of the Middle Harbor Redevelopment Project would enable the expeditious implementation of many cumulative impact mitigation projects and health-related prevention programs in the areas most directly affected by Port area sources. These measures are designed to supplement source-reduction measures in the near term when cumulative impacts are predicted to be highest.

Implementation of Final EIS/EIR **Mitigation Measure AQ-29** (Cumulative Air Quality Impact Reduction Program) would ensure the proposed Project's participation in the Port-wide programs. Please see response to comment USEPA(14) for additional details regarding the Project's participation in the Port-wide programs. Additional information on these Port-wide programs is available at the Port's website: www.polb.com.

- USEPA(B)-9.** Please see response to comment USEPA(A)-3. A CWA Section 404(b)(1) alternatives analysis, which considers the four alternatives analyzed in the Draft EIS/EIR, as well as what the comment describes as the "Modified Alternative 3," has been prepared for the Project and clearly identifies the least environmentally damaging practicable alternative (LEDPA). (Final EIS/EIR Appendix E).

- USEPA(B)-10.** Please see response to comments USEPA(A)-4 and USEPA(B)-29. Because excavation would occur immediately prior to placement of fill material, no temporal loss of water surface or water column habitat would occur for any of the excavated areas. The functional assessment recommended in this comment is not required because these assessments are used for wetlands and headwaters streams, neither of which exist or would be created at the Project site.

- USEPA(B)-11.** Please see response to comment USEPA(B)-33. All material to be used as fill would be tested in conformance with EPA and USACE protocols. Any contaminated material would be

removed separately and placed within a CDF within the fill or not used for fill. Sediment testing of contaminants in the upper layer of Slip 3 sediments found no contaminant concentrations in the elutriate to be above the daily maximum limiting concentration or water quality objectives for the protection of marine life.

USEPA(B)-12. Please see response to comment USEPA(B)-34. Because whale strikes by Project-related vessels could occur a considerable distance from the harbor, a warning system in nearshore waters would not prevent those strikes. Furthermore, the vessel traffic lanes along the coast are used by vessels that are not travelling to or from the harbor, and the ports have no authority to request those vessels to slow down when whales are present. Based on the reference cited in the comment, the warning system technology is still in the preliminary design stages. Because the location and species of whales (and their behaviors) are different, testing in the vicinity of the Long Beach – Los Angeles Harbor would need to be conducted to determine if this technology would be feasible and effective before it could be installed. Based on currently available information, this technology is not feasible for this Project at this time.

USEPA(B)-13. Thank you for your comment. A copy of the Final EIS/EIR will be submitted to EPA.

USEPA(B)-14. Final EIS/EIR **Mitigation Measures AQ-1 through AQ-29** represent all feasible means to reduce air emissions and resulting cancer risks from proposed construction and operational emission sources and they include all applicable CAAP requirements. The comment suggests that there may be other available mitigation measures, but does not identify any such measures or provide information as to the feasibility thereof. Implementation of the proposed measures would result in lower Project-related cancer risks in the region as compared to existing Project 2005 emissions. In the Project ROD, the USACE would commit to full implementation of all mitigation measures proposed in the Final EIS/EIR.

Approval of the Project would require the adoption of a MMRP that identifies all feasible mitigation measures to reduce Project air quality impacts. If the Board of Harbor Commissioners certifies the Final EIS/EIR, it would also be required to adopt a MMRP. The MMRP would ensure compliance with all of the identified mitigation measures by making the measures part of the Project terminal lease agreement. The MMRP would include monitoring and enforcement mechanisms to ensure timely implementation of all mitigation measures. The Port and Project terminal operator would comply with the MMRP for the life of the lease. Regarding the request to implement additional mitigation measures if CAAP measures are delayed or insufficient to meet cancer risk reduction targets, several Project mitigation measures are “backstopped” by existing and proposed state regulatory requirements that also would ensure achievement of the emission reductions proposed in the Final EIS/EIR. In addition, the Project lease agreement would include a condition requiring that every five years the lease would be re-opened to facilitate implementation of new feasible mitigations. This requirement s includedin Final EIS/EIR **Mitigation Measure AQ-25**:

AQ-25: Periodic Technology Review. To promote new emission control technologies, the tenant shall implement in 2015 and every five years following the effective date of the lease agreement, a review of new air quality technological advancements, subject to mutual agreement on operational feasibility, technical feasibility, and cost-effectiveness and financial feasibility, which agreement shall not be unreasonably withheld. If a technology is determined to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology.

To help address the cumulative impacts of the Middle Harbor Redevelopment Project, the Port would require this Project to fund the Schools and Related Sites Grant Program. This money would be used for mitigation projects and prevention programs for people sensitive to air pollutants, as well as certain noise mitigation projects. Projects/programs would be submitted to the Board of Harbor Commissioners by applicants for review and approval. The

Grant Guidelines, adopted on March 23, 2009, establish: (1) the eligibility criteria for applicants and projects/programs; (2) the ranking criteria for proposed projects/programs if proposal requests exceed available funding; and (3) review and approval procedures. Funding established by the approval of the Middle Harbor Redevelopment Project would enable the expeditious implementation of many cumulative impact mitigation projects and health-related prevention programs in the areas most directly affected by Port area sources. These measures are designed to supplement source-reduction measures in the near term when cumulative impacts are predicted to be highest.

Schools and Related Sites Grant Program. The Guidelines for this program include exposure-mitigation projects and eligibility criteria designed to ensure that the exposure mitigation potential of all approved projects would be maximized. The air-related projects are based on programs promulgated and approved by the ARB and SCAQMD, such as the Carl Moyer Program and the Air Quality Investment Program, respectively. These projects have been shown to result in either a decrease in particulate matter (and other criteria pollutant) emissions or a reduction in exposure to those pollutants. For example, in a pilot test HEPA filters were placed at a number of schools that had either no filters or less efficient filters. The SCAQMD measured a 70-90 percent decrease indoors of fine PM and DPM compared to only 10-20 percent reduction in PM and DPM in facilities without filters.¹ In addition, several vendors of DPM filters for retrofitted generators have verified reductions of 85 percent.² Similarly, effective noise barriers can reduce traffic noise to within acceptable levels, or by five to 10 dBA below projected levels without such barriers.

How the grant money would be used would depend on the mix of projects for which the Port receives funding applications. For example, under the Schools and Related Sites Grant Program, approximately \$320,000 would pay for all of the following measures at one school: five stand-alone classroom HVAC units, 54 HEPA filters over five years, retrofitting of three existing school buses with DPM filters, 30 mature trees and/or shrubs between roadways and outside play yards, two electric lawn vacuums, one retrofitted emergency generator, and 68 window/door replacements. As noted in the Schools and Related Sites Guidelines, sixteen Long Beach Unified School Districts (LBUSD) schools are in Zone 1, which has the greatest cumulative air quality impacts. If all the LBUSD schools within Zone 1 applied for the same group of projects listed above, the total cost would be \$4.7 million, based on the type and the size of school (elementary, middle, or high school). While all schools, public or private, in Zones 1-3 are eligible to apply for funding pursuant to the guidelines, the 16 public schools located in Zone 1 provide a reasonable measure of what could be achieved (in terms of serving those most impacted, as determined through proximity to the Project, and serving the greatest number of students, as represented by the student population served by LBUSD). As another example, \$5 million would cover the costs of 75 stand-alone HVAC units, 800 HEPA filters for five years, the retrofitting of 45 existing school buses with DPM filters, 450 mature trees and/or shrubs to be planted between roadways and outside play yards, 30 electric lawn vacuums, 15 retrofitted emergency generators, and 1,000 window/door replacements. The Middle Harbor Redevelopment Project would provide one-time grant funding of \$5 million towards these kinds of measures through the Schools and Related Sites Grant Program. As shown in the illustrative examples above, this would provide the means to reduce cumulative air and noise impacts in the near term (when emissions in the area are expected to be the greatest) for children at an appreciable number of schools and related facilities downwind and in the area of the SPBP.

Healthcare and Seniors' Facility Grant Program. This grant program would provide funding for direct exposure-mitigation projects, such as those described in the Schools and Related Sites Grant Program for healthcare and seniors' facilities, and testing, education, and outreach prevention measures/programs. Prevention measures identified in the Healthcare and Seniors' Facility Program are based on similar programs promulgated by The Children's Clinic, Long Beach Alliance for Children with Asthma, Orange County School Asthma Program, and the Chicago Mobile C.A.R.E. Foundation, which measures have been shown to result in a decrease in asthma-related effects. For example, the Chicago Mobile C.A.R.E.

program has conducted asthma screening of about 45,000 low-income Chicago children between November 1999 and December 2008 serving 60 schools, with 5,000 children enrolled in the program, 25,000 patient visits occurring in the Asthma Vans, and hundreds of families utilizing the 24-hour direct physician phone service. They found that after three visits on the Asthma Vans, children's asthma-related emergency room visits and hospitalizations drop by approximately 50 percent.³

Per-facility costs associated with direct exposure mitigation measures (as described for schools above) for healthcare and seniors' facilities may be less given the typical size of common rooms at senior centers, retirement communities, and convalescent homes. For example, approximately \$54,000 would pay for the addition of four stand alone HVAC units and HEPA filters in common areas, and the retrofit of one diesel generator at one senior center. In Zone 1 (the closest zone to the Port boundaries), there are an estimated 21 senior centers and retirement communities within one mile of the Port's boundaries. If all of these centers applied for funding for this group of projects, the total cost would be approximately \$1.1 million. The Children's Clinic, which operates a number of clinics near the Port (see Guidelines) estimates annual health education and outreach programs to cost on average \$500,000 per year, not including administrative costs, while the Chicago Mobile C.A.R.E. program spends on average \$1.4 million on asthma van operating costs per year. The Middle Harbor Redevelopment Project would provide one-time grant funding of \$5 million for the Healthcare and Seniors' Facility Grant Program. This would, for example, be enough to equip all Zone 1 facilities with HVAC/HEPA systems and provide funding over two years to support programs similar to the Chicago Mobile C.A.R.E. program and The Children's Clinic. Although it is not known which projects would ultimately be proposed and selected, the examples above show that this level of funding would provide the means to reduce cumulative air impacts for sensitive individuals downwind and in the area of the SPBP through both direct exposure reduction projects and preventative health programs in the near term (when emissions in the area are expected to be the greatest).

Summary. As described above, \$10 million of funding for the Grant Programs (\$5 million for Schools Program and \$5 million for the Healthcare Program) would support projects and programs that would reduce cumulative air, noise, and air-related health impacts for a substantial number of people in the areas most directly affected by goods-movement-related sources in the Port area in the near term. These cumulative exposure mitigation projects and health-related prevention programs can be expeditiously implemented once the Middle Harbor Redevelopment Project receives final approval and any appeals have been exhausted.

To put the Middle Harbor Redevelopment Project grant funding in perspective, a *pro rata* estimate⁴ of 2007-2025 control costs for the whole Middle Harbor area (as part of the 2007 AQMP) would be \$190 million to \$240 million (converted to 2008 dollars) in source reduction measures. The \$10 million of grant funding from this Middle Harbor Redevelopment Project represents an additional four to five percent of those total estimated control costs to alleviate cumulative impacts in the near term before the full benefit of the AQMP source reduction measures is obtained. This would also be in addition to the costs associated with the implementation of the extensive mitigation measures included in the proposed Project that would reduce Project impacts below the existing CEQA Baseline. Unlike longer-term source control regulations and requirements that may not produce emission reductions for a number of years, these grant funded measures can be implemented quickly to mitigate cumulative air, health, and noise impacts in the communities most affected by local Port and non-Port sources.

These cumulative mitigation measures would help to alleviate cumulative impacts for key sensitive populations in areas of maximal exposure in the near term. The Port contributions are intended to partially offset the incremental effects of the Middle Harbor Redevelopment Project that contribute to cumulative effects. The Port nonetheless concludes that these cumulative impacts remain significant and unavoidable.

The following new Final EIS/EIR **Mitigation Measure AQ-29** is being proposed by the Port, which would further mitigate Project cumulative air quality impacts:

AQ-29: Cumulative Air Quality Impact Reduction Program. To help reduce cumulative air quality impacts of the Middle Harbor Redevelopment Project, the Port would require the Project to provide funding in support of the *Schools and Related Sites Guidelines for the Port of Long Beach Grant Programs* and *Healthcare and Seniors Facility Program Guidelines for the Port of Long Beach Grant Programs* in the amount of \$5 million each. The distribution of these funds to potential applicants and projects would be determined through a public evaluation process and by approval of the Board of Harbor Commissioners.

The timing of the payments pursuant to **Mitigation Measures AQ-29** shall be made by the later of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes the commencement of construction on the Phase 1 Construction Contract; or (2) the date that the Middle Harbor Redevelopment Project Final EIS/EIR is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.

Regarding the comment that the Port and USACE should include all project alternatives in future HRAs, the Port and USACE intend to continue to require that HRAs analyze the health impact of Project alternatives. The HRAs prepared for this EIS/EIR (Appendix A-3), included analysis of the Project and three additional alternatives. It then compared and contrasted the results of the four different alternatives (Draft EIS/EIR Appendix A-3).

USEPA(B)-15. Please see response to comment USEPA(B)-14.

USEPA(B)-16. Please see response to comment USEPA(B)-14. It is unclear whether the comment seeks a commitment from the Port and the USACE to impose additional, unidentified mitigation measures, or whether it seeks to ensure that the measures identified in the Draft EIS/EIR go above and beyond the CAAP emission reductions. As to the first interpretation of the comment, all feasible mitigation measures have been included in the Project and those measures are consistent with or go beyond the CAAP requirements applicable to each source type. Final EIS/EIR Section 3.2.4 has been revised to identify enforcement mechanisms for each mitigation measure. All of the identified measures will be implemented, regardless of changes or delays in the implementation of the CAAP. It is expected that a future CAAP measure for a given source category would be at least as stringent as the current measure, and therefore implementation of future CAAP measures would result in higher emission reductions. The Project lease agreement would include a condition requiring that every five years the Project lease would be re-opened to consider implementation of new feasible mitigations (**Mitigation Measure AQ-25** described below under response to comment USEPA(B)-20). The Project ROD will include these requirements.

USEPA(B)-17. Regarding the estimation of air emissions from importing and placement of missing fill material, please see response to comment USEPA(B)-4.

USEPA(B)-18. Consistent with the Draft EIS/EIR Section 1.7.3, the unmitigated air quality analysis for construction assumed that land-based construction equipment would be the cleanest equipment available, meaning the equipment would achieve EPA non-road Tier 3 standards at a minimum. This essentially equate to BAECT requested in the comment. Final EIS/EIR Sections 1.7.3 and 3.2.2.2 have been revised to clarify this assumption. Additionally, the Port proposes to adopt BMPs as requested by the SCAQMD in comment SCAQMD-14. These BMPs are essentially BAECT and Final EIS/EIR includes **Mitigation Measure AQ-2a** that requires implementation of these measures.

For the type and size of construction equipment needed for the proposed construction, EPA Tier 4 standard engines are not required by the EPA Final Non-road Diesel Engine Rule until 2011. Due to the slow penetration of Tier 4 engines into the construction fleet, it would be

impractical and economically infeasible to require these engines on all proposed construction equipment until several years after the 2011 effective implementation date. The EPA assumes that 100 percent compliance by the national equipment fleet with these standards will not occur until 2030, based on estimated fleet turn over rates. A five percent annual turnover rate means that it will take a number of years before there will be a meaningful penetration of the new equipment into southern California, thereby making it infeasible to require as part of a project's bid specifications. As the EPA has noted in a 2006 status report, turnover rates for non-road construction equipment are low and somewhat uncertain:

There are approximately five million non-road diesel engines in the U.S. today, many of which are not subject to EPA emissions standards. These engines have the potential to continue to produce high levels of pollution over the next 20 years or more. Agency projections show that substantial emissions reductions have already been made for some source categories. However, the full benefits of EPA's regulations may not be realized until 2020-2030, when the standards are expected to be fully implemented. Projected benefits assume engine turnover and replacement – *activities that may be influenced by cost, lead time, and overall feasibility*. EPA, Progress Report on EPA's Non-road Mobile Source Emissions Reduction Strategies Report No. 2006-P-00039, September 27, 2006, p. 1, (emph. added).

In spite of this expected slow penetration rate, Final EIS/EIR **Mitigation Measure AQ-2** requires Tier 4 standard engines in construction equipment, where feasible.

USEPA(B)-19. The comment requests updating construction tugboat emission assumptions and that the Port commit to using Tier 2 and Tier 3 standards. The calculation of unmitigated emissions from construction tugboats is based upon composite emission factors for the SCAB harbor craft fleet developed by the ARB due to implementation of the ARB Commercial Harbor Craft Regulation. This analysis assumes that with time the POLB harbor craft fleet would turn over to engines that meet EPA Tiers 2 through 4 standards. For example, by year 2013/2016, the composite fleet emission factors would reach Tiers 2/3 emission levels (Appendix A-1 Table A.4.1-Alt 1-135).

For the type and size of harbor crafts needed for the proposed construction project, the Tier 3 standard harbor craft engines are not required by the EPA Final Marine Engine Rule until 2012 through 2014. The ARB expects a relatively slow penetration of Tier 3 engines into the SCAB harbor craft fleet. For example, it is estimated that the fleet as an average would not reach Tier 2 standards levels until year 2013. Therefore, due to the substantial cost associated with engine replacement, it would be economically infeasible to require these engines on all proposed tugboats during construction. Nonetheless, as requested in the comment, Final EIS/EIR **Mitigation Measure AQ-3** requires Tier 3 standard engines in tugboats, where feasible.

USEPA(B)-20. Please see responses to comments USEPA(B)-18 and USEPA(B)-19. The comment requests that the Port and the USACE commit to as of yet unidentified and unknown measures which might be developed in the future. It is unclear whether the request is specific to this Project or is seeking a commitment from the Port and USACE regarding the development and implementation of new technologies in general. The Port and the USACE are certainly committed to the development of new technologies for reducing construction emissions. The mitigation measures proposed in the Final EIS/EIR represent all feasible means to reduce proposed construction emissions. These measures also represent BAT to reduce proposed construction emissions. CEQA requires that mitigation measures not be incomplete or untested. It would therefore not be appropriate for the Port to impose or rely upon measures which are currently unknown or undemonstrated. However, to help address this concern, the Final EIS/EIR includes **Mitigation Measure AQ-25**, requiring that every five years the Project lease would be re-opened to consider implementation of new feasible control measures.

- USEPA(B)-21.** The comment states that the Project should demonstrate general conformity with the South Coast SIP. Final EIS/EIR Appendix A-4 includes a conformity analysis as required under General Conformity Rule (40 CFR 93, subpart B) for the federal action (construction activities under USACE jurisdiction) that are subject to the rule. The analysis includes an applicability analysis which shows that the emissions from the federal action would exceed the NO_x *de minimis* threshold of 10 tons per year. Consequently, as required under the General Conformity Rule, the analysis also includes a formal conformity determination to demonstrate that the federal action conforms with the 1997/1999 SIP for the SCAB. This analysis also demonstrates that the proposed action would conform with the recently approved 2007 SCAQMD AQMP. A draft conformity determination has been included as part of the Final EIS/EIR and is being noticed in the Federal Register along with the Final EIS/EIR.
- USEPA(B)-22.** The Draft EIS/EIR acknowledges the impacts of the proposed Project on surrounding communities and incorporates all feasible mitigation measures to reduce those impacts. For example, please see response to comment USEPA(B)-8 for a description of Port-wide mitigation programs that will help reduce cumulative impacts on communities surrounding the Port. In addition, the Project would include the following mitigation measures that would minimize potential impacts on communities near the Port: **Mitigation Measure AQ-4** (Expanded VSRP); **Mitigation Measure AQ-5** (Shore-to-Ship Power “Cold-Ironing”); **Mitigation Measure AQ-6** (Low-sulfur Fuels in OGV); **Mitigation Measure AQ-7** (Container Handling Equipment Performance Standards); **Mitigation Measure AQ-8** (Heavy-Duty Trucks Replacement Schedule); **Mitigation Measure NOI-1.1a** (installation of temporary noise barriers); and **Mitigation Measure NOI-1.1b** (limiting hours of pile-driving activities).
- USEPA(B)-23.** The comment recommends including additional EJ information in the Final EIS/EIR and clarifying the public outreach for the Project. The Middle Harbor public outreach activities are in compliance with CEQA and EPA and consistent with the provisions included in *The White Paper on Environmental Justice: Opportunities in Port of Long Beach Projects*. As summarized in Draft EIS/EIR Section ES.7, the Port has provided the opportunity for affected communities, individuals, organizations, and groups to participate in the EIS/EIR process by providing public meetings/hearings to inform the public about the proposed Project. Public notices were published in four local newspapers, including the Press-Telegram, Downtown and Grunion Gazettes, and the Long Beach Business Journal. In addition, approximately 125 local agencies and organizations were contacted, including service groups, community groups, local businesses and business organizations, and local health organizations. In addition, increased access to project information and increased opportunity for public involvement was provided through presentation of project information on the Port’s website.

Each of the four bullet points in this comment, which identify additional information that the commenter would like to see in the Final EIS/EIR, are addressed below:

- The EIS/EIR utilizes the definition of low-income contained in the Port’s White Paper on Environmental Justice (2005), in which low income is defined as the poverty level used by to the U.S. Census Bureau, which is used in environmental justice guidelines issued by a variety of federal agencies, including CEQ, EPA, and DOT. Redefining the low-income definition to adjust for the higher cost of living in southern California as suggested by the comment would result in identifying a larger low-income population and increased percent low-income; however, it would not change the environmental justice impacts in the EIS/EIR. The reason is that disproportionate effects are evaluated based on a comparison of the percent low-income in the adversely affected area compared to the percent low-income in the general population. For example, Impact NOI-2.1, a construction noise impact, would occur in Census Tract 5760 (Draft EIS/EIR Section 3.15.2.3). Using an adjusted low-income definition calculated as 1.25 times the poverty level would identify 33.2 percent of the population of Census Tract 5760 as low-income compared to 21.9 percent using the standard Census poverty definition. However, at the same time the low-income percent

in the general population of Los Angeles County would increase from 17.9 percent to 23.9 percent with this adjustment;

- The Port has adequately identified the environmental justice regulatory context for the project by addressing relevant federal, state, and local regulations in Draft EIS/EIR Section 3.15.1.3. The EIS/EIR addresses EO 12898 and CEQ Guidance relevant to the USACE, and California State Lands Commission, ARB, and SCAQMD policies that are relevant to POLB. With the exception of information about the City of Los Angeles General Plan which is irrelevant to this project, Section 3.15.1.3 presents in summary form essentially the same “Applicable Regulations” information requested in the comment. The addition of other agency regulations not clearly related to the Project would not change the environmental justice impacts;
- Draft EIS/EIR Table ES-7-1 summarizes comments received during the public scoping process. Comments from NRDC and other organizations requested consideration of environmental justice in the EIS/EIR. Other comments, though not strictly framed as environmental justice comments, related to air quality, health issues, and cumulative impacts and other resources that could affect local communities and were also considered in the environmental justice analysis in Draft EIS/EIR Section 3.5; and
- Final EIS/EIR Section 3.15 has been revised to include a table (Table 3.15-2) that summarizes the Project’s environmental justice impacts, as requested in this comment.

USEPA(B)-24. The comment states that USACE and the Port should conduct a Port-wide HIA. Please see response to comment USEPA(B)-7 for the reasons an HIA is not required or needed for the proposed Project. The HRA included in the Draft EIS/EIR provides adequate descriptions of public health impacts of the proposed Project for NEPA/CEQA purposes. The HRA identifies maximum health impacts to sensitive receptors for each Project alternative, including schools, day care centers, convalescent homes, and hospitals. The maximum impacts identified by the HRA are used as indicators of the relative impact of each Project alternative. In addition, in cases where areas contained within the boundaries of health risk isopleths (Draft EIS/EIR Figures 3.2-2 through 3.2-9) exceed significance thresholds after mitigation, these footprints are evaluated as part of the environmental justice analysis to determine whether residential areas would be affected and, if so, whether this would result in disproportionate health effects. Note that the Port’s primary means of mitigating air quality and health impacts is through reducing the source of the emissions causing the impact. Final EIS/EIR Section 3.2.4 provides a list of mitigation measures included in the Project to reduce emissions.

USEPA (B)-25. Please see response to comment USEPA(B)-8 for a description of Port-wide mitigation programs that will help reduce cumulative impacts on communities surrounding the Port. In addition, the Project would include the following mitigation measures that would minimize potential impacts on communities near the Port: **Mitigation Measure AQ-4** (Expanded VSRP); **Mitigation Measure AQ-5** (Shore-to-Ship Power “Cold-Ironing”); **Mitigation Measure AQ-6** (Low-sulfur Fuels in OGV); **Mitigation Measure AQ-7** (Container Handling Equipment Performance Standards); **Mitigation Measure 7a** (Replacement of diesel-powered RTGs with electric-powered RMGs); **Mitigation Measure AQ-8** (Heavy-Duty Trucks Replacement Schedule); **Mitigation Measure NOI-1.1a** (installation of temporary noise barriers); and **Mitigation Measure NOI-1.1b** (limiting hours of pile-driving activities). In addition, the anti-idling measure recommended in this comment is included as **Mitigation Measure AQ-10**, which requires the Middle Harbor container terminal operator to minimize on-terminal truck idling.

The Port is participating in an Environmental Management System (EMS) sponsored by the American Association of Port Authorities (AAPA) and the Global Environment and Technology Foundation (GETF). The EMS will cover all programs related to water and

sediment quality within the Port. This will include the industrial stormwater program, which is part of the Port's Master Storm Water Program. The Port is sponsoring CUT, the Port's terminal operators at the Piers D and E portions of the Project site, and a participating member in the industrial stormwater program, to participate in the EMS program. CUT will be developing its EMS to cover its stormwater program, offering the Port an opportunity to work alongside one of its tenants and develop ways to improve the Port's current stormwater programs. The Port's EMS will rely on elements of the Water Resources Action Plan (WRAP) for implementation, which is currently being developed in partnership with POLA.

The Port is playing an integral part in the City of Long Beach's Urban Forest Master Plan. In early 2007, the City of Long Beach contracted with a consulting firm to review existing urban forest policies and practices and to set out new goals and policies for an Urban Forest Master Plan. This was Phase I of the City's Urban Forest Master Plan. The Port participated in Phase I by funding 10 percent of the contract costs, in addition to providing Maintenance and Environmental Planning staff assistance and direction. The Port's 10 percent contribution matches the Harbor Department's 10 percent aerial coverage of land within the City. The City is about to commence Phase II of the Urban Forest Master Plan which will inventory current tree assets and develop a program to manage and enhance these assets. Additionally, the Final EIS/EIR includes **Mitigation Measure AQ-19a**, Tree Planting – Transportation Corridors, which requires the Port to plant new shade trees on Port-controlled lands adjacent to the roads into the Middle Harbor container terminal to the extent practicable given safety and other land use considerations.

The Port will be considering a community outreach program, which would be established in coordination with local community groups, for creating local jobs and providing training opportunities.

Establishing a farmers market at the Port would be an inappropriate use of the California Tideland Trust. However, there are several farmers markets that occur weekly in the Port vicinity, including one at the World Trade Center at the Ocean Boulevard/Magnolia intersection.

USEPA (B)-26. Please see response to comment USEPA (B)-8 for a description of Port-wide mitigation programs to reduce cumulative impacts of this Project and future projects.

USEPA(B)-27. This comment states that the Final EIS/EIR should discuss compliance with CWA Section 404(b)(1) guidelines and include a discussion of the practicability of Alternatives 2 and 3. This comment also requests evaluation of an additional alternative that would include minimal to no fill and channel deepening/widening. A CWA Section 404(b)(1) alternatives analysis has been prepared for the Project that clearly identifies the LEDPA. The 404(b)(1) analysis uses different criteria than the NEPA/CEQA analysis but is based on the same information that is included in the Draft EIS/EIR. The 404(b)(1) analysis is included as Appendix E in the Final EIS/EIR. Final EIS/EIR Section 3.4.1.3 has been revised to state that a 404(b)(1) analysis has been prepared for the Project and is included in the Final EIS/EIR Appendix E. Final EIS/EIR Section 1.6.2 has been revised to include a feasibility discussion of the alternative identified by EPA.

USEPA(B)-28. Please see response to comment USEPA(A)-5. The Bolsa Chica mitigation agreement is a grandfathered mitigation bank under the new USACE and EPA mitigation rule (33 CFR Parts 325 and 332, and 40 CFR Part 230) that would not be changed by use of existing credits in that mitigation bank to offset impacts of the Project fill.

USEPA(B)-29. This comment requests that the Final EIS/EIR include a functional assessment that demonstrates the created waters would adequately replace lost aquatic function of 10.7 acres in the Inner and Outer Harbor areas. Excavation of Pier D to widen Slip 3 would create 6.3 acres of water surface in Middle Harbor during construction Phase 1, while excavation at Berth F201 would create 4.4 acres of water surface during Phase 2. In addition to the water surface and water column habitat created in Slip 3, approximately 2.9 acres of soft bottom

and 3.6 acres of rock riprap habitat would be created, replacing approximately 1.2 acres of vertical sheet pile habitat. At Berth F201, approximately 4.4 acres of new soft bottom would be created. The existing riprap habitat would be replaced by the same amount of new riprap along the excavated portions of the existing landfill. The new water column would be used by plankton, invertebrates, and fish immediately because these organisms would move freely from the adjacent waters into the new habitat. Planktonic organisms, such as copepods and ichthyoplankton, would be entrained in the water that moves into the excavated area while mobile species such as fish (e.g., northern anchovy, white croaker, and queenfish) would move in to use the new space for foraging and resting. The water surface could be used immediately by birds, such as gulls and aerial fish foragers. The new soft bottom would be colonized by invertebrates at a rate similar to that for dredged areas in Slip 3, and the new riprap would be colonized by algae and invertebrates in the same manner as other new riprap for the fill containment dikes. Based on surveys in Slip 1 and the channel south of East Basin (MEC Analytical Systems, Inc. 2002) as described in Section 3.4.1.2 of the Draft EIS/EIR, approximately 12 to 36 species of infaunal invertebrates would colonize the new soft bottom and reach a biomass of about 15.5 to 39.5 g/m². Fish would immediately use the spaces between the rocks for shelter. Because the created marine habitat would be of the same type and in the same general area of the harbor, it would provide the same functions as the habitat lost to fill placement. Please see response to comments USEPA(A)-4 and USEPA(B)-10 for additional discussion regarding the applicability of a functional assessment.

Material from excavation to widen Slip 3 would be used in construction of the 31-acre Phase 1 fill, while the material excavated from Berth F201 would be used in constructing the 34.3-acre Phase 2 fill. Because excavation would occur immediately prior to placement of fill material, no temporal loss of water surface or water column habitat would occur for any of the excavated areas. The calculation of mitigation credits needed is based on the surface area of marine habitat lost in accordance with the mitigation bank agreement. As the temporal loss of benthic organisms in areas dredged would be less than significant, no additional mitigation measures are required. No revisions to the Final EIS/EIR are required.

USEPA(B)-30. This comment requests that the Final EIS/EIR specifically address the Project's consistency with the CSTF goals. The overall goal of the CSTF is "to develop a Long-Term Management Strategy for dredging and disposal of contaminated sediments from coastal waters adjacent to Los Angeles County." Of the four specific objectives under this goal, the third one is to "promote beneficial reuse," and this would apply to the Project. The Project is consistent with this objective because contaminated sediments dredged from Middle Harbor would be placed in a confined disposal site within the Project fill, and that fill would then be used to expand and increase the efficiency of the container terminal in this location. Because additional fill will be needed, contaminated sediments from other locations in the area could also be placed within the confined disposal site. Final EIS/EIR Section 3.3.1.3 has been revised consistent with this comment.

USEPA(B)-31. Please see response to comment USEPA(A)-6. Imported fill sources are unknown at this time, but are estimated to come from dredge or borrow areas in the Outer Harbor. However, all material used for fill would be tested to determine its suitability for unconfined aquatic disposal. Public notification and coordination with other agencies would occur as part of the Section 404 permit process.

USEPA(B)-32. This comment requests discussion of management of contaminated materials in Slip 3. The concentration of contaminants in the upper layer of Slip 3 sediments to be dredged is generally much closer to the ER-L levels (i.e., concentrations below which minimal toxic effects are expected) than to the ER-M levels (i.e., concentrations above which toxic effects are expected), except for low molecular weight PAHs, so that toxic effects would be low because the concentrations are close to the level where minimal effects are expected. As described in Draft EIS/EIR Section 3.3.1.2 (Sediment Quality), elutriate tests using the top sediments found no contaminant concentrations in the elutriate to be above the daily maximum limiting concentration or water quality objectives for the protection of marine life

(Weston Solutions 2006b). This means that contaminants would not be released to the water at concentrations that could exceed water quality objectives during dredging or filling activities using these sediments. Contaminated materials in the upper sediments to be dredged from Slip 3 could be removed separately from the lower sediments and placed in a CDF within part of the Project fill to allow beneficial use of the material. If the material is not placed in a CDF, additional testing would be conducted to verify its suitability for unconfined disposal. No revisions to the Final EIS/EIR are required.

USEPA(B)-33. The comment requests that chemical characterization of sediment for both excavated and imported fill material be included in the Final EIS/EIR. Soils to be excavated on Pier D to widen Slip 3 have been tested (Pacific Edge Engineering, Inc. 2006), and the results were discussed in Draft EIS/EIR Section 3.1.1.2 (Sediment to be Excavated) and Section 3.3.1.2 (Sediment Quality). None of the metals were above the California TTL. Imported fill material from the Outer Harbor or any other source would be tested using EPA and USACE protocols to determine suitability for unconfined aquatic disposal prior to use of that material in the Project fills. If the material does not meet criteria for unconfined disposal, it would either not be used or would be placed in a CDF within the fill. No revisions to the Final EIS/EIR are required.

USEPA(B)-34. The comment suggests that a port-wide marine mammal vessel strike reduction program should be implemented. As noted in the comment, the Draft EIS/EIR analysis (Section 3.4.1.2, Birds and Marine Mammals) acknowledges that the actual number of whale strikes is higher than the number of reported incidents; this information was taken into consideration in the impact analysis.

The existing voluntary VSRP gives vessels Green Flag incentives to slow to 12 knots within 40 nm of Point Fermin. These incentives include lower dockage fees and environmental recognition. The reported whale strikes discussed in the Draft EIS/EIR are for the entire coast of California and not just in the vicinity of the Long Beach-Los Angeles Harbor. In addition, only a portion of the reported strikes were by cargo vessels that could have been travelling to or from the harbor. Considering the small Project-related increase in vessel traffic relative to the amount of existing traffic along the coast, the probability of a Project-related vessel striking a whale would be very low. Normal swimming speeds of blue whales are 22 km/hr, which is approximately 10 knots; however, blue whales can swim up to 48 km/hr when alarmed (Wilson and Ruff 1999). Therefore, it is very unlikely that Project-related vessels traveling at 12 knots would increase the potential for whale strikes. Accordingly, impacts would be less than significant under NEPA and CEQA. However, as stated in Draft EIS/EIR Section 3.4.3, increased vessel traffic as a result of the cumulative projects, particularly large vessels travelling at greater than 10 knots, would increase the potential for vessel strikes of whales. Mortality of blue whales is a particular concern, and cumulative impacts would be significant and unavoidable for this species.

Based on the reference cited in the comment, the warning system technology suggested by the commenter is still in the preliminary design stages. Because the location and species of whales (and their behaviors) are different, testing in the vicinity of the Long Beach-Los Angeles Harbor would need to be conducted to determine if this technology would be feasible and effective before it could be installed. Based on currently available information, this technology is not feasible for this Project at this time. No revisions to the Final EIS/EIR are required.

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*Flex your power!
 Be energy efficient!*

Mr. Richard D. Cameron
 Port of Long Beach
 925 Harbor Plaza
 Long Beach, CA. 90802

Re: ***Middle Harbor Redevelopment Draft EIR***
 SCH#2007091144, IGR/CEQA 080530/NY
 Vic. LA / 710 /PM 0.0, LA / 405 /PM 11.31
 LA/91/PM 19.00 LA/001/PM 11.73

August 22, 2008

Dear Mr. Cameron:

The California Department of Transportation has reviewed the ground transportation section of the Draft Environmental Impact Report prepared for the Middle Harbor Redevelopment project within the Port of Long Beach (the Port). The proposed project involves the rehabilitation or replacement of two existing deteriorated container terminal facilities. When completed, the consolidated container terminal would accommodate approximately 3.320 Million Twenty-foot Equivalent Units (TEUs) per year.

CT-1

We appreciate the Port's cooperation in clarifying the project-related transportation impacts on State highway facilities. Based on our review of the Ground Transportation analysis prepared, we have the following comments:

Transportation Impacts to State Highway Facilities

- o We note that buildout of the proposed development project would result in significant transportation impacts to State facilities mainly at several segments of I-710, I-405, SR-91. This conclusion is not consistent with Section 3.5.2.2 which states that "project trips would be less than 150 at I-710 and Willow Street interchange and therefore a CMP analysis was not required." We request this statement to be corrected:

Per section 3.5.2.3, alternative 1; would result in significant transportation impacts at the following locations:

I-710, between Pacific Coast Highway and Willow Street, both directions
 I-405, north and south of I-710, in both directions
 SR 91, east and west of I-710, in both directions

Although segments of I-710 south of Pacific Coast Highway were not analyzed per CMP requirements, the same or higher level of impact would be expected on them.

- CT-2
- Caltrans requests that total project trips (select zone) be more clearly depicted in the EIR. The distribution methodology does not show the total project trip generation onto the State Highway System due to some of the 2030 trips that would have been attributed to other land uses and now being attributed to this project. We have prepared an enhanced spreadsheet that accounts for this information and recalculates the fair share responsibility (see attachment). The new fair share calculations show that the highest level of impact would occur in the I-710 segment between Pacific Coast Highway and Willow Street, and the project's percent share of 2030 volumes would be approximately 4.4%.

Column

V = Total project trip generation accounting for both all new trips including redirected.

W = Redirected Trips

X = Redirected Trips adjusted for their shared responsibility with other land use that will be developed. (adjusted for 2 trip ends)

Y = Additional system trips. These are trips that are 100% assignable to the project. This is consistent and unchanged from the work presented in the DEIR.

Z = Percent fair share adjusted to reflect the total impact of the project (new and redirected trips)

All negative values are shown as Zero.

CT-3 Transportation Mitigation Plan

- To mitigate transportation impacts to the State Highway System, this project offers to pay its fair share to improvements which will be identified in the I-710 EIR/EIS Corridor project. Consultants under the lead of Los Angeles County Metropolitan Transportation Agency (Metro) are currently preparing this environmental document. We recognize that The Port of Long Beach as well as the Gateway Cities Council of Governments are active participants in the development of the environmental impact report/study. We anticipate that the project's fair share funding responsibility would be proportional to its impacts and request that the Port remain committed to the development of needed studies and the identification of funding sources.

We recognize that the region as a whole is studying and planning improvements to key transportation facilities for goods movement, air quality, mobility, and economic vitality. The Locally Preferred Strategy (LPS) for regional improvements for which the EIR is being prepared includes the following improvements:

- a) Adding one or two mixed flow lanes in each direction to I-710 from the port to SR-60.
- b) Adding two dedicated truck lanes in each direction to I-710
- c) Freeway to freeway Interchange Improvements along I-710 to SR-60

We acknowledge that fair share funding contributions towards these improvements would constitute appropriate mitigation. However, in the event that capacity enhancing improvements to I-710 can not be accomplished in a timely manner, we recommend that the port develop a contingency mitigation plan.

We assume that in compliance with the State law, a Mitigation Monitoring Plan will be prepared for the proposed Middle Harbor Redevelopment project, which will address this commitment. We also request that this commitment be explicitly addressed in the response to comments. Caltrans also suggests as a way to provide the lead agency with maximum flexibility but yet assure its commitments are met, to update the mitigation monitoring plan upon completion of the I-710 EIR/EIS corridor study.

↑
CT-3

If a comprehensive plan cannot be agreed upon and no improvements are identified, then the project needs to re-address the mitigation plans for impacts to the State Highway System. This should also be addressed explicitly in the mitigation-monitoring plan. Under this scenario, we suggest that an improvement project which addresses weaving movements in both directions at the I-710/Pacific Coast Highway interchange and I-710/Willow Street interchange be considered as a potential replacement mitigation measure.

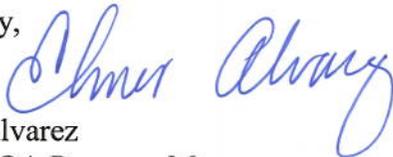
CT-4

Other alternate mitigation strategies may include:

- a) Contribution to any I-710 Early Action Projects, if they are identified.
- b) Funding of any additional studies needed.
- c) Contribution to Port of Long Beach project Gerald Desmond Bridge reconstruction
- d) Contribution to ACTA/Caltrans joint project SR-47 Truck Only Expressway and Schuyler Heim Bridge reconstruction.

We would welcome the opportunity to continue our discussion as to feasible traffic mitigation plan that would be mutually acceptable. If you have any questions and would like to schedule a meeting regarding this response, please call the Project Engineer/Coordinator Mr. Yerjanian at (213) 897-6536 or myself at (213) 897-6696 and please refer to record number 080530NY.

Sincerely,



Elmer Alvarez
IGR/CEQA Program Manager
Regional Transportation Planning

California Department of Transportation, August 22, 2008

CT-1. The comment states that build out of the proposed Project would result in significant transportation impacts to state facilities at several segments of I-710, I-405, and SR-91. This statement is inconsistent with Draft EIS/EIR Section 3.5.2.2 that states that Project trips would be less than 150 at I-710 and Willow Street interchange. The commenter is referring to the following statement in Draft EIS/EIR Section 3.5.2.2 (Methodology):

The closest freeway monitoring stations include I-710 at Willow Street and I-110 at C Street. The Project would add less than 150 trips at these two freeway monitoring locations; therefore, a CMP analysis for these two freeway locations was not required.

The quoted statement is based on the Los Angeles County CMP Traffic Impact Analysis guidelines, which utilize the typical traffic impact analysis methodology that measures the “future with project” traffic against the “future without project” traffic to determine a project’s traffic impacts. This is the methodology used by most cities in Los Angeles County for determining traffic impacts on freeway segments, at CMP intersections, and on freeway on- and off-ramps. As stated in the Draft EIS/EIR, the future Project condition would result in only 518 more annual truck trips than the future No Project condition. Deducting weekends and holidays, this difference equates to approximately two trucks per day. Under this methodology, the Project would have no significant transportation impacts to state facilities. Additional information regarding CMP analysis and Caltrans fair share calculation is provided in responses to comments CT-2, RCTC-2, RCTC-3, RCTC-6, CC-3 and CBD-65.

The Draft EIS/EIR, however, also compared “future with Project” traffic conditions to the 2005 CEQA Baseline, rather than the difference between the future with and without Project traffic conditions, a very conservative approach that does not take into account either the traffic that will occur or the highway improvements that will be constructed if the Project was not approved. Use of this conservative methodology resulted in a finding of significant traffic impacts at the I-405 north of the I-710 (NB and SB); south of the I-710 (NB and SB); the I-710 between Willow and PCH (NB and SB); the I-110 north of C Street (NB); the SR-91 east of the I-710 (EB and WB); and the SR-91 west of the I-710 (EB and WB). (Draft EIS/EIR Section 3.5.2.3) Since the quoted statement does not contradict the impact determination stated under Draft EIS/EIR Section 3.5.2.3 - CEQA Baseline Impact Determination, no revisions to the Final EIS/EIR are required.

CT-2. The comment requests that total Project trips be more clearly depicted in the Draft EIS/EIR and states that the methodology does not show the total Project trip generation onto the State Highway System. Commenter provides new fair share calculations and requests that they be included in the document.

Commenter’s new fair share calculations were applied to Tables 10-3, 10-4, and 10-5. The Draft EIS/EIR’s original fair share calculations were more conservative (in that they estimated a higher fair share contribution for the Port), whereas commenter’s suggested calculations yield a lower fair share (tables included below). The reason for this is that the Project impacts were a result of comparing the “future with Project” condition to the 2005 CEQA Baseline, rather than the standard methodology employed by Caltrans, i.e., comparing “future with Project” to “future without Project”. To maintain that conservative approach, the Draft EIS/EIR tables were not replaced.

Table 10-4. Percentage of Project-Traffic to Highway (315-Acre Alternative)

A	B	C	D	2010				2015				2020				W=V-T	X=50%* W	Y=X+T	Z=Y/S							
				E=D-C	F=E/D	G	H	I	J=I-U	K=J-I	L	M	N	O=N-M	P=O/N					Q	R	S	T=S-R	U=T/S		V
																								Future with Proj.	Future w/o Proj.	
AM PEAK																										
1. NB I-405 Fwy. n/o I-710 Fwy.	15,657	16,184	16,157	-27	-0.17%	15	16,689	16,764	75	0.45%	18	17,444	17,469	25	0.14%	20	18,304	18,315	11	0.06%	25	14	7.0	18	0.00	
SB I-405 Fwy. n/o I-710 Fwy.	11,875	12,214	12,251	37	0.30%	24	12,671	12,675	4	0.03%	28	13,296	13,261	-35	-0.26%	28	13,785	13,785	0	0.00%	35	35	17.5	17	0.00	
2. NB I-405 Fwy. s/o I-710 Fwy.	15,099	14,869	15,632	763	4.88%	21	16,106	16,099	-7	-0.04%	2	16,544	16,577	33	0.20%	31	17,745	17,698	-47	-0.27%	2	49	24.5	23	0.00	
SB I-405 Fwy. s/o I-710 Fwy.	11,708	12,023	12,063	60	0.50%	25	12,498	12,489	-9	-0.07%	27	13,049	13,075	26	0.20%	31	13,706	13,692	-14	-0.10%	42	56	28.0	14	0.00	
3. NB I-710 Fwy. b/w Willow St. and PCH	6,171	6,391	6,383	-8	-0.13%	224	6,628	6,626	-2	-0.03%	238	6,666	6,677	11	0.16%	288	7,256	7,281	25	0.34%	382	357	178.4	203	0.03	
SB I-710 Fwy. b/w Willow St. and PCH	6,804	6,963	7,033	70	1.00%	304	7,307	7,338	31	0.42%	275	7,530	7,566	36	0.48%	267	7,936	7,983	47	0.59%	338	291	145.5	192	0.02	
4. NB I-110 Fwy. n/o C-Street	6,953	7,139	7,151	12	0.17%	2	7,469	7,452	-17	-0.23%	3	7,408	7,509	101	1.35%	4	8,120	8,126	6	0.07%	4	0	0.0	6	0.00	
SB I-110 Fwy. n/o C-Street	4,930	5,080	5,067	-13	-0.26%	1	5,270	5,294	24	0.45%	2	5,329	5,359	30	0.56%	2	5,765	5,780	15	0.26%	2	0	0.0	15	0.00	
6. EB SR-91 Fwy. e/o I-710 Fwy.	10,831	11,191	11,228	37	0.33%	76	11,568	11,585	17	0.15%	81	11,853	11,932	79	0.66%	98	12,649	12,650	1	0.01%	127	126	63.2	64	0.01	
WB SR-91 Fwy. e/o I-710 Fwy.	15,143	15,589	15,701	112	0.71%	89	15,831	15,872	41	0.26%	90	16,654	16,630	-24	-0.14%	90	17,429	17,621	192	1.09%	111	0	0.0	192	0.01	
7. EB SR-91 Fwy. w/o I-710 Fwy.	10,163	10,491	10,485	-6	-0.06%	14	10,857	10,873	16	0.15%	16	11,386	11,399	13	0.11%	18	11,918	11,934	16	0.13%	20	4	2.0	18	0.00	
WB SR-91 Fwy. w/o I-710 Fwy.	14,283	14,704	14,814	110	0.74%	0	15,164	15,210	46	0.30%	0	16,043	16,020	-23	-0.14%	0	16,533	16,558	25	0.15%	0	0	0.0	25	0.00	
MIDDAY																										
1. NB I-405 Fwy. n/o I-710 Fwy.	14,334	14,780	14,735	-45	-0.31%	15	15,292	15,258	-34	-0.22%	15	16,416	16,411	-5	-0.03%	16	16,994	16,728	-266	-1.59%	22	288	144.0	-122	0.00	
SB I-405 Fwy. n/o I-710 Fwy.	13,379	13,833	13,821	-12	-0.09%	17	14,234	14,131	-103	-0.73%	18	15,095	15,214	119	0.78%	20	15,654	15,666	12	0.08%	25	13	6.7	19	0.00	
2. NB I-405 Fwy. s/o I-710 Fwy.	14,116	14,576	14,604	28	0.19%	0	15,054	14,931	-123	-0.82%	1	15,519	15,468	-51	-0.33%	1	16,636	16,270	-366	-2.25%	1	367	183.5	-183	0.00	
SB I-405 Fwy. s/o I-710 Fwy.	12,904	13,348	13,409	61	0.45%	46	13,771	13,740	-31	-0.23%	41	14,569	14,638	69	0.47%	39	15,138	15,107	-31	-0.21%	60	91	45.4	14	0.00	
3. NB I-710 Fwy. b/w Willow St. and PCH	6,493	6,708	6,770	62	0.92%	460	6,931	6,991	60	0.86%	397	7,185	7,426	241	3.25%	374	7,586	7,604	18	0.24%	581	563	281.6	300	0.04	
SB I-710 Fwy. b/w Willow St. and PCH	6,753	6,924	6,950	26	0.37%	345	7,211	7,263	52	0.72%	282	7,563	7,675	112	1.46%	277	7,937	7,980	43	0.54%	428	385	192.6	236	0.03	
4. NB I-110 Fwy. n/o C-Street	6,361	6,480	6,494	14	0.22%	1	6,790	6,787	-3	-0.04%	2	7,203	7,229	26	0.36%	2	7,487	7,582	95	1.25%	3	0	0.0	95	0.01	
SB I-110 Fwy. n/o C-Street	5,599	5,730	5,779	49	0.85%	0	5,993	5,991	-2	-0.03%	1	6,261	6,351	90	1.42%	1	6,628	6,639	11	0.17%	1	0	0.0	11	0.00	
6. EB SR-91 Fwy. e/o I-710 Fwy.	12,693	13,222	13,231	9	0.07%	162	13,505	13,457	-48	-0.36%	139	14,538	13,572	-966	-7.12%	130	14,842	14,941	99	0.66%	202	103	51.6	151	0.01	
WB SR-91 Fwy. e/o I-710 Fwy.	13,662	13,922	13,901	-21	-0.15%	107	14,443	14,775	332	2.25%	96	16,305	16,459	154	0.94%	96	16,318	17,276	958	5.55%	141	0	0.0	958	0.06	
7. EB SR-91 Fwy. w/o I-710 Fwy.	12,452	13,016	13,008	-8	-0.06%	20	13,322	13,299	-23	-0.17%	22	14,273	13,912	-361	-2.59%	22	14,456	14,541	85	0.58%	28	0	0.0	85	0.01	
WB SR-91 Fwy. w/o I-710 Fwy.	12,516	12,883	12,967	84	0.65%	0	13,235	13,190	-45	-0.34%	0	14,800	14,311	-489	-3.42%	0	14,558	15,295	737	4.82%	0	0	0.0	737	0.05	
PM PEAK																										
. NB I-405 Fwy. n/o I-710 Fwy.	14,098	14,600	14,627	27	0.18%	25	15,125	15,073	-52	-0.34%	30	15,804	15,855	51	0.32%	36	16,293	16,443	150	0.91%	40	0	0.0	150	0.01	
SB I-405 Fwy. n/o I-710 Fwy.	15,387	15,824	15,860	36	0.23%	18	16,549	16,445	-104	-0.63%	22	17,206	17,203	-3	-0.02%	24	17,954	18,023	69	0.38%	29	0	0.0	69	0.00	
2. NB I-405 Fwy. s/o I-710 Fwy.	14,324	14,816	14,862	46	0.31%	1	15,366	15,349	-17	-0.11%	1	16,086	16,079	-7	-0.04%	2	16,596	16,743	147	0.88%	2	0	0.0	147	0.01	
SB I-405 Fwy. s/o I-710 Fwy.	14,780	15,170	15,252	82	0.54%	41	15,731	15,744	13	0.08%	39	16,522	16,618	96	0.58%	44	17,210	17,264	54	0.31%	52	0	0.0	54	0.00	
3. NB I-710 Fwy. b/w Willow St. and PCH	6,859	7,070	7,107	37	0.52%	362	7,293	7,314	21	0.29%	333	7,578	7,598	20	0.26%	371	8,028	8,066	38	0.47%	438	400	200.0	238	0.03	
SB I-710 Fwy. b/w Willow St. and PCH	6,873	7,037	7,067	30	0.42%	212	7,328	7,371	43	0.58%	183	7,652	7,669	17	0.22%	177	7,998	8,021	23	0.29%	223	200	99.9	123	0.02	
4. NB I-110 Fwy. n/o C-Street	5,655	5,826	5,837	11	0.19%	4	6,094	6,122	28	0.46%	6	6,347	6,329	-18	-0.28%	7	6,587	6,616	29	0.44%	8	0	0.0	29	0.00	
SB I-110 Fwy. n/o C-Street	6,618	6,902	6,865	-37	-0.54%	1	7,034	7,087	53	0.75%	1	7,442	7,397	-45	-0.61%	2	7,703	7,767	64	0.82%	2	0	0.0	64	0.01	
6. EB SR-91 Fwy. e/o I-710 Fwy.	14,676	15,205	14,850	-355	-2.39%	122	15,248	15,828	580	3.66%	108	16,903	16,599	-304	-1.83%	122	17,143	16,953	-190	-1.12%	143	333	166.7	-23	0.00	
WB SR-91 Fwy. e/o I-710 Fwy.	13,309	13,767	13,827	60	0.43%	62	14,173	14,294	121	0.85%	60	14,871	15,070	199	1.32%	58	15,400	15,569	169	1.09%	73	0	0.0	169	0.01	
7. EB SR-91 Fwy. w/o I-710 Fwy.	14,521	15,118	14,964	-154	-1.03%	12	15,334	15,573	239	1.53%	12	16,371	16,404	33	0.20%	12	16,933	16,903	-30	-0.18%	14	44	22.0	-8	0.00	
WB SR-91 Fwy. w/o I-710 Fwy.	11,958	12,441	12,411	-30	-0.24%	0	12,697	12,758	61	0.48%	0	13,382	13,351	-31	-0.23%	0	13,952	13,932	-20	-0.14%	0	20	10.0	-10	0.00	

Working Draft. Not For Public Distribution

CT-3. The comment notes that the Project will contribute a fair share to the proposed I-710 Corridor Project and recommends that the EIS/EIR identify an alternative mitigation plan in the event that the I-710 Corridor Project is not implemented.

The Port is committed to working with Caltrans and regional transportation agencies to improve the transportation system and mitigate the impacts of goods movement (Draft EIS/EIR Section 3.5.2.3). Such commitment is reflected in the Port's \$5 million financial contribution to date to the on-going I-710 Corridor Project EIR/EIS. The Port's commitment to contribute a fair share would apply to any I-710 improvement plan identified in lieu of the project currently under review in the I-710 Corridor Project EIR/EIS that would address impacts of the Middle Harbor Redevelopment Project, such as correcting design deficiencies that create short distances for vehicles to weave on and off of the freeway and insufficient turning radii of freeway ramps. The Port and the City of Long Beach have identified improvements south of PCH, and have shared this information with the I-710 Geometric Subject Working Group and Technical Advisory Committee as part of the I-710 Corridor Project EIR/EIS preparation. As stated in Draft EIS/EIR Section 3.5.2.3, the Port does not own, control, or maintain any of the impacted highway segments, and cannot unilaterally implement any mitigation measures without the consent of Caltrans. However, the Port is committed to working with Caltrans and contributing its fair share to a mitigation plan.

Please see responses to comments CT-4, CC-7, CBD-65, CBD-67, CBD-68, CEHJ-2, and LBUSD-17 for additional details.

CT-4. The comment suggests that five alternative mitigation measures to the I-710 Corridor Project be considered as potential replacement mitigation measures should the parties fail to agree on a comprehensive plan for the I-710. The alternative mitigation measures include: (1) improvement project which addresses weaving movements in both directions at the I-710/PCH interchange and I-710/Willow Street interchange; (2) contribution to any I-710 early action projects; (3) funding additional studies; (4) contributing to the Gerald Desmond Bridge reconstruction; and (5) contributing to ACTA/Caltrans joint SR-47 Truck Only Expressway and Schuyler Heim Bridge reconstruction.

The proposed I-710 Corridor Project identifies several improvements to the freeway between its terminus at the Port of Long Beach and I-5, including additional lanes, a freight corridor, and elimination of several design deficiencies.

- 1) **Weaving movements at the freeway interchanges of PCH and Willow Street:** These are two of the identified design deficiencies that are being addressed in the I-710 Corridor Project. As stated in the Draft EIS/EIR and also in response to comment CT-3, the Port does not own, control, or maintain any of the impacted highway segments, and cannot unilaterally implement any mitigation measures without the consent of Caltrans. This includes the interchanges. The Port supports recommended improvements to these interchanges and is working with the City of Long Beach and Caltrans to develop a recommended alternative for this segment of the I-710. If the I-710 Corridor Project is not adopted, the Port will continue to work with Caltrans to identify alternative improvements and will contribute the fair share calculated in Draft EIS/EIR Table 3.5-23.
- 2) **I-710 Early Action Projects:** As stated in the Draft EIS/EIR and also in response to comment CT-3, the Port does not own, control, or maintain any of the impacted highway segments, and cannot unilaterally implement any mitigation measures without the consent of Caltrans. This includes I-710 early action projects. The Port supports early action projects that will appropriately mitigate Project impacts. The Port will continue to work with Caltrans to identify I-710 early action projects that will mitigate the Project impacts and will contribute the fair share calculated in Draft EIS/EIR Table 3.5-23.
- 3) **Funding Additional Studies:** It is unclear how funding additional studies will mitigate the Project's traffic impact. The Port has contributed \$5 million for environmental analysis

of the I-710 Corridor Project and will continue to partner with Caltrans on I-710 improvements, including funding additional studies that may be directly related to Port operations. Due to the vagueness of this suggested alternative, the Port finds this alternative mitigation measure to be infeasible.

- 4) **Contribution to the Gerald Desmond Bridge Replacement Project:** The Gerald Desmond Bridge, which is currently owned and maintained by the Port, will be transferred to Caltrans upon completion of the proposed replacement project. The Port has funded the environmental analysis and the conceptual design for this project. The project cost for design and construction is estimated at \$1.125 billion. The project funding allocations total \$850 million, which includes an additional \$100 million contribution from the Port and \$164.8 million from container fees. The Port is actively seeking federal assistance for the remaining \$275 million. Therefore, the Port is already contributing to the Gerald Desmond Bridge reconstruction and the suggested alternative mitigation is not appropriate.
- 5) **Contribution to SR-47 Truck Only Expressway and Schuyler Heim Bridge:** This is not an appropriate mitigation measure because the Project would not result in significant traffic impacts on SR-47 or the Schuyler Heim Bridge, nor will these improvements mitigate the Project's impacts on I-710.

As previously indicated, the Project impact has been identified and a fair share percentage has been calculated to mitigate the Project's impacts on the I-710. This will be included in the MMRP for the Project. Please see response to comment CT-3 for additional details.



DEPARTMENT OF CONSERVATION

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

5816 Corporate Avenue, Suite 200, Cypress, CA 90630-4731

PHONE 714/816-6847 • FAX 714/816-6853 • WEB SITE conservation.ca.gov

July 10, 2008

Mr. Richard Cameron
 Port of Long Beach
 925 Harbor Plaza
 Long Beach, California 90802

Subject: Draft Environmental Impact Report for Middle Harbor Redevelopment Project –
 SCH# 2004091010

Dear Mr. Cameron:

The Department of Conservation's (Department) Division of Oil, Gas, and Geothermal Resources (Division) has reviewed the above referenced project. The Division supervises the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. DOC-1

The proposed project is located within the administrative boundaries of the Wilmington oil field. There are numerous active, idle, plugged and abandoned wells within or in proximity to the project boundaries. The wells are identified on Division map 129 and in Division records. The Division recommends that all wells within or in close proximity to project boundaries be accurately plotted on future project maps.

Building over or in the proximity of idle or plugged and abandoned wells should be avoided if at all possible. If this is not possible, it may be necessary to plug or re-plug wells to current Division specifications. Also, the State Oil and Gas Supervisor is authorized to order the reabandonment of previously plugged and abandoned wells when construction over or in the proximity of wells could result in a hazard (Section 3208.1 of the Public Resources Code). If abandonment or reabandonment is necessary, the cost of operations is the responsibility of the owner of the property upon which the structure will be located. Finally, if construction over an abandoned well is unavoidable an adequate gas venting system should be placed over the well. DOC-2

Furthermore, if any plugged and abandoned or unrecorded wells are damaged or uncovered during excavation or grading, remedial plugging operations may be required. If such damage or discovery occurs, the Division's district office must be contacted to obtain information on the requirements for and approval to perform remedial operations. DOC-3

*The Department of Conservation's mission is to protect Californians and their environment by:
 Protecting lives and property from earthquakes and landslides; Ensuring safe mining and oil and gas drilling;
 Conserving California's farmland; and Saving energy and resources through recycling.*

JUL 14 2008

Mr. Richard Cameron, Port of Long Beach

July 10, 2008

Page 2

DOC-4

To ensure proper review of building projects, the Division has published an informational packet entitled, "Construction Project Site Review and Well Abandonment Procedure" that outlines the information a project developer must submit to the Division for review. Developers should contact the Division's Cypress district office for a copy of the site-review packet. The local planning department should verify that final building plans have undergone Division review prior to the start of construction.

Thank you for the opportunity to comment on the Draft Environmental Impact Report. If you have questions on our comments, or require technical assistance or information, please call me at the Cypress district office: 5816 Corporate Avenue, Suite 200, Cypress, CA 90630-4731; phone (714) 816-6847.

Sincerely,



Paul Frost
Associate Oil & Gas Engineer
Division of Oil, Gas and Geothermal Resources
District 1

cc: State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Linda Campion – Headquarters
Sacramento

Department of Conservation, July 10, 2008

- DOC-1.** Thank you for your comment. The Port will ensure that all oil wells in the Project vicinity are included on future Project maps.
- DOC-2.** The comment addresses regulatory procedures for building in proximity to oil wells. As stated in Draft EIS/EIR Section 3.10.1.3 (Oil Wells) and Section 3.10.2.3 (Impact HAZ-2), the Project would comply with all regulatory requirements associated with construction in the vicinity of idle or abandoned wells. All of the requirements recommended in the comment would be followed. Therefore, no revisions to the Final EIS/EIR are required.
- DOC-3.** Final EIS/EIR Section 3.10.2.3 (Impact HAZ-2) has been revised to state that if any plugged and abandoned or unrecorded wells are damaged or uncovered during excavation or grading, remedial plugging operations may be required.
- DOC-4.** This comment addresses the review process associated with DOGGR's Construction Project Site Review and Well Abandonment Procedures. Draft EIS/EIR Section 3.10.1.3.9 (Oil Wells) and Section 3.10.2.3 (Impact HAZ-2) address how the Project would comply with DOGGR's Construction Project Site Review and Well Abandonment Procedure information packet. Therefore, no revisions to the Final EIS/EIR are required.

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August 14, 2008

Richard D. Cameron
Director of Environmental Planning
Port of Long Beach
925 Harbor Plaza
Long Beach, CA 90802

RE: Port of Long Beach Middle Harbor Redevelopment Project

Dear Mr. Cameron,

The Attorney General submits these comments on the Draft Environmental Impact Statement/Report (DEIS/R) for the Port of Long Beach Middle Harbor Redevelopment Project ("Middle Harbor Project" or "Project"), pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).¹ The Middle Harbor Project will advance the commitment by the Port of Long Beach ("Port") to reduce the environmental impacts from its operations while accommodating growth in the shipping industry. But, as the Port recognizes, the Project will have significant environmental impacts, including a substantial increase in greenhouse gas emissions. The Port, under CEQA, and the U.S. Army Corps of Engineers, under NEPA, must do more to describe, to analyze, and to mitigate the Project's significant cumulative impacts related to global warming.²

DOJ-1

¹These comments address only the treatment of the Project's greenhouse gas emissions in the DEIS/R. We express no view on other aspects of the document. The Attorney General offers these comments in his independent capacity and duty to protect the natural resources of the State from destruction, pollution and impairment in the public interest. These comments are those of the Attorney General, and are not made on behalf of any other California agency or office.

²The Notice of Availability in the Federal Register states that all comments can be sent through the Port, which is why we have addressed these comments only to the Port. (73 Fed.Reg. 28437 (May 16, 2008).)

BACKGROUND

DOJ-2

As maritime ports enter into what the DEIS/R suggests will be a sustained era of growth, the world is approaching a tipping point at which greenhouse gas emissions reach an irreversible level. According to Rajendra Pachauri, Chairman of the United Nations Intergovernmental Panel on Climate Change, "If there's no action before 2012, that's too late. What we do in the next two to three years will determine our future. This is the defining moment."³

Well before initiation of Middle Harbor Project, the Port has demonstrated its commitment to green policies, as set forth in the Green Port Policy that the Port adopted in 2005. This commitment also is manifested in the Clean Air Action Plan (CAAP), which the Port, along with the Port of Los Angeles, adopted in 2006. Under the CAAP, the ports commit to cutting air emissions by half over five years. One report recently described this undertaking to clean up their operations as "by far the most ambitious in the world."⁴

The Port has made a similar commitment to address greenhouse gas emissions from its activities. In July, Executive Director Richard Steinke joined port leaders from around the world in Rotterdam to endorse the World Ports Climate Declaration. In the declaration, ports agree to implement initiatives to reduce greenhouse gas emissions from ocean-going ships, port operations and development, and landside transport; to promote the use of renewable energy; and to quantify and to take measures to reduce their carbon footprint.⁵

The Port already has embarked on several of the types of initiatives that the Declaration contemplates. For instance, the Port has collaborated with the City of Long Beach to quantify its own greenhouse gas emissions (not including Port tenants); it seeks to partner with Southern California Edison to implement energy efficiency measures; it has participated in Long Beach's Urban Forest Master Plan development since 2007, in anticipation of planting trees outside the Harbor District as a means to mitigate greenhouse gas emissions; it has initiated a solar car canopy pilot project; and, significantly, it plans to complete a study of additional opportunities for solar generation during August 2008.⁶ These are positive, and much-needed, steps in the fight against global warming.

³Rosenthal, "U.N. Chief Seeks More Leadership on Climate Change," N.Y. Times (November 18, 2007).

⁴Cannon, James, "U.S. Container Ports and Air Pollution: A Perfect Storm" (2008), available at http://s3.amazonaws.com/energy-futures.com/port_study_ef.pdf.

⁵C40 World Ports Climate Conference, "World Ports Climate Declaration" (July 2008), available at <http://wpccrotterdam.com/usr-data/general/Declaration.pdf>.

⁶Memorandum from Richard D. Cameron, Director of Environmental Planning, to Board of Harbor Commissioners, July 30, 2008.

The Middle Harbor Project incorporates several elements of the Port's green policies. But even so, the Project will result in a substantial increase in greenhouse gas emissions. According to the DEIS/R, by the year 2030, the annual mitigated greenhouse gas emissions from the Project will be 920,858 metric tons of carbon dioxide equivalents (CO₂e), which is an increase of approximately 440 percent over the 2005 baseline. (DEIS/R at 3.2-70.) In other words, by 2030 the greenhouse gas emissions from operations related to the Middle Harbor terminal will be equivalent to adding 130,540 new passenger cars to the road each year.⁷

↑ DOJ-2

We are concerned by what appears to be a disconnect between the Port's objective to reduce its carbon footprint, and the significant increase in emissions that will accompany the proposed Middle Harbor Project. We encourage the Port to seize this opportunity to move closer to meeting its environmental goals.

COMMENTS UNDER CEQA

DOJ-3

A. The DEIS/R Fails to Describe the Serious Consequences of Global Warming.

The DEIS/R describes briefly how the accumulation of greenhouse gases in the atmosphere can increase global temperatures, but it limits the discussion of impacts to a single sentence that fails to reveal the potentially catastrophic consequences of climate change. According to the DEIS/R, increasing temperatures and other environmental changes "have potentially negative environmental, economic, and social consequences around the globe." (DEIS/R at 3.2-8.) There is no description or acknowledgment of the California-specific impacts of global warming, or of potential impacts to the Port itself.

CEQA requires a good faith effort at full disclosure. (Cal. Code Regs., tit. 14, § 15151.) While the lead agency is not required to "foresee[] the unforeseeable," it must "use its best efforts to find out and disclose all that it reasonably can." (*Id.*, § 15144.) Full disclosure of a project's environmental impacts promotes a fundamental purpose of CEQA: to "inform the public and responsible officials of the environmental consequences of their decisions before they are made." (*Laurel Heights Improvement Assn. of San Francisco v. Regents of the Univ. of Cal.* (1993) 6 Cal.4th 1112, 1123.)

The DEIS/R must consider the impact of the Project's greenhouse gas emissions within the context of current information about the present and projected effects of climate change on California. The California Climate Change Center, for example, reports that by the end of this century, if greenhouse gas emissions proceed at a medium to high rate, temperatures could rise by 4.7 to 10.5°F and sea levels may rise by 30 inches or more.⁸ This could have serious

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⁷See <http://www.epa.gov/grnpower/pubs/calcmeth.htm#vehicles>.

⁸California climate Change Center, "Our Changing Climate: Assessing the Risks to California" (July 2006), pp. 3, 12-13, *available at*

DOJ-3

↑ consequences in California, including changing weather patterns, substantial loss of snow-pack in the Sierra and consequent water shortages, coastal erosion, saltwater intrusion into the Delta, an increase of as much as 55 percent in the risk of large wildfires, reductions in the quality and quantity of agricultural products, among other things.⁹

The DEIS/R should also disclose the impacts that climate change may have on the Port. In a presentation entitled “Port Sustainability in a Changing Climate,” coastal scientist Adam Hosking described some of the implications that increasing sea levels could have on port operations, including increased storminess and wave agitation in port basins, resulting in increased downtime, and increased terminal flooding from overtopping.¹⁰ An accurate description of the Project in the DEIS/R requires some discussion of how anticipated changes to the environment from global warming will affect the extensive facilities and operations at the Middle Harbor terminal in the future.

DOJ-4

B. The DEIS/R Fails Adequately to Disclose All Greenhouse Gas Emissions Related to the Project.

Another area where the DEIS/R falls short is in disclosing the full extent of greenhouse gas emissions associated with the expansion of an international shipping port. A central purpose of an environmental impact report prepared pursuant to CEQA is to “provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment” (Pub. Resources Code, § 21061.) For several decades, California courts have recognized that an environmental impact report should serve as an “environmental alarm bell” to “alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.” (*County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810; *San Joaquin Raptor/Wildlife Reserve Center v. County of Stanislaus* (1995) 27 Cal.App.4th 713, 721.) This key function of CEQA is especially relevant today, given the urgent necessity of reducing greenhouse gas emissions in the near term and at every opportunity.

The Middle Harbor DEIS/R limits the disclosure of greenhouse gas emissions to those that will occur within California’s borders and within the three-mile state water jurisdictional boundary west of Point Conception. (DEIS/R at 3.2-17.) However, the proposed terminal

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www.climatechoices.org/ca/site/our-changing-climate.html.

⁹Climate Action Team Report, Executive Summary, pp. xii-xiii (March 2006), available at www.climatechange.ca.gov/climate_action_team/reports/.

¹⁰Hosking, Adam, “Port Sustainability in a Changing Climate,” presentation at the American Association of Port Facilities Seminar, San Diego, California (Nov. 7-9, 2007), available at http://aapa.files.cms-plus.com/SeminarPresentations/07_FACENG_Hosking_Adam.pdf.

expansion will result in a nearly 200 percent increase in annual vessel calls, an approximately 150 percent increase in daily truck trips, and a more than 1,500 percent increase in annual trains.¹¹ Much of this increased transit, and the resulting greenhouse gas emissions, will extend beyond California's borders and outside the lines drawn in the DEIS/R.

For ships alone, roughly 60 percent of port calls in 2005 were from regions other than the west coast of North America, and nearly 40 percent were from overseas.¹² Travel to the Port and distant destinations potentially will result in a huge amount of greenhouse gas emissions outside of California state waters, which are not disclosed. Studies have shown that, worldwide, ocean-going vessels of over 100 tons emit up to three percent of the total world inventory of greenhouse gas emissions, which is more than the emissions attributable to almost any individual developed nation in the world.¹³

CEQA requires that an EIR "identify the significant effects on the environment of a project." (Cal. Pub. Resources Code, § 21002.1, subd. (a); see also *Laurel Heights Improvement Assn. of San Francisco v. Regents of the Univ. of Cal.* (1988) 47 Cal.3d 376, 390, quoting *Friends of Mammoth v. Bd. of Supervisors of Inyo County* (1972) 8 Cal.3d 247, 259 [CEQA is "to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language"].) The "environment" to be reviewed under CEQA includes "the physical conditions which exist *within the area which will be affected by a proposed project*, including the land, air, water" (Pub. Resources Code, § 21060.5; emphasis added.) A CEQA "project" encompasses "an activity which may cause either a direct or indirect physical change in the environment, or a reasonably foreseeable indirect physical change in the environment" (Pub. Resources Code, § 21065.)

The central purpose of the Middle Harbor Project is to expand the ability of the Port to accommodate the increasing demand to move goods, and containers for carrying goods, to and from far-distant ports and other locations. The extensive greenhouse gases that will result from the projected movement of goods and containers to and from the redeveloped Middle Harbor will be emitted into the near-surface air and the global atmosphere both within and far outside of California. Global warming, caused by and exacerbated by these emissions, is causing and will

¹¹DEIS/R at 1-19, Table 1.6-1. The percentages represent Year 2030 projections for the 345-acre alternative over the 2005 CEQA baseline.

¹²Final Report, Low-Sulfur Marine Fuel Availability Study (Apr. 14, 2008), available at www.polb.com/environment/air_quality/vessels/default.asp.

¹³International Council on Clean Transportation, "Air Pollution and Greenhouse Gas Emissions from Ocean-Going Ships: Impacts, Mitigation Options and Opportunities for Managing Growth" (2007), at 26, 34.

↑ DOJ-4
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DOJ-4

cause harm to California.¹⁴ Accordingly, limiting consideration of greenhouse gas emissions from an international port expansion project to those created within California undermines the full-disclosure purpose of the environmental analyses required under CEQA and does not reflect the quality of data required for accurate scientific analysis of the Project's impacts.¹⁵

For these reasons, the DEIS/R should be revised to include greenhouse gas emissions from all sources resulting from implementation of the Project, including mobile sources that emit greenhouse gases outside of California.¹⁶

DOJ-5

C. The DEIS/R Fails Adequately to Analyze Feasible Mitigation.

As the Port correctly concludes in the DEIS/R, the cumulative environmental impacts from the increased greenhouse gas emissions are significant. (DEIS/R at 3.2-19.) We understand that cargo operations at the Port are expected to increase with or without the Project. As the Port recently recognized, however, its ability to accommodate the projected growth in trade "will depend upon [its] ability to address adverse environmental impacts (and, in particular, air quality impacts) that will result from such trade."¹⁷ The Middle Harbor Project represents an opportunity for the Port to take additional steps to reduce emissions and to put its green policies into effect to the fullest feasible extent.

CEQA requires this. A lead agency must mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so. (Pub.

¹⁴The California Climate Action Registry (CCAR) allows entities to report greenhouse gas emissions data from operations outside the United States, although it does not verify international greenhouse gas emissions data at this time. (CCAR, "General Reporting Protocol, Version 3.0" (Apr. 2008), at 12, *available at* www.climateregistry.org/tools/.)

¹⁵NEPA similarly requires the lead agency to disclose the significant environmental impacts that are effects of a proposed federal action, even if the impacts occur outside of the United States, and even if the federal action itself is not the source of the impacts. (See *Border Power Plant Working Group v. Dept. of Energy* (S.D.Cal. 2003) 260 F.Supp.2d 997, 1014 [requiring analysis of impacts from the operation of power plants in Mexico, even though the federal project only involved transmission lines from the power plants]; see also 42 U.S.C. § 4332(2)(F) [NEPA requires federal agencies to "recognize the worldwide and long-range character of environmental problems].)

¹⁶We note that an agency may have an obligation to disclose and to analyze impacts that are not within its jurisdiction to mitigate. (See *County of San Diego v. Grossmont-Cuyamaca Community College Dist.* (2006) 141 Cal.App.4th 86, 100; see also Pub. Resources Code, § 21081, subd. (a)(2).)

¹⁷Port of Long Beach, Air Emissions Inventory (June 2008), at 17.

Resources Code § 21002.1, subd. (b); *City of Marina Board of Trustees* (2006) 39 Cal.4th 341, 360.) “Feasible” means “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, social and technological factors.” (Pub. Resources Code, § 21061.1.) Mitigation of significant environmental impacts is one of the most important functions of CEQA. (*Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41.) CEQA also requires the Port to ensure that measures intended to mitigate impacts are “fully enforceable through permit conditions, agreements, and other measures.” (Pub. Resources Code, § 21081.6, subd. (b).)

DOJ-5

The DEIR/S lists twelve mitigation measures to reduce operational greenhouse gas emissions, nine of which are specific to reducing GHG emissions, and the other three of which are selected to reduce criteria pollutants as well. (DEIS/R at 3.2-63-68.) However, it is not evident from the DEIS/R that the Port adequately considered all feasible mitigation for the Project, as CEQA requires.

An obvious omission in the DEIS/R is any discussion of mitigation for the significant amount of greenhouse gas emissions that will result from construction activities. The DEIS/R discloses the greenhouse gas emissions from construction, but it is silent on mitigation. (DEIS/R at 3.2-63.) We note that there is some mitigation for the air quality impacts from emissions of criteria pollutants during construction. (DEIS/R at 3.2-24 to 3.2-27.) The DEIS/R should discuss whether these measures can be expanded to further reduce greenhouse gas emissions, and whether other strategies are available.

As for Project operations, there may be additional types of feasible mitigation for the Port to require as part of the Project, including greenhouse gas reduction measures that the Port already is exploring as part of its broader efforts to go green. For instance, could the Port create or expand programs to encourage employees to carpool or to use public transportation? Use “cool pavements” and “cool roofs” for new construction throughout the Port? Establish a user-fee schedule that accounts for a ship’s pollution-control measures? Provide incentives for its tenants to reduce greenhouse gas emissions? We understand from our discussions with the Port that it is looking at alternatives like these – if not these specific options – already. To the extent they are feasible, they should be incorporated into the Middle Harbor Project and into the discussion of mitigation in the DEIS/R.

Some mitigation measures in the DEIS/R could also be expanded. For example, mitigation measure AQ-17 requires the applicant to install solar panels on the main terminal building. (DEIS/R at 3.2-67.) It does not quantify the size of the solar installation, or identify other on-site and off-site locations for solar (or wind, or both) generation. The Port is studying its potential solar capacity throughout the Port, but it should address this in the DEIS/R. If the Port believes that it can generate electricity from solar, wind, or other low-emission sources, or if it can lease space to other companies to do so, then it must consider this as mitigation for the

DOJ-5

Project – particularly in light of the increased electricity needed to support the Project.¹⁸

Where on-site options for mitigation have been exhausted, the Port should consider the feasibility of undertaking or funding off-site mitigation, particularly in the area immediately surrounding the Port. For instance, the South Coast Air Quality Management District (SCAQMD) has announced plans for a Climate Solutions Exchange, where entities that need to reduce greenhouse gas emissions can purchase credits based on other entities' voluntary reductions.¹⁹ Before the Climate Solutions Exchange is operational, there may be other ways for the Port to fund emissions reduction efforts. We note that, for instance Chevron has agreed to pay at least \$1.5 million into a carbon offset fund that the SCAQMD will administer, to mitigate greenhouse gas emissions from an expansion project at its El Segundo Refinery.²⁰ A reasonable financial commitment by the Port to purchase carbon credits would have an important nexus to the Port's activities by providing additional mitigation for the Middle Harbor Project.

We recognize that, ultimately, it is for the Port to decide what mitigation is, and is not, feasible. We encourage the Port to expand its discussion and adoption of mitigation measures in the final EIS/R, to comply with CEQA's requirement to adopt feasible mitigation that will avoid or substantially lessen the Project's significant environmental effects.

COMMENTS UNDER NEPA

DOJ-6

We note two additional deficiencies under NEPA. First, the DEIS/R conflates the NEPA baseline with "Alternative 3," which includes landside improvements only, for which no federal action or permit would be required. (DEIS/R at 1-3.) Alternative 3 will result in substantial growth as well, by more than doubling the amount of cargo handled at the terminal by 2030. (DEIS/R at p. 1-19, Table 1.6-1.) According to the DEIS/R, construction of Alternative 3 will result in nearly 37,000 tons of greenhouse gas emissions, and the annual operational emissions

¹⁸We note that the Project would include construction of a 66 kV substation to provide power to support Middle Harbor container terminal operations and power needs for other Port facilities. (DEIS/R at 1-16.) How much of that can the Port – or a different entity – generate using alternative sources of electricity? (See, e.g. University of California, "Commitment to Climate Solutions" (July 15, 2008) [describing a program through which private investors will construct, install and maintain photovoltaic panels and fuel cells on the UC San Diego campus, and the University will then buy back the power through long-term contracts].)

¹⁹SCAQMD, "White Paper: SoCal Climate Solutions Exchange" (June 2008), *available at* www.aqmd.gov/hb/2008/June/080637a.htm; see also California Environmental Insider (June 17, 2008) at 6-7.

²⁰ Final EIR, Chevron Products Company El Segundo Refinery Product Reliability and Optimization Project, at 5.27-28, *available at* www.aqmd.gov/ceqa/documents/2008/nonaqmd/chevron/PRO/ch5.pdf.

Richard D. Cameron

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under Alternative 3 will reach approximately 872,000 tons by 2030, which is an increase of 664,000 tons above 2005 levels. (DEIS/R at 3.2-97, Table 3.2-50, and 3.2-99, Table 3.2-51.) There is no basis to exclude these significant increases in greenhouse gas emissions from the NEPA baseline. The NEPA baseline is supposed to reflect "the environment of the area(s) to be affected" by the project, not an imagined future scenario that may or may not occur. (See 40 C.F.R. § 1502.15.) For the same reason, the NEPA baseline must not include future emissions under Alternative 4, the no-project alternative. They too are speculative and do not represent present conditions.

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DOJ-6

Second, the DEIS/R fails to evaluate the significance of the Project's greenhouse gas emissions under NEPA. The U.S. Army Corps of Engineers uses the absence of a regulatory threshold of significance to avoid evaluation of the significance of the Project's greenhouse gas emissions. (DEIS/R at 3.2-19-20.) Nothing in NEPA or its regulations requires establishment of a regulatory threshold in order to assess the significance of an environmental effect. Indeed, NEPA requires federal agencies to "recognize the worldwide and long-range character of environmental problems." (42 U.S.C. § 4332(2)(F).) The Project will emit more than 920,000 tons of greenhouse gases into the atmosphere each year by 2030, which is more than 700,000 tons per year over 2005 levels. (DEIS/R at 3.2-70.) This cannot be considered anything but significant in California, a state that has mandated that greenhouse gas emissions be reduced to 1990 levels by the year 2020, and in light of California's objective, consistent with the science, to stabilize emissions at levels 80 percent below 1990 levels by 2050.

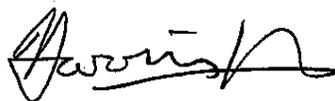
DOJ-7

CONCLUSION

DOJ-8

Thank you very much for the extensive assistance and information you and your staff have provided to our office to date about the Middle Harbor Project and for the opportunity to comment on the DEIS/R. We are most willing to meet with you and your staff to discuss our comments and to work cooperatively to address the important environmental issues related to the Project.

Sincerely,



HARRISON M. POLLAK
Deputy Attorney General

TIMOTHY R. PATTERSON
Supervising Deputy Attorney General

For EDMUND G. BROWN JR.
Attorney General

cc: U.S. Army Corps of Engineers, Los Angeles District, Regulatory Branch

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State of California Department of Justice, August 14, 2008

- DOJ-1.** The comment suggests that USACE and the Port must do more to describe, analyze, and mitigate the Project's significant cumulative impacts related to global warming. Please see response to comments DOJ-3 through DOJ-7 for additional details regarding the Project's GHG emissions and mitigation measures to reduce those emissions.
- DOJ-2.** The Port acknowledges that GHG emissions produced from the handling and transport of cargo associated with the proposed Project would incrementally contribute to climate change. The Port also acknowledges its fundamental duty to accommodate and promote commerce. The 1911 grant of the tidelands to the City of Long Beach was for the express purpose of constructing improvements "necessary or convenient for the promotion and accommodation of commerce and navigation...." Stats. of 1911, p. 1305. The California Legislature subsequently has declared its intent for existing Ports, such as the Port of Long Beach, to modernize and construct the necessary facilities in order to avoid the necessity of creating new ports (PRC § 30702(b)). The Legislature has recognized the California ports as one of the state's primary economic resources and declared that they are "an essential element of the national maritime industry" (PRC § 30702(a)). While the mathematical calculations in the comment appear to be correct, the suggestion that by the year 2030, the added GHG from this Project would be the equivalent of adding 130,540 new passenger cars to the roads is misleading. Without the construction of the Project, the annual metric tons of CO₂e would be less than if the Project had been constructed by a magnitude of 47,296, or the equivalent of 8,445.7 [47,296 divided by 5.6] additional passenger cars. The comparison made by the commenter assumes that without the Project, there were be no growth in GHG between 2005 and 2030. While comparison back to the 2005 baseline is appropriate for making a CEQA determination of significance, it is not appropriate for describing a snapshot of CO₂e vehicle equivalency for the year 2030. For discussions on mitigations that would reduce Project cumulative impacts to climate change, please see response to comment DOJ-5.
- DOJ-3.** The comment suggests that the Draft EIS/EIR fails to describe the serious consequences of global warming. The Draft EIS/EIR Section 3.2.1.2 (Greenhouse Gas Emissions) contained a discussion of the consequences of GHG and climate change. A discussion of AB 32 is included in Draft EIS/EIR Section 3.2.1.3. The Draft EIS/EIR quantifies the 2005 GHG levels at the Middle Harbor container terminal on a daily and yearly basis (Section 3.2.1.4 (Existing Emissions at Middle Harbor container terminals) Draft EIS/EIR Section 3.2.2.1 explains the current dilemma of there being no adopted Thresholds of Significance for GHG. It then explains the methodology used to calculate GHG (Draft EIS/EIR Section 3.2.2.2). The Draft EIS/EIR contains 17 pages of analysis of the GHG emissions associated with the Project and the various alternatives (Draft EIS/EIR Sections 3.2.2.3, 3.2.2.4, 3.2.2.5, and 3.2.2.6). It next outlines the cumulative impacts of GHG (Draft EIS/EIR Section 3.2.3). Appendix A-1 contains additional technical information relating to the GHG emissions and the quantification and assessment of the emissions for each of the four alternatives. The commenter incorrectly characterizes that discussion as consisting of a single sentence regarding the consequences of global warming. After providing an explanation of the linkage between GHG and temperature change, the Draft EIS/EIR states that GHG and climate change have potentially negative environmental, economic, and social consequences around the globe. It then discusses a U.S. Supreme Court case in which the court ruled that harms associated with climate change are serious and well recognized. The Draft EIS/EIR listed numerous reference documents relating to GHG and climate changes that the reader could review (Draft EIS/EIR Chapter 9), referencing six documents containing extensive information on GHG and climate change, including website references. On June 19, 2008, after the release of the Draft EIS/EIR, the Governor's Office of Planning & Research (OPR) issued a Technical Advisory entitled *CEQA and Climate Change: Address Climate Change Through CEQA Review*. OPR is the state office which has been designated by the Legislature in SB 97 to develop CEQA Guidelines for dealing with GHG and climate change. Cal. Pub. Res. Code Section 21083.05(a). OPR's Technical Advisory does not direct lead agencies to include

extensive amounts of information regarding the potential consequences of climate change. Instead, under the "Recommended Approach," OPR recommends the following:

Lead agencies should determine whether greenhouse gases may be generated by a proposed project, and if so, quantify or estimate the GHG emissions by type and source. Second, the lead agency must assess whether those emissions are individually or cumulatively significant. When assessing whether a project's effects on climate change are "cumulatively considerable" even though its GHG contribution may be individually limited, the lead agency must consider the impact of the project when viewed in connection with the effects of past, current, and probable future projects. Finally, if the lead agency determines that the GHG emissions from the project as proposed are potentially significant, it must investigate and implement ways to avoid, reduce, or otherwise mitigate the impacts of those emissions (Technical Advisory, p. 5.).

Even though the OPR Technical Advisory was not published until after the release of the Draft EIS/EIR, the document nonetheless follows the recommended approach to the letter. As stated above, the OPR Technical Advisory does not recommend that the lead agency include any type of detailed analysis regarding the consequences of climate change in CEQA documents. This may be because the consequences to a large extent are not fully known or agreed upon by the experts. The Port and USACE believe that the level of discussion and the focus of analysis contained in the Draft EIS/EIR is appropriate. Nonetheless, pursuant to the commenter's suggestion, Final EIS/EIR Section 3.2.1.2 includes a more detailed description of potential effects of climate change to California and specifically to the Port and the Project. Additionally, the Impact AQ-8 discussion in Final EIS/EIR Section 3.2.2.3 acknowledges that Project GHG emissions would incrementally contribute to these effects.

DOJ-4.

This response also addresses Comments CBD-34 and CBD-35. The referenced comments state that the Draft EIS/EIR does not disclose the full extent of GHG emissions associated with the expansion of the Middle Harbor container terminal because it does not include certain mobile emissions outside of California, such as ship emissions on waters outside of the U.S. As explained in more detail below, the analysis of GHG in the Draft EIS/EIR is entirely consistent with emerging and evolving guidance on the appropriate scope and methodology for GHG analysis in NEPA and CEQA documents. However, in an effort to provide the detailed type of information the commenter seeks, an additional analysis that includes a best estimate of GHG emissions outside of California has been prepared and is presented in this response.

As explained in Draft EIS/EIR Section 3.2.1.4 (Greenhouse Gas Emissions), reasonable assumptions regarding truck trips, train trips, and ships were made for purposes of the GHG calculations. Specifically, for trucks, an in-state average distance was developed for trips within California, and the average distance to the state border was used for out-of-state trips. Similarly, for trains, emissions were accounted for all the way to the California border. Ship emissions were also calculated based upon assumed travel and operations while in California waters. For the consumption of electricity generated offsite, all GHG emissions were included in the analysis without regard to whether they were generated within or outside California, since in part it was not possible to determine the exact source and location of power generation. In general, a portion of the electricity used in California is generated outside of the state. As explained in the Draft EIS/EIR, this approach is consistent with the goal of the CCAR program to report and monitor all GHG emissions within the State of California in accordance with AB 32. These same assumptions were applied to the baseline scenarios. The Port and the USACE determined that use of the California boundary to delineate the domain for the estimation of Project GHG emissions is adequate to provide an indicator of the magnitude of proposed GHG emissions.

As a starting point, it is significant that the focus of AB 32 is "statewide greenhouse gas emissions," which are expressly limited to "the total annual emissions of greenhouse gases ***in the state.***" Health & Safety Code Section 38505(m), (bold and italic emph. added). The mandate of AB 32 is to reduce the "in state" GHG emissions to their 1990 level by 2020.

Health & Safety Code Section 38550. The legislation required that the implementing regulations must “to the maximum extent feasible, incorporate the standard and protocols developed by the California Climate Action Registry....” Health & Safety Code Section 38530(b)(3). The protocols established by the CCAR require that California emissions be calculated and maintained separately from emissions in other parts of the U.S. CCAR General Reporting Protocol, p. 11. Reporting emissions outside California but within the U.S. is identified as strictly optional. (CCAR General Reporting Protocol, p. 11). However, the CCAR ***“does not accept for certification information on emissions released by sources outside of the United States.”*** CCAR General Reporting Protocol, p. 11 (Bold and italic emph. added).

The Port issued an NOP and the USACE issued an NOI for Draft EIS/EIR for the purpose of receiving guidance on the scope and method of analysis in the document. The Port extended the deadline for responsible agencies to comment. Not one of the responses to the NOP or the NOI requested that a GHG analysis be completed; nor did the responses provide suggestions regarding the scope of the analysis. For example, the SCAQMD neither requested that the document include GHG analysis nor provided any guidance as to how one would be prepared. The entities that submitted Comments CBD-34 and -35 were provided with the NOP and submitted some comments on the scope of the NOP. However, the commenters did not even suggest the inclusion of a GHG analysis, let alone provide suggestions regarding the scope of any such analysis.

As SCAQMD has noted, as of the May 2008 publication date of the Draft EIS/EIR, there had been little regulatory guidance with regard to analyzing GHG emission impacts in CEQA documents. See SCAQMD Board Meeting Agenda Package Dec. 5, 2008, Agenda Item No. 31, Interim CEQA GHG Significance Threshold for Stationary Sources, pp. 1-2. The regulations which did exist at that time created more questions than they resolved. For example, the California Code of Regulations’ provisions implementing AB 32’s mandatory reporting of GHG emissions declared that the reporting of mobile sources was optional. As explained in ARB’s “Mandatory Reporting of Greenhouse Gas Emissions: Instructional Guidance for Operators” published in December of 2008:

5.6. Am I Required to Report Mobile Source Emissions?

Reporting of mobile source emissions is optional, as specified in section (Title 17, California Code of Regulation Section) 95103(a)(4). You may choose to calculate and report CO₂, CH₄, and N₂O emissions from mobile combustion associated with your facility operations.

Nonetheless, the GHG emission analysis in the Draft EIS/EIR included mobile sources within California.

As to the “California versus the world” scope of analysis issue, there was no clear path. According to the Minutes of the GHG CEQA Significance Threshold Stakeholder Working Group, the SCAQMD staff has recommended that GHG emissions in California be analyzed, not life cycle emissions. Specifically, the minutes from the April 30, 2008 meeting state as follows:

Considerations in Preparing Significance Thresholds

a. Direct GHG Emissions or Life Cycle

Dr. Smith discussed possible considerations for developing significance thresholds. The first issue to be addressed was whether direct GHG emissions or life cycle emissions should be evaluated. **Staff is recommending that direct and indirect GHG emissions in California be analyzed, not life cycle emissions.** The reason for this recommendation is that life cycle emission calculations will be difficult as the process could occur outside of California. Further, information to calculate life cycle emissions is

not readily available. The working group agreed that direct emissions should include impacts from electricity generation as well as indirect impacts, such as potable water, electricity, and municipal waste services, and that mitigation measures can be used for reducing overall GHG. A comment was made that CEQA applies statewide, and as such is not limited to GHG in the Basin. (Bold and italic emph. added).

After the Draft EIS/EIR was prepared and released, OPR issued its Technical Advisory on CEQA and climate change. This document was the first regulatory guidance provided to lead agencies on how to analyze GHG in NEPA and CEQA documents. See SCAQMD Board Meeting Agenda Package Dec. 5, 2008, Agenda Item No. 31, Interim CEQA GHG Significance Threshold for Stationary Sources, pp. 1-2. The Advisory explained the requirements of AB 32 and then stated that lead agencies “should make a good-faith effort, based upon available information, to calculate, model, or estimate the amount of CO₂ and other GHG emissions from a project, including emissions associated with vehicular traffic, energy consumption, water usage and construction activities.” The Advisory did not advise lead agencies to calculate project-related emissions outside California, which would be beyond the scope of AB 32. The Advisory did recommend use of the Climate Action Reporting On-Line Tool (CARROT) as one of the modeling tools that lead agencies should use to quantify GHG emissions. As explained above, the CARROT protocol requires the calculation of California-based GHG emissions. Reporting emissions in other portions of the United States is optional, and if done, such emissions are tracked separately. Emissions from outside the U.S. are not verified or tracked at all.

In accordance with PRC Section 21083.05, on January 8, 2009, OPR issued Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions. While the Guideline Amendments are not final, they do suggest that the primary criteria that a lead agency should consider in assessing the significance of GHG emissions is based on AB 32:

- (1) The extent to which the project could help or hinder attainment of the state’s goals of reducing greenhouse gas emissions to 1990 levels by the year 2020 as stated in the Global Warming Solutions Act of 2006. A project may be considered to help attainment of the state’s goals by being consistent with an adopted statewide 2020 greenhouse gas emissions limit or the plans, programs, and regulations adopted to implement the Global Warming Solutions Act of 2006. (Draft Guideline 15064.4(a)(1)).

The use of the California boundary to delineate the domain for the estimation of Project GHG emissions was entirely consistent with this type of assessment, as it tracts the CCAR protocol.

Moreover, the January 8, 2009 Draft Guideline relating to the determination of significance impacts from GHG emissions expressly recognizes that a lead agency retains discretion as to how to calculate GHG emissions:

- (b) A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions associated with a project, including emissions associated with energy consumption and vehicular traffic. Because the methodologies for performing this assessment are anticipated to evolve over time, a lead agency shall have discretion to determine, in the context of a particular project, whether to:
 - (1) Use a model or methodology to quantify greenhouse gas emissions associated with a project, and which of any available model or methodology to use. The lead agency may include a qualitative discussion or analysis regarding the limitations of the particular model or methodology selected for use; or
 - (2) Rely on qualitative or other performance based standards for estimating the significance of greenhouse gas emissions. (Draft Guideline 15064.4(b)).

Thus, the draft Guidelines leave ample discretion to the lead agency to determine how it wishes to proceed with the assessment of GHG emissions. The draft Guidelines do not require the type of analysis that the commenter requests.

To suggest that this Project must calculate and account for vessel emissions between the port of origin and the POLB is not reasonable and would require speculation. For example, it is not reasonable to assume that the decision regarding whether to construct this Project would have any impact on the overall demand for goods or their transport. Therefore, it cannot be assumed that the vessel trips would not occur if the Project does not move forward. The prediction of ship movement through the world and the GHG emissions associated therewith involves so many unknown factors that attempting to calculate emissions is speculative. Predicting which countries will be trade partners with the U.S. in 20-plus years would be an art, not a science. Attempting to ascertain future trade routes is even more uncertain. Moreover, if this type of analysis is attempted, where is the logical cutoff point? Must it include the emissions associated with loading the ships in their ports of origin? Should it include transporting the cargo overland within the foreign nation to the foreign port? Should it include the energy assumed in the manufacture of the cargo itself? The type of life-cycle analysis that the commenter suggests is not warranted. Under CEQA, an analysis of an impact need not be exhaustive and should not be speculative. For these reasons, the use of the California border to establish the domain for the estimation of the Project GHG was reasonable.

Nonetheless, in response to the request in Comment DOJ-5, the Port provides the following good faith estimate of the GHG emissions that would occur from the transport of cargo between the Middle Harbor container terminal and its first point of rest, regardless of whether this point is within or outside California. This analysis is based upon the following vehicle trip lengths:

1. OGV route length = 7,224/3,926 nm for arrivals/departures, or an average of 5,575 nm. These data are based on container ship calls to the Middle Harbor container terminal in year 2007. Distance within California = 10.5 nm (Precautionary Area) + 157.5 nm (Precautionary Area to three nm beyond Point Conception) = 168 nm, so the out of California distance = 5,407 nm.
2. Train route length = year 2007 weighted average distances of UP and BNSF trains to/from POLB, or 1,687 miles. Distance from POLB to Arizona = 252 miles, so the out of California distance = 1,435 miles.
3. Truck route length beyond the SCAB = 222/224 in/outbound miles, or an average of 223 miles per trip. Truck route length within the SCAB ranged from 27 to 33 miles depending on the Project year and scenario.

Tables 10-6 through 10-12 below summarize the annual GHG emissions for the CEQA Baseline and each Project scenario. Consistent with the similar tables set forth in the Draft EIS/EIR, these tables show that each Project alternative would exceed the CEQA Baseline GHG emissions and, therefore, they would produce significant impacts to global climate change. Since the Final EIS/EIR proposes all feasible measures to mitigate proposed GHG emissions, these additional GHG emissions estimated for each Project alternative do not obligate the Port to further mitigate these emissions.

Regarding the GHG analyses in the Draft EIS/EIR, truck GHG emissions for future Project scenarios presented in the Draft EIS/EIR Tables were overestimated, due to an overestimation of vehicle miles travelled (VMT) for those sources. For the Draft EIS/EIR, due to a lack of specific data for truck trips outside of the Port region, it was assumed that each truck trip generated by the Middle Harbor container terminal would travel a distance equal to the average of a local trip length and the trip distance between the POLB and the California/Arizona border. Subsequent to the Draft EIS/EIR, new more accurate data from

traffic analyses became available which identified the amount of POLB-generated truck trips that enter/leave the SCAB and their associated origins/destinations. Use of these improved new data resulted in a reduction in the GHG emission estimates for future truck trips. For the same reason, commuting emissions were also updated based for all Project scenarios based on updated, more representative, VMT data. To present examples of these corrected emissions, Tables 10-13 and 10-14 show the revised GHG emissions for the CEQA Baseline and mitigated Alternative 1 for the “California only” domain evaluated in the Draft EIS/EIR (the Final EIS/EIR analyses also correct those inconsistencies). These data show that GHG emissions from the mitigated Alternative 1 in year 2030 (Table 10-8) increase by a factor of 2.88 over the CEQA Baseline (Table 10-6) for the worldwide analyses, compared to an increase by a factor of 2.47 for the California domain analyzed in the Draft EIS/EIR (Tables 10-13 and 10-14). The proportions of these GHG emission increases are similar, regardless of whether the analysis used the California or worldwide domain. This further demonstrates that the domain used in the Draft EIS/EIR is adequate for CEQA purposes.

Table 10-6. Annual Operational GHG Emissions – POLB Middle Harbor Project – CEQA Baseline

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
<i>Year 2005 Baseline</i>							
Ships - Fairway Transit (1)	1,678,811	215.58	14.46	-	-	-	1,687,821
Ships - Precautionary Area Transit (1)	1,266	0.12	0.01	-	-	-	1,271
Ships - Harbor Transit (1)	898	0.04	0.00	-	-	-	900
Ships - Docking (1)	299	0.01	0.00	-	-	-	300
Ships - Hoteling Aux. Sources	21,018	0.87	0.01	-	-	-	21,038
<i>Ships Sub Total</i>	1,702,292	216.63	14.48	-	-	-	1,711,329
Tugboats - Cargo Vessel Assist (1)	527	0.07	0.01	-	-	-	531
Terminal Equipment	10,924	1.58	0.11	-	-	-	10,991
On-road Trucks	150,798	33.56	16.78	-	-	-	156,705
Trains	36,310	5.08	0.36	-	-	-	36,528
Railyard Equipment	634	0.09	0.01	-	-	-	638
Commuting	1,690	0.31	0.30	-	-	-	1,789
Reefers Refrigerant Losses	-	-	-	0.06	0.13	0.06	620
On-Terminal Electrical Consumption	13,131	0.11	0.06	-	-	-	13,152
Year 2005 Total	1,916,307	257	32	0.06	0.13	0.06	1,932,283

Table 10-7. Annual Operational GHG Emissions – POLB Middle Harbor Project – Unmitigated Alternative 1.

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
Project Year 2010							
Ships - Fairway Transit (1)	2,674,703	354.24	23.82	-	-	-	2,689,525
Ships - Precautionary Area Transit (1)	1,902	0.25	0.02	-	-	-	1,913
Ships - Harbor Transit (1)	1,529	0.21	0.01	-	-	-	1,537
Ships - Docking (1)	512	0.07	0.00	-	-	-	515
Ships - Hoteling Aux. Sources	14,719	1.98	0.11	-	-	-	14,793
Ships Sub Total	2,693,365	356.75	23.95	-	-	-	2,708,282
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	15,935	2.30	0.16	-	-	-	16,034
On-road Trucks	176,829	29.06	14.53	-	-	-	181,945
Trains	32,496	4.55	0.32	-	-	-	32,691
Railyard Equipment	193	0.03	0.00	-	-	-	194
Commuting	2,035	0.37	0.36	-	-	-	2,155
Cold-Iron Usage	5,422	0.05	0.02	-	-	-	5,431
Reefers Refrigerant Losses	-	-	-	0.07	0.18	0.08	817
On-Terminal Electrical Consumption	16,277	0.14	0.07	-	-	-	16,303
Project Year 2010 Total	2,943,094	393	39	0.07	0.18	0.08	2,964,396
Net Change from 2005 CEQA Baseline	1,026,787	136	7	0.02	0.04	0.02	1,032,113
Net Change from NEPA Baseline Year 2010	173,099	10	(0)	-	-	-	173,169
Project Year 2015							
Ships - Fairway Transit (1)	3,358,754	444.84	29.91	-	-	-	3,377,368
Ships - Precautionary Area Transit (1)	2,409	0.32	0.02	-	-	-	2,422
Ships - Harbor Transit (1)	1,924	0.26	0.02	-	-	-	1,935
Ships - Docking (1)	643	0.09	0.01	-	-	-	646
Ships - Hoteling Aux. Sources	11,412	1.52	0.07	-	-	-	11,464
Ships Sub Total	3,375,142	447.03	30.02	-	-	-	3,393,835
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	18,495	2.67	0.19	-	-	-	18,609
On-road Trucks	149,002	25.02	12.51	-	-	-	153,405
Trains	425,031	59.51	4.19	-	-	-	427,580
Railyard Equipment	2,845	0.41	0.03	-	-	-	2,863
Commuting	2,353	0.43	0.42	-	-	-	2,491
Cold-Iron Usage	3,250	0.03	0.01	-	-	-	3,256
Reefers Refrigerant Losses	-	-	-	0.10	0.23	0.10	1,084
On-Terminal Electrical Consumption	24,089	0.20	0.11	-	-	-	24,128
Project Year 2015 Total	4,000,884	535	47	0.10	0.23	0.10	4,027,931
Net Change from 2005 CEQA Baseline	2,084,578	278	15	0.04	0.10	0.04	2,095,648
Net Change from NEPA Baseline Year 2015	346,921	29	(1)	-	-	-	347,116
Project Year 2020							
Ships - Fairway Transit (1)	4,300,500	569.62	38.30	-	-	-	4,324,336
Ships - Precautionary Area Transit (1)	3,113	0.42	0.03	-	-	-	3,130
Ships - Harbor Transit (1)	2,577	0.35	0.02	-	-	-	2,592
Ships - Docking (1)	865	0.12	0.01	-	-	-	870
Ships - Hoteling Aux. Sources	9,341	1.22	0.04	-	-	-	9,378
Ships Sub Total	4,316,397	571.72	38.40	-	-	-	4,340,306
Tugboats - Cargo Vessel Assist (1)	812	0.11	0.01	-	-	-	817
Terminal Equipment	21,836	3.15	0.22	-	-	-	21,971
On-road Trucks	199,174	32.46	16.23	-	-	-	204,886
Trains	541,089	75.76	5.34	-	-	-	544,334
Railyard Equipment	4,087	0.59	0.04	-	-	-	4,112
Commuting	2,710	0.50	0.48	-	-	-	2,869
Cold-Iron Usage	6,757	0.06	0.03	-	-	-	6,768
Reefers Refrigerant Losses	-	-	-	0.13	0.30	0.13	1,395
On-Terminal Electrical Consumption	32,738	0.27	0.15	-	-	-	32,791
Project Year 2020 Total	5,125,600	685	61	0.13	0.30	0.13	5,160,249
Net Change from 2005 CEQA Baseline	3,209,294	427	29	0.07	0.17	0.07	3,227,966
Net Change from NEPA Baseline Year 2020	718,363	76	3	-	-	-	720,836
Project Year 2030							
Ships - Fairway Transit (1)	4,958,836	656.80	44.16	-	-	-	4,986,320
Ships - Precautionary Area Transit (1)	3,567	0.48	0.03	-	-	-	3,586
Ships - Harbor Transit (1)	2,947	0.40	0.03	-	-	-	2,963
Ships - Docking (1)	989	0.13	0.01	-	-	-	995
Ships - Hoteling Aux. Sources	10,812	1.41	0.04	-	-	-	10,855
Ships Sub Total	4,977,151	659.23	44.27	-	-	-	5,004,719
Tugboats - Cargo Vessel Assist (1)	947	0.13	0.01	-	-	-	953
Terminal Equipment	27,973	4.04	0.29	-	-	-	28,146
On-road Trucks	257,057	41.62	20.81	-	-	-	264,382
Trains	531,546	74.42	5.24	-	-	-	534,734
Railyard Equipment	4,407	0.64	0.04	-	-	-	4,434
Commuting	3,595	0.66	0.64	-	-	-	3,806
Cold-Iron Usage	7,702	0.06	0.04	-	-	-	7,714
Reefers Refrigerant Losses	-	-	-	0.15	0.35	0.15	1,627
On-Terminal Electrical Consumption	35,900	0.30	0.17	-	-	-	35,958
Project Year 2030 Total	5,846,279	781	71	0.15	0.35	0.15	5,886,474
Net Change from 2005 CEQA Baseline	3,929,972	524	39	0.09	0.22	0.10	3,954,191
Net Change from NEPA Baseline Year 2030	518,937	40	1	-	-	-	519,954

Note: (1) Includes auxiliary generator emissions.

Table 10-8. Annual Operational GHG Emissions – POLB Middle Harbor Project – Mitigated Alternative 1.

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
<i>Project Year 2010</i>							
Ships - Fairway Transit (1)	2,503,161	345.23	24.69	-	-	-	2,518,065
Ships - Precautionary Area Transit (1)	1,853	0.25	0.02	-	-	-	1,863
Ships - Harbor Transit (1)	1,515	0.21	0.01	-	-	-	1,524
Ships - Docking (1)	508	0.07	0.00	-	-	-	511
Ships - Hoteling Aux. Sources	11,674	1.56	0.08	-	-	-	11,730
<i>Ships Sub Total</i>	<i>2,518,712</i>	<i>347.32</i>	<i>24.80</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>2,533,693</i>
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	15,935	2.30	0.16	-	-	-	16,034
On-road Trucks	174,344	22.60	11.30	-	-	-	178,322
Trains	32,496	4.55	0.32	-	-	-	32,691
Railyard Equipment	193	0.03	0.00	-	-	-	194
Commuting	2,035	0.37	0.36	-	-	-	2,155
Cold-Iron Usage	1,610	0.013	0.007	-	-	-	1,613
Reefers Refrigerant Losses	-	-	-	0.07	0.18	0.08	817
On-Terminal Electrical Consumption	16,277	0.14	0.07	-	-	-	16,303
Project Year 2010 Total	2,762,144	377	37	0.07	0.18	0.08	2,782,366
Net Change from 2005 CEQA Baseline	845,837	120	5	0.02	0.04	0.02	850,084
Net Change from NEPA Baseline Year 2010	(3,010)	(5)	(3)	-	-	-	(3,970)
<i>Project Year 2015</i>							
Ships - Fairway Transit (1)	3,143,630	433.56	31.01	-	-	-	3,162,347
Ships - Precautionary Area Transit (1)	2,346	0.32	0.02	-	-	-	2,360
Ships - Harbor Transit (1)	1,907	0.26	0.02	-	-	-	1,918
Ships - Docking (1)	638	0.09	0.01	-	-	-	642
Ships - Hoteling Aux. Sources	6,495	0.84	0.02	-	-	-	6,518
<i>Ships Sub Total</i>	<i>3,155,017</i>	<i>435.06</i>	<i>31.07</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>3,173,784</i>
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	18,495	2.67	0.19	-	-	-	18,609
On-road Trucks	147,800	14.96	7.48	-	-	-	150,434
Trains	425,031	59.51	4.19	-	-	-	427,580
Railyard Equipment	2,845	0.41	0.03	-	-	-	2,863
Commuting	2,353	0.43	0.42	-	-	-	2,491
Cold-Iron Usage	3,250	0.027	0.015	-	-	-	3,256
Reefers Refrigerant Losses	-	-	-	0.10	0.23	0.10	1,084
On-Terminal Electrical Consumption	24,089	0.20	0.11	-	-	-	24,128
Project Year 2015 Total	3,779,557	513	44	0.10	0.23	0.10	3,804,909
Net Change from 2005 CEQA Baseline	1,863,251	256	11	0.04	0.10	0.04	1,872,627
Net Change from NEPA Baseline Year 2015	104,454	6	(6)	-	-	-	102,740
<i>Project Year 2020</i>							
Ships - Fairway Transit (1)	4,025,522	555.18	39.71	-	-	-	4,049,490
Ships - Precautionary Area Transit (1)	3,034	0.41	0.03	-	-	-	3,051
Ships - Harbor Transit (1)	2,556	0.35	0.02	-	-	-	2,570
Ships - Docking (1)	859	0.12	0.01	-	-	-	864
Ships - Hoteling Aux. Sources	7,744	1.00	0.02	-	-	-	7,772
<i>Ships Sub Total</i>	<i>4,039,715</i>	<i>557.07</i>	<i>39.79</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>4,063,747</i>
Tugboats - Cargo Vessel Assist (1)	812	0.11	0.01	-	-	-	817
Terminal Equipment	11,921	1.72	0.12	-	-	-	11,995
On-road Trucks	198,642	30.07	15.04	-	-	-	203,935
Trains	541,089	75.76	5.34	-	-	-	544,334
Railyard Equipment	1,614	0.23	0.02	-	-	-	1,624
Commuting	2,710	0.50	0.48	-	-	-	2,869
Cold-Iron + RMG Electrification	13,539	0.113	0.062	-	-	-	13,560
Reefers Refrigerant Losses	-	-	-	0.13	0.30	0.13	1,395
On-Terminal Electrical Consumption	32,738	0.27	0.15	-	-	-	32,791
Project Year 2020 Total	4,842,780	666	61	0.13	0.30	0.13	4,877,066
Net Change from 2005 CEQA Baseline	2,926,474	408	29	0.07	0.17	0.07	2,944,784
Net Change from NEPA Baseline Year 2020	445,976	59	3	-	-	-	448,145
<i>Project Year 2030</i>							
Ships - Fairway Transit (1)	4,641,432	640.13	45.78	-	-	-	4,669,067
Ships - Precautionary Area Transit (1)	3,477	0.48	0.03	-	-	-	3,496
Ships - Harbor Transit (1)	2,922	0.40	0.03	-	-	-	2,939
Ships - Docking (1)	982	0.13	0.01	-	-	-	988
Ships - Hoteling Aux. Sources	8,992	1.16	0.02	-	-	-	9,024
<i>Ships Sub Total</i>	<i>4,657,805</i>	<i>642.30</i>	<i>45.87</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>4,685,514</i>
Tugboats - Cargo Vessel Assist (1)	947	0.13	0.01	-	-	-	953
Terminal Equipment	14,538	2.10	0.15	-	-	-	14,628
On-road Trucks	252,488	25.22	12.61	-	-	-	256,927
Trains	531,546	74.42	5.24	-	-	-	534,734
Railyard Equipment	1,740	0.25	0.02	-	-	-	1,751
Commuting	3,595	0.66	0.64	-	-	-	3,806
Cold-Iron + RMG Electrification	16,381	0.136	0.075	-	-	-	16,407
Reefers Refrigerant Losses	-	-	-	0.15	0.35	0.15	1,627
On-Terminal Electrical Consumption	35,900	0.30	0.17	-	-	-	35,958
Project Year 2030 Total	5,514,941	746	65	0.15	0.35	0.15	5,552,304
Net Change from 2005 CEQA Baseline	3,598,634	488	33	0.09	0.22	0.10	3,620,022
Net Change from NEPA Baseline Year 2030	207,428	7	(6)	-	-	-	205,752

Note: (1) Includes auxiliary generator emissions.

Table 10-9. Annual Operational GHG Emissions – POLB Middle Harbor Project – Unmitigated Alternative 2.

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
Project Year 2010							
Ships - Fairway Transit (1)	2,674,703	354.24	23.82	-	-	-	2,689,525
Ships - Precautionary Area Transit (1)	1,902	0.25	0.02	-	-	-	1,913
Ships - Harbor Transit (1)	1,529	0.21	0.01	-	-	-	1,537
Ships - Docking (1)	512	0.07	0.00	-	-	-	515
Ships - Hoteling Aux. Sources	14,719	1.98	0.11	-	-	-	14,793
Ships Sub Total	2,693,365	356.75	23.95	-	-	-	2,708,282
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	15,224	2.20	0.16	-	-	-	15,318
On-road Trucks	190,039	29.03	14.52	-	-	-	195,149
Trains	-	-	-	-	-	-	-
Railyard Equipment	30,949	4.33	0.31	-	-	-	31,134
Commuting	2,035	0.37	0.36	-	-	-	2,155
Cold-Iron Usage	5,422	0.045	0.025	-	-	-	5,431
Reefers Refrigerant Losses	-	-	-	0.07	0.18	0.08	817
On-Terminal Electrical Consumption	15,565	0.13	0.07	-	-	-	15,590
Project Year 2010 Total	2,953,141	393	39	0.07	0.18	0.08	2,974,421
Net Change from 2005 CEQA Baseline	1,036,835	135	7	0.02	0.04	0.02	1,042,139
Net Change from NEPA Baseline Year 2010	183,146	10	(1)	-	-	-	183,194
Project Year 2015							
Ships - Fairway Transit (1)	3,358,754	444.84	29.91	-	-	-	3,377,368
Ships - Precautionary Area Transit (1)	2,409	0.32	0.02	-	-	-	2,422
Ships - Harbor Transit (1)	1,924	0.26	0.02	-	-	-	1,935
Ships - Docking (1)	643	0.09	0.01	-	-	-	646
Ships - Hoteling Aux. Sources	11,412	1.52	0.07	-	-	-	11,464
Ships Sub Total	3,375,142	447.03	30.02	-	-	-	3,393,835
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	18,267	2.64	0.19	-	-	-	18,380
On-road Trucks	147,889	24.62	12.31	-	-	-	152,222
Trains	-	-	-	-	-	-	-
Railyard Equipment	426,320	59.69	4.20	-	-	-	428,877
Commuting	2,353	0.43	0.42	-	-	-	2,491
Cold-Iron Usage	3,250	0.027	0.015	-	-	-	3,256
Reefers Refrigerant Losses	-	-	-	0.10	0.23	0.10	1,084
On-Terminal Electrical Consumption	23,800	0.20	0.11	-	-	-	23,838
Project Year 2015 Total	3,997,698	535	47	0.10	0.23	0.10	4,024,663
Net Change from 2005 CEQA Baseline	2,081,392	277	15	0.04	0.10	0.04	2,092,381
Net Change from NEPA Baseline Year 2015	343,734	28	(2)	-	-	-	343,849
Project Year 2020							
Ships - Fairway Transit (1)	3,442,683	455.99	30.66	-	-	-	3,461,764
Ships - Precautionary Area Transit (1)	2,520	0.34	0.02	-	-	-	2,534
Ships - Harbor Transit (1)	2,050	0.28	0.02	-	-	-	2,062
Ships - Docking (1)	685	0.09	0.01	-	-	-	689
Ships - Hoteling Aux. Sources	7,702	1.01	0.03	-	-	-	7,732
Ships Sub Total	3,455,640	457.71	30.74	-	-	-	3,474,780
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	19,031	2.75	0.19	-	-	-	19,149
On-road Trucks	184,545	27.23	13.62	-	-	-	189,338
Trains	-	-	-	-	-	-	-
Railyard Equipment	545,216	76.34	5.38	-	-	-	548,485
Commuting	2,710	0.50	0.48	-	-	-	2,869
Cold-Iron Usage	5,456	0.045	0.025	-	-	-	5,465
Reefers Refrigerant Losses	-	-	-	0.13	0.30	0.13	1,395
On-Terminal Electrical Consumption	28,606	0.24	0.13	-	-	-	28,651
Project Year 2020 Total	4,241,880	565	51	0.13	0.30	0.13	4,270,813
Net Change from 2005 CEQA Baseline	2,325,573	307	18	0.07	0.17	0.07	2,338,530
Net Change from NEPA Baseline Year 2020	(165,358)	(44)	(7)	-	-	-	(168,600)
Project Year 2030							
Ships - Fairway Transit (1)	4,562,429	604.25	40.62	-	-	-	4,587,712
Ships - Precautionary Area Transit (1)	3,280	0.44	0.03	-	-	-	3,297
Ships - Harbor Transit (1)	2,598	0.35	0.02	-	-	-	2,612
Ships - Docking (1)	866	0.12	0.01	-	-	-	871
Ships - Hoteling Aux. Sources	10,420	1.36	0.04	-	-	-	10,461
Ships Sub Total	4,579,593	606.52	40.72	-	-	-	4,604,953
Tugboats - Cargo Vessel Assist (1)	947	0.13	0.01	-	-	-	953
Terminal Equipment	24,125	3.48	0.25	-	-	-	24,274
On-road Trucks	238,398	34.96	17.48	-	-	-	244,551
Trains	-	-	-	-	-	-	-
Railyard Equipment	540,315	75.65	5.33	-	-	-	543,556
Commuting	3,595	0.66	0.64	-	-	-	3,806
Cold-Iron Usage	6,872	0.057	0.032	-	-	-	6,883
Reefers Refrigerant Losses	-	-	-	0.15	0.35	0.15	1,627
On-Terminal Electrical Consumption	31,034	0.26	0.14	-	-	-	31,084
Project Year 2030 Total	5,424,880	722	65	0.15	0.35	0.15	5,461,687
Net Change from 2005 CEQA Baseline	3,508,573	464	32	0.09	0.22	0.10	3,529,404
Net Change from NEPA Baseline Year 2030	97,538	(20)	(6)	-	-	-	95,167

Note: (1) Includes auxiliary generator emissions.

Table 10-10. Annual Operational GHG Emissions – POLB Middle Harbor Project – Mitigated Alternative 2.

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
<i>Project Year 2010</i>							
Ships - Fairway Transit (1)	2,503,161	345.23	24.69	-	-	-	2,518,065
Ships - Precautionary Area Transit (1)	1,853	0.25	0.02	-	-	-	1,863
Ships - Harbor Transit (1)	1,515	0.21	0.01	-	-	-	1,524
Ships - Docking (1)	508	0.07	0.00	-	-	-	511
Ships - Hoteling Aux. Sources	11,674	1.56	0.08	-	-	-	11,730
Ships Sub Total	2,518,712	347.32	24.80	-	-	-	2,533,693
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	15,224	2.20	0.16	-	-	-	15,318
On-road Trucks	190,039	29.03	14.52	-	-	-	195,149
Trains	-	-	-	-	-	-	0
Railyard Equipment	30,949	4.33	0.31	-	-	-	31,134
Commuting	2,035	0.37	0.36	-	-	-	2,155
Cold-Iron Usage	1,610	0.045	0.025	-	-	-	1,619
Reefers Refrigerant Losses	-	-	-	0.07	0.18	0.08	817
On-Terminal Electrical Consumption	15,565	0.14	0.07	-	-	-	15,591
Project Year 2010 Total	2,774,676	384	40	0.07	0.18	0.08	2,796,021
Net Change from 2005 CEQA Baseline	858,369	126	8	0.02	0.04	0.02	863,739
Net Change from NEPA Baseline Year 2010	9,523	1	0	-	-	-	9,686
<i>Project Year 2015</i>							
Ships - Fairway Transit (1)	3,143,630	433.56	31.01	-	-	-	3,162,347
Ships - Precautionary Area Transit (1)	2,346	0.32	0.02	-	-	-	2,360
Ships - Harbor Transit (1)	1,907	0.26	0.02	-	-	-	1,918
Ships - Docking (1)	638	0.09	0.01	-	-	-	642
Ships - Hoteling Aux. Sources	6,495	0.84	0.02	-	-	-	6,518
Ships Sub Total	3,155,017	435.06	31.07	-	-	-	3,173,784
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	18,267	2.64	0.19	-	-	-	18,380
On-road Trucks	147,889	24.62	12.31	-	-	-	152,222
Trains	-	-	-	-	-	-	0
Railyard Equipment	426,320	59.69	4.20	-	-	-	428,877
Commuting	2,353	0.43	0.42	-	-	-	2,491
Cold-Iron Usage	3,250	0.027	0.015	-	-	-	3,256
Reefers Refrigerant Losses	-	-	-	0.10	0.23	0.10	1,084
On-Terminal Electrical Consumption	23,800	0.20	0.11	-	-	-	23,838
Project Year 2015 Total	3,777,573	523	48	0.10	0.23	0.10	3,804,613
Net Change from 2005 CEQA Baseline	1,861,267	265	16	0.04	0.10	0.04	1,872,330
Net Change from NEPA Baseline Year 2015	102,470	15	(1)	-	-	-	102,443
<i>Project Year 2020</i>							
Ships - Fairway Transit (1)	3,222,851	444.48	31.79	-	-	-	3,242,039
Ships - Precautionary Area Transit (1)	2,455	0.34	0.02	-	-	-	2,469
Ships - Harbor Transit (1)	2,033	0.28	0.02	-	-	-	2,044
Ships - Docking (1)	680	0.09	0.01	-	-	-	684
Ships - Hoteling Aux. Sources	6,412	0.83	0.02	-	-	-	6,435
Ships Sub Total	3,234,431	446.02	31.85	-	-	-	3,253,672
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	10,409	1.50	0.11	-	-	-	10,474
On-road Trucks	184,545	27.23	13.62	-	-	-	189,338
Trains	-	-	-	-	-	-	0
Railyard Equipment	545,216	76.34	5.38	-	-	-	548,485
Commuting	2,710	0.50	0.48	-	-	-	2,869
Cold-Iron + RMG Electrification	11,305	0.094	0.052	-	-	-	11,323
Reefers Refrigerant Losses	-	-	-	0.13	0.30	0.13	1,395
On-Terminal Electrical Consumption	28,606	0.24	0.13	-	-	-	28,651
Project Year 2020 Total	4,017,898	552	52	0.13	0.30	0.13	4,046,888
Net Change from 2005 CEQA Baseline	2,101,592	295	20	0.07	0.17	0.07	2,114,605
Net Change from NEPA Baseline Year 2020	(378,906)	(55)	(6)	-	-	-	(382,034)
<i>Project Year 2030</i>							
Ships - Fairway Transit (1)	4,270,192	588.93	42.12	-	-	-	4,295,617
Ships - Precautionary Area Transit (1)	3,194	0.44	0.03	-	-	-	3,212
Ships - Harbor Transit (1)	2,575	0.35	0.02	-	-	-	2,589
Ships - Docking (1)	860	0.12	0.01	-	-	-	865
Ships - Hoteling Aux. Sources	8,796	1.14	0.02	-	-	-	8,827
Ships Sub Total	4,285,616	590.97	42.20	-	-	-	4,311,109
Tugboats - Cargo Vessel Assist (1)	947	0.13	0.01	-	-	-	953
Terminal Equipment	12,560	1.81	0.13	-	-	-	12,638
On-road Trucks	238,398	41.62	20.81	-	-	-	245,724
Trains	-	74.42	5.24	-	-	-	3,188
Railyard Equipment	540,315	75.65	5.33	-	-	-	543,556
Commuting	3,595	0.66	0.64	-	-	-	3,806
Cold-Iron + RMG Electrification	14,378	0.120	0.066	-	-	-	14,401
Reefers Refrigerant Losses	-	-	-	0.15	0.35	0.15	1,627
On-Terminal Electrical Consumption	31,034	0.26	0.14	-	-	-	31,084
Project Year 2030 Total	5,126,845	786	75	0.15	0.35	0.15	5,168,084
Net Change from 2005 CEQA Baseline	3,210,538	528	42	0.09	0.22	0.10	3,235,802
Net Change from NEPA Baseline Year 2030	(180,668)	47	4	-	-	-	(178,467)

Note: (1) Includes auxiliary generator emissions.

Table 10-11. Annual Operational GHG Emissions – POLB Middle Harbor Project – Mitigated Alternative 3.

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
Year 2005 Baseline							
Ships - Fairway Transit (1)	7,095	0.88	0.06	-	-	-	7,132
Ships - Precautionary Area Transit (1)	1,148	0.11	0.01	-	-	-	1,153
Ships - Harbor Transit (1)	815	0.04	0.00	-	-	-	816
Ships - Docking (1)	272	0.01	0.00	-	-	-	272
Ships - Hoteling Aux. Sources	19,067	0.79	0.01	-	-	-	19,086
<i>Ships Sub Total</i>	28,397	1.83	0.08	-	-	-	28,458
Tugboats - Cargo Vessel Assist (1)	478	0.07	0.00	-	-	-	481
Terminal Equipment	9,910	1.43	0.10	-	-	-	9,971
On-road Trucks	123,451	31.93	15.97	-	-	-	129,071
Trains	6,213	0.87	0.06	-	-	-	6,250
Railyard Equipment	575	0.08	0.01	-	-	-	579
Commuting	1,690	0.31	0.30	-	-	-	1,789
Reefers	-	-	-	0.06	0.13	0.06	620
Terminal Electrical Consumption	13,131	0.11	0.06	-	-	-	13,152
Year 2005 Total	183,844	37	17	0.06	0.13	0.06	190,371
Project Year 2010							
Ships - Fairway Transit (1)	21,513	2.97	0.21	-	-	-	21,641
Ships - Precautionary Area Transit (1)	1,853	0.25	0.02	-	-	-	1,863
Ships - Harbor Transit (1)	1,515	0.21	0.01	-	-	-	1,524
Ships - Docking (1)	508	0.07	0.00	-	-	-	511
Ships - Hoteling Aux. Sources	12,428	1.66	0.08	-	-	-	12,488
<i>Ships Sub Total</i>	37,817	5.16	0.33	-	-	-	38,027
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	14,276	2.06	0.15	-	-	-	14,364
On-road Trucks	141,430	26.35	13.17	-	-	-	146,067
Trains	4,857	0.68	0.05	-	-	-	4,886
Railyard Equipment	219	0.03	0.00	-	-	-	220
Commuting	2,035	0.37	0.36	-	-	-	2,155
Cold-Iron	1,715	0.014	0.008	-	-	-	1,717
Reefers	-	-	-	0.07	0.17	0.08	790
Terminal Electrical Consumption	15,733	0.13	0.07	-	-	-	15,758
Project Year 2010 Total	218,623	35	14	0.07	0.17	0.08	224,529
Net Change from 2005 CEQA Baseline	34,778	(2)	(2)	0.02	0.04	0.02	34,158
Net Change from NEPA Baseline Year 2010	-	-	-	-	-	-	-
Project Year 2015							
Ships - Fairway Transit (1)	27,315	3.77	0.27	-	-	-	27,477
Ships - Precautionary Area Transit (1)	2,346	0.32	0.02	-	-	-	2,360
Ships - Harbor Transit (1)	1,907	0.26	0.02	-	-	-	1,918
Ships - Docking (1)	638	0.09	0.01	-	-	-	642
Ships - Hoteling Aux. Sources	7,331	0.95	0.02	-	-	-	7,357
<i>Ships Sub Total</i>	39,537	5.38	0.33	-	-	-	39,753
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	15,508	2.24	0.16	-	-	-	15,604
On-road Trucks	149,498	27.81	13.91	-	-	-	154,393
Trains	43,473	6.09	0.43	-	-	-	43,734
Railyard Equipment	2,786	0.40	0.03	-	-	-	2,803
Commuting	2,353	0.43	0.42	-	-	-	2,491
Cold-Iron	3,669	0.031	0.017	-	-	-	3,675
Reefers	-	-	-	0.10	0.23	0.10	1,061
Terminal Electrical Consumption	23,582	0.20	0.11	-	-	-	23,620
Project Year 2015 Total	281,083	43	15	0.10	0.23	0.10	287,815
Net Change from 2005 CEQA Baseline	97,238	6	(1)	0.04	0.10	0.04	97,443
Net Change from NEPA Baseline Year 2015	-	-	-	0.00	0.00	0.00	-
Project Year 2020							
Ships - Fairway Transit (1)	32,405	4.47	0.32	-	-	-	32,598
Ships - Precautionary Area Transit (1)	2,789	0.38	0.02	-	-	-	2,805
Ships - Harbor Transit (1)	2,273	0.31	0.02	-	-	-	2,286
Ships - Docking (1)	761	0.10	0.01	-	-	-	766
Ships - Hoteling Aux. Sources	8,709	1.12	0.02	-	-	-	8,740
<i>Ships Sub Total</i>	46,938	6.39	0.39	-	-	-	47,194
Tugboats - Cargo Vessel Assist (1)	812	0.11	0.01	-	-	-	817
Terminal Equipment	10,931	1.58	0.11	-	-	-	10,999
On-road Trucks	168,108	30.87	15.44	-	-	-	173,542
Trains	56,212	7.87	0.55	-	-	-	56,549
Railyard Equipment	1,429	0.21	0.01	-	-	-	1,437
Commuting	2,710	0.50	0.48	-	-	-	2,869
Cold-Iron + RMG Electrification	13,547	0.113	0.062	-	-	-	13,569
Reefers	-	-	-	0.11	0.27	0.12	1,234
Terminal Electrical Consumption	28,977	0.24	0.13	-	-	-	29,023
Project Year 2020 Total	329,664	48	17	0.11	0.27	0.12	337,234
Net Change from 2005 CEQA Baseline	145,819	11	1	0.06	0.13	0.06	146,862
Net Change from NEPA Baseline Year 2020	-	-	-	-	-	-	-
Project Year 2030							
Ships - Fairway Transit (1)	40,380	5.57	0.40	-	-	-	40,621
Ships - Precautionary Area Transit (1)	3,467	0.47	0.03	-	-	-	3,487
Ships - Harbor Transit (1)	2,761	0.38	0.02	-	-	-	2,777
Ships - Docking (1)	921	0.13	0.01	-	-	-	927
Ships - Hoteling Aux. Sources	11,243	1.45	0.03	-	-	-	11,282
<i>Ships Sub Total</i>	58,773	7.99	0.49	-	-	-	59,093
Tugboats - Cargo Vessel Assist (1)	1,082	0.15	0.01	-	-	-	1,089
Terminal Equipment	13,181	1.90	0.13	-	-	-	13,263
On-road Trucks	209,056	38.03	19.01	-	-	-	215,748
Trains	54,938	7.69	0.54	-	-	-	55,268
Railyard Equipment	1,525	0.22	0.02	-	-	-	1,535
Commuting	3,595	0.66	0.64	-	-	-	3,806
Cold-Iron + RMG Electrification	16,986	0.141	0.078	-	-	-	17,013
Reefers	-	-	-	0.13	0.31	0.14	1,426
Terminal Electrical Consumption	31,467	0.26	0.14	-	-	-	31,517
Project Year 2030 Total	390,604	57	21	0.13	0.31	0.14	399,758
Net Change from 2005 CEQA Baseline	206,759	20	4	0.07	0.17	0.08	209,386
Net Change from NEPA Baseline Year 2030	-	-	-	-	-	-	-

Table 10-12. Annual Operational GHG Emissions – POLB Middle Harbor Project – Alternative 4 No Project.

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
<i>Project Year 2010</i>							
Ships - Fairway Transit (1)	2,629,021	348.18	23.41	-	-	-	2,643,589
Ships - Precautionary Area Transit (1)	1,869	0.25	0.02	-	-	-	1,879
Ships - Harbor Transit (1)	1,494	0.20	0.01	-	-	-	1,502
Ships - Docking (1)	500	0.07	0.00	-	-	-	503
Ships - Hoteling Aux. Sources	15,429	2.07	0.11	-	-	-	15,507
Ships Sub Total	2,648,313	350.78	23.55	-	-	-	2,662,980
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	10,629	1.53	0.11	-	-	-	10,695
On-road Trucks	171,042	17.68	8.84	-	-	-	174,153
Trains	-	-	-	-	-	-	0
Railyard Equipment	37,139	5.20	0.37	-	-	-	37,361
Commuting	2,035	0.37	0.36	-	-	-	2,155
Cold-Iron Usage	5,646	0.047	0.026	-	-	-	5,655
Reefers Refrigerant Losses	-	-	-	0.07	0.18	0.08	817
On-Terminal Electrical Consumption	14,886	0.12	0.07	-	-	-	14,910
Project Year 2010 Total	2,890,231	376	33	0.07	0.18	0.08	2,909,270
Net Change from 2005 CEQA Baseline	973,924	118	1	0.02	0.04	0.02	976,988
<i>Project Year 2015</i>							
Ships - Fairway Transit (1)	2,839,648	376.10	25.29	-	-	-	2,855,385
Ships - Precautionary Area Transit (1)	2,033	0.27	0.02	-	-	-	2,044
Ships - Harbor Transit (1)	1,654	0.22	0.01	-	-	-	1,663
Ships - Docking (1)	554	0.08	0.00	-	-	-	557
Ships - Hoteling Aux. Sources	10,683	1.42	0.06	-	-	-	10,733
Ships Sub Total	2,854,571	378.09	25.39	-	-	-	2,870,381
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	12,899	1.86	0.13	-	-	-	12,978
On-road Trucks	154,526	12.55	6.27	-	-	-	156,734
Trains	-	-	-	-	-	-	0
Railyard Equipment	159,644	22.35	1.57	-	-	-	160,602
Commuting	2,353	0.43	0.42	-	-	-	2,491
Cold-Iron Usage	3,136	0.026	0.014	-	-	-	3,141
Reefers Refrigerant Losses	-	-	-	0.10	0.23	0.10	1,084
On-Terminal Electrical Consumption	20,150	0.17	0.09	-	-	-	20,182
Project Year 2015 Total	3,207,820	416	34	0.10	0.23	0.10	3,228,138
Net Change from 2005 CEQA Baseline	1,291,513	158	2	0.04	0.10	0.04	1,295,855
<i>Project Year 2020</i>							
Ships - Fairway Transit (1)	3,498,758	463.39	31.16	-	-	-	3,518,147
Ships - Precautionary Area Transit (1)	2,495	0.33	0.02	-	-	-	2,508
Ships - Harbor Transit (1)	2,027	0.28	0.02	-	-	-	2,038
Ships - Docking (1)	679	0.09	0.01	-	-	-	683
Ships - Hoteling Aux. Sources	8,801	1.15	0.03	-	-	-	8,836
Ships Sub Total	3,512,760	465.24	31.23	-	-	-	3,532,213
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	15,748	2.27	0.16	-	-	-	15,846
On-road Trucks	200,983	25.27	12.63	-	-	-	205,430
Trains	-	-	-	-	-	-	0
Railyard Equipment	206,584	28.92	2.04	-	-	-	207,822
Commuting	2,710	0.50	0.48	-	-	-	2,869
Cold-Iron Usage	6,110	0.051	0.028	-	-	-	6,120
Reefers Refrigerant Losses	-	-	-	0.13	0.30	0.13	1,395
On-Terminal Electrical Consumption	25,989	0.22	0.12	-	-	-	26,031
Project Year 2020 Total	3,971,560	523	47	0.13	0.30	0.13	3,998,405
Net Change from 2005 CEQA Baseline	2,055,254	265	15	0.07	0.17	0.07	2,066,122
<i>Project Year 2030</i>							
Ships - Fairway Transit (1)	4,075,656	539.79	36.29	-	-	-	4,098,242
Ships - Precautionary Area Transit (1)	2,904	0.39	0.02	-	-	-	2,920
Ships - Harbor Transit (1)	2,947	0.40	0.03	-	-	-	2,963
Ships - Docking (1)	783	0.11	0.01	-	-	-	787
Ships - Hoteling Aux. Sources	10,226	1.33	0.04	-	-	-	10,266
Ships Sub Total	4,092,516	542.02	36.39	-	-	-	4,115,178
Tugboats - Cargo Vessel Assist (1)	812	0.11	0.01	-	-	-	817
Terminal Equipment	18,127	2.62	0.19	-	-	-	18,240
On-road Trucks	252,436	21.50	10.75	-	-	-	256,220
Trains	-	-	-	-	-	-	0
Railyard Equipment	202,715	28.38	2.00	-	-	-	203,931
Commuting	3,595	0.66	0.64	-	-	-	3,806
Cold-Iron Usage	6,918	0.058	0.032	-	-	-	6,929
Reefers Refrigerant Losses	-	-	-	0.15	0.35	0.15	1,627
On-Terminal Electrical Consumption	28,115	0.23	0.13	-	-	-	28,160
Project Year 2030 Total	4,605,234	596	50	0.15	0.35	0.15	4,634,907
Net Change from 2005 CEQA Baseline	2,688,927	338	18	0.09	0.22	0.10	2,702,624

Note: (1) Includes auxiliary generator emissions.

Table 10-13. Annual Operational GHG Emissions – POLB Middle Harbor Project – DEIS/R CEQA Baseline California Only Domain

Project Scenario/Source Type	Metric Tons Per Year						
	CO2	CH4	N2O	HFC-125	HFC-134a	HFC-143a	CO2e
<i>Year 2005 Baseline</i>							
Ships - Fairway Transit (1)	7,095	0.88	0.06	-	-	-	7,132
Ships - Precautionary Area Transit (1)	1,148	0.11	0.01	-	-	-	1,153
Ships - Harbor Transit (1)	815	0.04	0.00	-	-	-	816
Ships - Docking (1)	272	0.01	0.00	-	-	-	272
Ships - Hoteling Aux. Sources	19,067	0.79	0.01	-	-	-	19,086
<i>Ships Sub Total</i>	28,397	1.83	0.08	-	-	-	28,458
Tugboats - Cargo Vessel Assist (1)	478	0.07	0.00	-	-	-	481
Terminal Equipment	9,910	1.43	0.10	-	-	-	9,971
On-road Trucks	96,347	30.32	15.16	-	-	-	101,684
Trains	2,854	0.40	0.03	-	-	-	2,872
Railyard Equipment	575	0.08	0.01	-	-	-	579
Commuting	1,690	0.31	0.30	-	-	-	1,789
Reefers	-	-	-	0.06	0.13	0.06	620
Terminal Electrical Consumption	13,131	0.11	0.06	-	-	-	13,152
Year 2005 Total	153,383	35	16	0.06	0.13	0.06	159,606

Table 10-14. Annual Operational GHG Emissions – POLB Middle Harbor Project – DEIS/R Mitigated Alternative 1 California Only Domain

<i>Project Year 2010</i>							
Ships - Fairway Transit (1)	21,513	2.97	0.21	-	-	-	21,641
Ships - Precautionary Area Transit (1)	1,853	0.25	0.02	-	-	-	1,863
Ships - Harbor Transit (1)	1,515	0.21	0.01	-	-	-	1,524
Ships - Docking (1)	508	0.07	0.00	-	-	-	511
Ships - Hoteling Aux. Sources	11,674	1.56	0.08	-	-	-	11,730
<i>Ships Sub Total</i>	37,063	5.06	0.32	-	-	-	37,269
Tugboats - Cargo Vessel Assist (1)	541	0.07	0.01	-	-	-	544
Terminal Equipment	15,935	2.30	0.16	-	-	-	16,034
On-road Trucks	115,721	19.12	9.56	-	-	-	119,086
Trains	5,016	0.70	0.05	-	-	-	5,046
Railyard Equipment	193	0.03	0.00	-	-	-	194
Commuting	2,035	0.37	0.36	-	-	-	2,155
Cold-Iron	1,610	0.013	0.007	-	-	-	1,613
Reefers	-	-	-	0.07	0.18	0.08	817
Terminal Electrical Consumption	16,277	0.14	0.07	-	-	-	16,303
Project Year 2010 Total	194,392	28	11	0.07	0.18	0.08	199,060
Net Change from 2005 CEQA Baseline	41,009	(7)	(5)	0.02	0.04	0.02	39,455
<i>Project Year 2015</i>							
Ships - Fairway Transit (1)	27,315	3.77	0.27	-	-	-	27,477
Ships - Precautionary Area Transit (1)	2,346	0.32	0.02	-	-	-	2,360
Ships - Harbor Transit (1)	1,907	0.26	0.02	-	-	-	1,918
Ships - Docking (1)	638	0.09	0.01	-	-	-	642
Ships - Hoteling Aux. Sources	6,495	0.84	0.02	-	-	-	6,518
<i>Ships Sub Total</i>	38,701	5.27	0.33	-	-	-	38,914
Tugboats - Cargo Vessel Assist (1)	677	0.09	0.01	-	-	-	681
Terminal Equipment	18,495	2.67	0.19	-	-	-	18,609
On-road Trucks	96,757	11.93	5.97	-	-	-	98,857
Trains	65,608	9.19	0.65	-	-	-	66,001
Railyard Equipment	2,845	0.41	0.03	-	-	-	2,863
Commuting	2,353	0.43	0.42	-	-	-	2,491
Cold-Iron	3,250	0.027	0.015	-	-	-	3,256
Reefers	-	-	-	0.10	0.23	0.10	1,084
Terminal Electrical Consumption	24,089	0.20	0.11	-	-	-	24,128
Project Year 2015 Total	252,775	30	8	0.10	0.23	0.10	256,884
Net Change from 2005 CEQA Baseline	99,393	(4)	(8)	0.04	0.10	0.04	97,278
<i>Project Year 2020</i>							
Ships - Fairway Transit (1)	34,997	4.82	0.35	-	-	-	35,205
Ships - Precautionary Area Transit (1)	3,034	0.41	0.03	-	-	-	3,051
Ships - Harbor Transit (1)	2,556	0.35	0.02	-	-	-	2,570
Ships - Docking (1)	859	0.12	0.01	-	-	-	864
Ships - Hoteling Aux. Sources	7,744	1.00	0.02	-	-	-	7,772
<i>Ships Sub Total</i>	49,190	6.71	0.42	-	-	-	49,462
Tugboats - Cargo Vessel Assist (1)	812	0.11	0.01	-	-	-	817
Terminal Equipment	21,836	3.15	0.22	-	-	-	21,971
On-road Trucks	132,657	26.15	13.08	-	-	-	137,260
Trains	83,522	11.70	0.82	-	-	-	84,023
Railyard Equipment	4,087	0.59	0.04	-	-	-	4,112
Commuting	2,710	0.50	0.48	-	-	-	2,869
Cold-Iron	7,602	0.063	0.035	-	-	-	7,614
Reefers	-	-	-	0.13	0.30	0.13	1,395
Terminal Electrical Consumption	32,738	0.27	0.15	-	-	-	32,791
Project Year 2020 Total	335,155	49	15	0.13	0.30	0.13	342,314
Net Change from 2005 CEQA Baseline	181,772	15	(0)	0.07	0.17	0.07	182,708
<i>Project Year 2030</i>							
Ships - Fairway Transit (1)	40,087	5.53	0.40	-	-	-	40,326
Ships - Precautionary Area Transit (1)	3,477	0.48	0.03	-	-	-	3,496
Ships - Harbor Transit (1)	2,922	0.40	0.03	-	-	-	2,939
Ships - Docking (1)	982	0.13	0.01	-	-	-	988
Ships - Hoteling Aux. Sources	8,992	1.16	0.02	-	-	-	9,024
<i>Ships Sub Total</i>	56,460	7.70	0.49	-	-	-	56,773
Tugboats - Cargo Vessel Assist (1)	947	0.13	0.01	-	-	-	953
Terminal Equipment	27,973	4.04	0.29	-	-	-	28,146
On-road Trucks	168,153	20.21	10.10	-	-	-	171,710
Trains	82,049	11.49	0.81	-	-	-	82,541
Railyard Equipment	4,407	0.64	0.04	-	-	-	4,434
Commuting	3,595	0.66	0.64	-	-	-	3,806
Cold-Iron	8,664	0.072	0.040	-	-	-	8,678
Reefers	-	-	-	0.15	0.35	0.15	1,627
Terminal Electrical Consumption	35,900	0.30	0.17	-	-	-	35,958
Project Year 2030 Total	388,149	45	13	0.15	0.35	0.15	394,626
Net Change from 2005 CEQA Baseline	234,766	11	(3)	0.09	0.22	0.10	235,020

Note: (1) Includes auxiliary generator emissions.

DOJ-5.

The comment questions whether the Draft EIS/EIR adequately considered all feasible measures to mitigate proposed GHG emissions. The POLB is committed to improving the environment as demonstrated by its record of environmental protection programs. These programs include the Green Port Policy and the SPBP CAAP. The Green Port Policy is an aggressive, comprehensive, and coordinated approach to reducing the negative impacts of Port operations. The Policy, which was adopted by the Board of Harbor Commissioners in January 2005, serves as a guide for decision making and establishes a framework for promoting environmentally sustainable Port operations. The policy contains environmental principles that govern Port activities and has established a series of goals for each element of the policy.

The CAAP is a sweeping plan aimed at significantly reducing the health risks posed by air pollution from port-related ships, trains, trucks, terminal equipment, and harbor craft. The plan proposes hundreds of millions of dollars in investments by the Port, the POLA, the SCAQMD, the state, and port-related industry to reduce particulate matter pollution from all port-related sources by at least 47 percent by 2011. Measures implemented under the CAAP will also reduce smog forming nitrogen oxides by more than 45 percent, and will also result in reductions of sulfur oxides by at least 52 percent. Although the focus of the CAAP is criteria pollutants, some of the measures implemented under the CAAP will also have the effect of reducing GHG emissions from operations at the SPBP.

In 2006, the California Legislature passed the Global Warming Solutions Act, also known as AB 32. In accordance with AB 32, the ARB approved the Climate Change Proposed Scoping Plan ("Scoping Plan") in October 2008 which outlines the State's strategy for achieving the 2020 GHG emissions limit outlined under the law. The Scoping Plan includes recommendations for reducing GHG emissions from most sectors of the California economy. For goods movement, the Scoping Plan included two measures. The first, Measure T-5, was an Early Action Measure requiring Ship Electrification at Ports (i.e., shore-to-ship power or "cold-ironing"). The second, Measure T-6, calls for reducing GHG emissions from goods movement through various "efficiency" measures. See Scoping Plan, p. 52, and Appendix C-57 to -58. While Measure T-6 includes several explicit strategies, including the ARB Port Drayage Truck Regulation (<http://www.arb.ca.gov/msprog/onroad/porttruck/finaldrayagereg.pdf>) and the proposed OGV Vessel Speed Reduction rule, many of specific voluntary or regulatory strategies needed to achieve the Scoping Plan's GHG emission reduction target for goods movement have yet to be defined.

The Port's commitment to protecting the environment from the harmful effects of Port operations, as stated in the Green Port Policy, necessitates the development of programs and projects to reduce GHG emissions. Although the State has yet to formalize GHG regulations for the goods movement sector, the Port has already begun work in this area. In September 2008, the Port's Board of Harbor Commissioners adopted a formal resolution establishing a framework for reducing GHG emissions. The framework outlined efforts that are already underway at the Port toward addressing the issue of climate change. These efforts include:

1. The Port collaborated with other City departments to produce the City's first voluntary GHG emissions inventory (calendar year 2007) which was submitted to the CCAR.
2. The Port joined other City departments in preparing a plan to increase energy efficiency in City-owned facilities, in turn reducing indirect GHG emissions from energy generation. This initiative is known as the SCE 2009-2011 Local Government Partnership.
3. The Port participates in tree planting and urban forest renewal efforts through its support of the City of Long Beach's Urban Forest Master Plan.

4. Port staff consulted with the Long Beach Gas and Oil Department (LBGO) and Tidelands Oil Production Company (Tidelands) to evaluate potential opportunities for capturing carbon dioxide produced by oil operations in the Harbor District and re-injecting (sequestration) it through wells at the Port back into the subsurface formations.
5. Beginning with the 2006 POLB air emissions inventory, GHG emissions from ocean-going vessels, heavy-duty trucks, cargo-handling equipment, harbor craft, and locomotives are quantified to enable the establishment of GHG reduction goals.
6. The Port's Renewable Energy Working Group is developing strategies to expand renewable energy at the Port. Criteria for emerging technologies will be established so that the technologies can be evaluated in a manner similar to the existing CAAP Technology Advancement Program (TAP).
7. The Port's Renewable Energy Working Group recently finalized a Solar Energy Technology and Siting Study ("Solar Siting Study") that reviewed available solar technologies and the estimated solar energy generation potential for the entire Harbor District. The study determined that there are many sites within the Harbor District where solar energy generating technologies could be developed on building rooftops and at ground-level.
8. Based on the Solar Siting Study, Port staff are developing a program to provide incentive funding to Port tenants for the installation of solar panels on tenant-controlled facilities.

The Port is now in the process of developing a Climate Change/Greenhouse Gas Strategic Plan (CC/GHG Plan). This plan, which will be comprehensive in nature, will examine GHG impacts for all activities within the Harbor District and will identify strategies for reducing the overall carbon footprint of those activities. Similar to the CAAP, the Port's GHG/CC Plan will identify strategies for activities under direct Port control and those that are controlled by third parties, such as tenants. This Plan will outline the overall approach for mitigating potential project-specific and/or cumulative GHG impacts of projects through the modernization and/or upgrading of marine terminals and other facilities in the Long Beach Harbor District.

One element of the Port's CC/GHG Plan is the Greenhouse Gas Emission Reduction Program Guidelines (Guidelines). The Guidelines describe a procedure for the evaluation and prioritization of GHG emission reduction projects and practices that the Port may fund consistent with the Port's overall CC/GHG reduction goals. Several types of projects are described in the Guidelines, but other projects and practices may be defined as the CC/GHG Plan evolves. The Guidelines may be revised accordingly as this occurs.

The Port is committed to disclosing and mitigating GHG impacts, as evident from the recently approved Administration Building and Maintenance Facility Final EIR. Those facilities are proposed to be designed and constructed to the City of Long Beach LEED® standards for high-performance, sustainable buildings.

The Draft EIS/EIR listed the following twelve mitigation measures for reducing operational GHG emissions, nine of which are specific to reducing GHG emissions:

- AQ-5: Ship-to-Shore Power ("Cold-Ironing").** OGV that call at the Middle Harbor container terminal shall utilize shore-to-ship power while at berth.
- AQ-9: Clean Railyard Standards.** The expanded Pier F intermodal railyard shall incorporate the cleanest locomotive technologies into its operations.
- AQ-10: Truck Idling Reduction Measures.** The Middle Harbor container terminal operator shall minimize on-terminal truck idling and emissions.

- AQ-11: Slide Valves on OGV Main Engines.** The Port will require the use of slide-type fuel valves on OGV, where feasible.
- AQ-12: Expanded VSRP for GHG.** All OGV that call at the Middle Harbor container terminal shall comply with the expanded VSRP of 12 knots from the California overwater border to the Precautionary Area.
- AQ-13: Low-sulfur Fuels in OGV for GHG.** All OGV shall use 0.2 percent or lower sulfur MGO fuel in vessel auxiliary and main engines at berth and within California State Waters, or implement equivalent emission reductions.
- AQ-14: LEED.** The main terminal building shall obtain the LEED gold certification level.
- AQ-15: Compact Fluorescent Light Bulbs.** All interior terminal building lighting shall use compact fluorescent light bulbs.
- AQ-16: Energy Audit.** The Middle Harbor container terminal tenant shall conduct a third party energy audit every five years and install innovative power saving technologies where feasible, such as power factor correction systems and lighting power regulators.
- AQ-17: Solar Panels.** The applicant shall install solar panels on the main terminal building.
- AQ-18: Recycling.** The terminal buildings shall achieve a minimum of 40 percent recycling by 2012 and 60 percent recycling by 2015.
- AQ-19: Tree Planting.** The Port shall plant shade trees around the main terminal building.

Since the publication of the Draft EIS/EIR, the Port has conducted an exhaustive search for additional measures that could feasibly mitigate GHG emissions from the proposed Middle Harbor Redevelopment Project. This included a thorough review of regulatory measures proposed or adopted by international, federal and state governments to reduce GHG emissions, measures being considered by goods movement industry organizations for voluntary implementation, and measures adopted by other public agencies in EISs, EIRs, master plans, climate action plans, or other environmental programs. In addition, the Port considered other technologies that may not have been used in a maritime port setting but could be transferred to the goods movement activities and applied to the Project. Based on this review, the following measures were specifically considered as either potential feasible mitigation measures for the proposed Project or for incorporation into the Project description.

Green Power. Currently, nearly 16 percent of the electricity delivered by SCE is generated from wind, solar, biomass, small hydropower, and geothermal sources. SCE is working to develop additional sources of renewable energy in response to a mandate from the State of California, and provides incentives for residential and commercial renewable energy projects.

The Port's Renewable Energy Working Group recently finished a Solar Energy Technology and Siting Study ("Solar Siting Study") which reviewed available solar technologies and the estimated solar energy generation potential for the entire Harbor District, including the Middle Harbor container terminal development. In this study, it was determined that there are many locations throughout the Port where solar technologies could be installed for the generation of electricity. The prime opportunities were building roof-mounted solar collectors, solar car ports, and ground-mounted solar collectors, with photovoltaic technology being the most feasible generation mechanism. Additional evaluations of the structural capacities of building rooftops, lease durations, cost-effectiveness, and marine-related land use maximization must be made on a project-by-project basis as this solar technology is advanced at the Port.

Draft EIS/EIR **Mitigation Measure AQ-17** already specifies the applicant to install photovoltaic (PV) solar panels on the main terminal building. Because the Middle Harbor

Redevelopment Project does not include a significant amount of building rooftop area, there is little additional rooftop area suitable for solar panel installations. The Solar Siting Study also concluded that there was little opportunity within the proposed terminal area for ground-level installation of solar panels due to the proposed land use.

The Port has determined that solar carports likely could be installed in the employee and visitor parking areas. Solar carports use existing parking areas to generate power without sacrificing valuable real estate and as an added incentive provide shaded and covered parking for vehicles. As an added benefit, solar carport systems require little maintenance and allow easy access to panels for service.

Traditional wind power generation relies on strong, prevailing winds for cost effectiveness. The Port's Renewable Energy Working Group reviewed the meteorological data for the Harbor District and concluded that the winds at the Harbor District generally lacked those characteristics. Emerging technologies for low-wind generation could hold promise for environments like the Port, but they are not yet commercially proven or available. Thus, wind power was deemed infeasible at this time on both a port-wide and Project basis.

Cool Roofs. A cool roof is a roofing system that can deliver high solar reflectance and high thermal emittance. Buildings that use highly reflective, highly emissive roofing materials stay cooler than normal under the summer sun. Cool roofs reportedly can also enhance roof durability and reduce both building cooling loads and the urban heat island effect. There are three categories of cool roofs for commercial and industrial buildings. They are roofs made from inherently cool roofing materials, roofs made of materials that have been coated, or green planted roofs. For a typical 100,000 square foot general office building, a cool roofing system can reduce electricity consumption by approximately 90 megawatt-hours (MWh) per year, thereby eliminating 30 tons of CO₂e per year.

The proposed Project does not include a significant amount of building area, but cool roof technology could be used on those building rooftop areas which are not otherwise covered (e.g., otherwise covered with solar panels).

Cool Pavements. Cool pavements refer to a range of established and emerging materials. These pavement technologies tend to store less heat and may have lower surface temperatures compared with conventional products. They can help address the problem of urban heat islands. Traditionally, the container yard area of a marine container terminal has been made up of Asphalt Concrete (AC) paving in the ratio of eight inches of AC to 16-inches of Crushed Miscellaneous Base (CMB). These thick layers are necessary to support the loads of the containers and equipment. AC paving is very flexible thereby making it easy to modify the CY, as necessary, throughout the life of the terminal. Another type of paving being considered by the Port consists of seven inches of AC over 17-inches of Cement Treated Base (CTB). The AC/CTB combination is stronger than AC/CMB but has less flexibility because of the cement added to the base. Cool Pavement most typically consists of Portland Cement Concrete (PCC). One thing to consider is that the making of PCC itself is noted as producing GHG emissions. The ratio of PCC to base required for a CY is 15-inches of PCC to six inches of CMB. PCC is very difficult to modify once it is in place because of the hardness of the material.

The cost associated with AC/CMB or AC/CTB is approximately \$320,000 to \$400,000 per acre while the cost associated with PCC/CMB can be up to \$850,000 per acre. The cost differential for 250-acres of container yard, for example, between the two materials, would add approximately \$112,500,000 to \$132,500,000 to the cost of the project. This makes the use of PCC in the container yard economically infeasible. The Port will, however, consider the use of cool pavement in areas of the terminal that do not experience heavy loads such as employee parking areas, as applicable.

Biological Sequestration. Trees, plants, and some soils sequester carbon and remove it from the earth's atmosphere. Biological sequestration projects involve activities that either

increase existing sequestration or maintain sequestration on land that might otherwise be disturbed and release some or all of the sequestered carbon. Some examples of biological sequestration projects include the following: (1) planting trees on previously non-forested land (i.e., afforestation); (2) planting trees on formerly forested land (i.e., reforestation); (3) limiting deforestation by purchasing forested property and preserving the forests with legal and enforcement mechanisms; (4) setting aside croplands from agricultural production to rebuild carbon in the soil and vegetation; and (5) promoting practices that reduce soil disruption. Biological sequestration projects, particularly forestry projects, offer a great deal of potential in terms of volume of carbon removed from the atmosphere.

The Port is playing an integral part in the City of Long Beach's Urban Forest Master Plan. In early 2007, the City of Long Beach contracted with a consulting firm to review existing urban forest policies and practices and to set out new goals and policies for an Urban Forest Master Plan. This was Phase I of the City's Urban Forest Master Plan. The Port participated in Phase I by funding 10 percent of the contract costs, in addition to providing Maintenance and Environmental Planning staff assistance and direction. The Port's 10 percent contribution matches the Harbor Department's 10 percent aerial coverage of land within the City. The City is about to commence Phase II of the Urban Forest Master Plan which will inventory current tree assets and develop a program to manage and enhance these assets.

Draft EIS/EIR **Mitigation Measure AQ-19** requires the Port to plant shade trees around the main terminal building. The Port is now expanding the scope of the proposed tree planting measure to include the tree planting along the transportation corridors into the Middle Harbor container terminal. Preliminary estimates indicate that this measure would plant several hundred new trees, which would remove as much as 800 tons per year of CO₂ from the atmosphere.

High Efficiency RTG Cranes. Cranes consume a significant amount of energy in a containerized cargo terminal. High-efficiency technologies are available for RTG which can significantly reduce the energy consumed in the lift of cargo containers. For traditional cranes, the energy released during the load lowering has been wasted by the resistor braking. Regenerative crane designs are able to capture and store most of the energy released during cargo lowering for use during the next lift cycle. Field tests report that terminal operators can reduce energy consumption by 50 percent based on the same operating conditions and throughput when compared to conventional RTG crane designs.

Siemens' ECO-RTG is one type of regenerative RTG drive system currently in the market. With an optional ultra-capacitor, Siemens reports the ECO-RTG Drive System can achieve energy savings of up to 70 percent. The key to the new Siemens' technology of the ECO-RTG is the custom made digital control unit (DICO) and the DUO inverters. The DICO calculates energy consumption and regulates motor revolutions accordingly. This ensures an intelligent supply of energy, so the motor always operates efficiently. The Port understands that other vendors have similar green RTG drive systems that can achieve similar types of energy efficiency and thereby GHG emission benefits.

High Efficiency RMG Cranes. Similar to the above, high efficiency, regenerative drive systems are available for rail mounted gantry (RMG) cranes which can be used on the proposed Project. Konecranes manufactures one of the green RMG cranes currently being utilized in the market. The regeneration units in Konecranes RMG crane design feeds the energy released during load lowering back to the customer's network. The electricity savings from power regeneration can be as high as 70 percent. Other vendors have similar green RMG cranes that can achieve similar types of energy efficiencies, and thereby, GHG emission benefits.

Final EIS/EIR **Mitigation Measure AQ-7a** proposes the replacement of all Project diesel-powered RTGs with electric-powered RMGs by 2020, or by the completion of construction. This time lag is needed, as it would be necessary to wait until near completion of Project

construction to efficiently install the associated rail system throughout the terminal. This measure also requires each RMG to include regenerative drive systems. Since implementation of **Mitigation Measure AQ-7a** could quickly replace the existing RTG fleet, it is deemed overly expensive to expect the terminal operator to install regenerative drive systems on these units. **Mitigation Measure AQ-7a** will be revised as noted below.

Building Energy Efficiency. Buildings can incorporate energy efficiency improvements to minimize GHG emissions from heating, ventilation, and cooling systems by improving building envelope thermal performance and efficiencies of air conditioning (HVAC) systems. Improved building envelope thermal performance can be achieved by installing advanced glazing systems; using shading devices and internal blinds; greater use of insulation and improved insulation materials; and reduction of air leakage from buildings through improved construction techniques. HVAC efficiency can be improved by installing high efficiency pumps and fans; optimizing the design of pipes ducts; installing high efficiency chillers and air conditioners; use of natural heat (e.g., solar pre-heated air); and improved management of environmental conditions in buildings.

New buildings at the Port will incorporate energy efficiency improvements to the extent possible, and in accordance with the City of Long Beach LEED certification goals. The Final EIS/EIR **Mitigation Measure AQ-14** requires the main terminal building design to obtain a LEED Gold certification level. Achieving these standards would satisfy the objective for the Project to operate energy efficient buildings.

Additionally, Final EIS/EIR **Mitigation Measures AQ-15** (use of compact fluorescent bulbs for interior lighting) and **Mitigation Measure AQ-16** (conduct third party energy audits every five years and install innovative power saving technologies where feasible) also would help to achieve this objective. No other feasible mitigation measures are presently available to further improve on the energy efficiencies of proposed buildings.

Energy Efficient Construction Equipment and Vehicles. There are a number of measures identified in the EPA SmartWay program which, if feasible, could improve the energy efficiency of construction equipment and vehicles used in the construction phase of the proposed Project. These measures include automatic tire inflation, trucks using direct fire heaters, and trucks using auxiliary power units. The automatic tire inflation program would yield an estimated 0.6 percent fuel savings. As for the direct fire heater and auxiliary power units for trucks they are estimated to yield 0.78 gallons per hour and 0.6 gallons per hour fuel savings, respectively. However, since proposed construction equipment and trucks would operate for such a short amount of time, implementation of these measures are deemed infeasible on such transitory equipment and truck fleets.

Unmitigated construction activities would use equipment (other than tugboats) that achieve the EPA non-road Tier 3 standards at a minimum. This requirement ensures that proposed construction activities would use relatively new equipment with the highest achievable fuel efficiency rates. Final EIS/EIR **Mitigation Measure AQ-2** also requires Tier 4 standard engines in construction equipment, where feasible, which also would result in the use of the most fuel efficient equipment, since these standards do not take effect until 2011. Final EIS/EIR **Mitigation Measure AQ-2** has been revised to include BMPs requested by the SCAQMD in comment SCAQMD-14 and this would satisfy a similar request by EPA in comment USEPA-18. Some of these BMPs would reduce fuel usage from proposed construction sources. No other feasible mitigation measures are available to reduce GHG emissions from proposed land-based construction equipment.

Replace or Repower Harbor Craft Engines. The Final EIS/EIR air quality analysis assumes that over time, unmitigated construction and operational assist tugboats would turn over to engines that meet EPA Tiers 2 through 4 standards. This assumption is consistent with the definition of the future SCAB harbor craft fleet developed by the ARB for implementation of the ARB Commercial Harbor Craft Regulation. Final EIS/EIR **Mitigation Measure AQ-3** also

requires Tier 3 standard engines in construction tugboats, where feasible. As a result, the tugboat fleets used during proposed construction and operation would have relatively new engines with the highest achievable fuel efficiency rates. Therefore, no other feasible mitigation measures are available to reduce GHG emissions from these sources.

Foss Maritime in the POLB is presently testing the world's first hybrid tug. The hybrid technology incorporated into the tug propulsion system will minimize fuel consumption by using a specialized power management system to match required power to the most efficient combination of batteries and diesel-powered generators and main engines. It is estimated that the hybrid tug will spend at least 75 percent of its operating hours in the lowest two power modes of operation. Both of these modes will require the use of the batteries and generators, but no main engines. As a result, the tug will generate much lower air pollutant and GHG emissions during slower or idle times but will be able to access full power and maintain required propulsion when necessary. However, since this technology is not yet demonstrated or commercially available, it is deemed infeasible at this time.

Efficient Boom Flood Lights. The Middle Harbor Redevelopment Project (Draft EIS/EIR Section 1.7.3) requires the use of photo cells/timers, low energy fixtures, and light-spillover reduction features into new and existing terminal lighting and new electrical equipment. Other measures can be added that would further improve energy efficiency from boom flood lights on the terminal.

The container terminal is replacing electromagnetic ballasts with electronic ballasts, using double filaments and applying auto-switch-off crane boom floodlights when the boom is up. These flood lights are on while the boom is in the downward position. When the boom is in the up position the flood lights automatically turn off. These innovative flood lights have a significant electricity savings as well as extending the life span of the floodlight. Electricity savings from these features are estimated at 14 kW hours per hour of crane operation. Therefore, the Final EIS/EIR proposes the following new mitigation measure.

Coolants Used in Refrigerated Containers (Reefers). Use of refrigerants with a lower GWP would reduce CO_{2e} emissions from refrigerated containers. Refrigerated containers are owned by the ocean carriers. Terminal operators are responsible for moving refrigerated containers, owned by multiple ocean carriers, through their terminal. The terminal operators ensure the units are functioning properly and perform basic maintenance activities on these systems according to manufacturer instructions. Since terminal operators do not own refrigerated containers, they cannot make decisions on behalf of the owner to make changes to the refrigeration system, such as replacing a refrigerant. As a result, it is administratively infeasible for the terminal operator to implement a refrigerant replacement measure.

Reefer Lighting and Low-Energy Reefer Containers. The following opportunities could reduce energy usage from reefer containers moved through the Port.

In order to reduce energy consumption from reefer containers, Maersk Line recently teamed up with Odense Steel Shipyard to develop reefer containers that are cooled by water, thereby reducing energy consumption by 15-20 percent from conventional diesel-powered reefers. Maersk Line is also involved in a project called Quality and Energy Efficiency in Storage and Transport (QUEST). This project is a joint program sponsored by the Dutch Government and a research center in the Netherlands. QUEST is a software program that provides a new temperature control regime in refrigerated containers. This technology enables Maersk Line to cut the energy consumption used for cooling by up to 50 percent without having an impact on the quality of refrigeration solutions. It is estimated that when fully implemented in 2008, QUEST will reduce GHG emissions from Maersk Line's operations by 350,000 tons CO_{2e} per year. However, the feasibility of applying similar measures to the Project is still under review. Reducing the amount of power needed for nighttime lighting at reefer platforms would reduce GHG emissions from electrical generation.

Employee Carpooling. The Final EIS/EIR has added the following new mitigation measure, which encourages construction and terminal employees to carpool or to use public transportation. Implementation of these measures would reduce GHG emissions from proposed employee commuting activities.

Terminal and Railyard Equipment. In the future, it may be feasible to convert terminal or railyard equipment to electric-powered or fuel cell designs. The terminal could also implement strict idling restrictions for diesel-powered cargo handling equipment. Measures which may be employed include utilization of electric automated stacking cranes and installation of automatic stop-start controls for cargo handling equipment. These types of measures would reduce GHG emissions due to reductions in fuel consumption. However, electrification of cargo handling equipment is not a proven technology and it is therefore infeasible. Please refer to responses to comments SCAQMD-19, SCAQMD-20, and SCAQMD-27 regarding the feasibility of the use of electrified yard hostlers, drayage trucks, and trains. These technologies are topics of research for the TAP process. If the TAP process determines that an emission control technology is feasible, it will be promoted in the future. Additionally, Final EIS/EIR includes **Mitigation Measure AQ-25** that requires the terminal tenant in 2015 and every five years afterwards, to review new air quality technological advancements for the purpose of implementing new feasible mitigations.

Resource Conservation and Environmentally-Preferable Purchasing. Projects that minimize the use of resources, and thus, the energy used for manufacture and transport of products or resources, can achieve significant GHG reductions. Because water conveyance accounts for about 30 percent of the electricity used in California, water conserving projects, such as sustainable landscaping, fixture upgrades, and monitored irrigation, will be considered under this program. Recycling also reduces the amount of GHG emissions produced in the manufacture of products, and Port and tenant recycling programs will be expanded.

Environmentally-Preferable Purchasing programs can accomplish indirect greenhouse gas reductions by giving preference to the purchase of locally-produced or recycled products over those requiring greater transportation miles or use of virgin materials. This type of measure would need to be applied at a port-wide level to be effective.

Solar Water Heating. Solar water heating consists of a series of collectors, typically roof-mounted, oriented to capture the sun's energy. Heat is collected and redistributed to create hot water systems for use in a process or to supplement traditional hot water heaters. These projects reduce GHG emissions by avoiding natural gas combustion. The Port has not identified any considerable opportunities for solar water heating on the Middle Harbor container terminal.

Mitigation for Indirect GHG Emissions ("Offsets"). The Port will also require the terminal operator to use green commodities to offset carbon emissions from all electrical consumption at the terminal. See new **Mitigation Measure AQ-24**, below. The Port will participate in approved offsite renewable credits programs that utilize green commodities. The Port will use either Renewable Energy Credits (RECs) or Verified Emission Reductions (VERs) and will commit specific annual funds for this endeavor with a not to exceed dollar cap. Due to the large expenditure made for the combined Project criteria pollutant and GHG mitigations, any further funding of offsite GHG mitigation is deemed economically infeasible.

RECs are tradable environmental commodities which are used to prove that electricity was generated from an eligible renewable energy resource. RECs and VERs are verified/certified by entities based on different standards. The primary REC and VER products that will be utilized will include one or more of the following options:

1. Green-e - a voluntary certification and verification program for wholesale, retail, and commercial electricity products, tradable renewable certificates (TRCs) and utility green

pricing programs in the U.S. Green-e certifies about 100 retail and wholesale green power marketers across the country. Green-e markets a product for RECs resulting from projects covered by the Western Renewable Energy Generation Information System (WREGIS). The WREGIS is an independent, renewable energy tracking system for the region covered by the Western Electricity Coordinating Council (WECC). WREGIS tracks renewable energy generation from units that register in the system using verifiable data and creates RECs for this generation. RECs from WREGIS projects can be tracked to the exact project location for customers interested in projects within a specific western state/province or region.

2. CCAR's Climate Action Reserve – it sets a high measurable standard and brings more certainty about the carbon projects through the development of standardized protocols for specific industry sectors that are based on internationally recognized best practices. These VERs, termed Climate Reserve Tonnes (CRTs or “Carrots”), are designed to be “best in breed.”
3. The Voluntary Carbon Standard (VCS) Program - marketed as a global standard for approval of credible voluntary offsets. VCS offsets are required to demonstrate that they are real, additional (beyond business-as-usual activities), measurable, permanent, and independently verified.
4. Gold Standard Foundation VERs - a certification scheme for VERs that only accepts renewable energy and energy efficiency projects that actively promote sustainable development. The Gold Standard Foundation intends to offer a highest quality label to voluntary offset projects. Renewable energy and energy efficiency projects with sustainable development benefits are eligible and the Gold Standard is now endorsed by over 49 non-governmental organizations (NGOs) worldwide.

User-Fee Schedules. There exists a number of variables that impact the GHG profile of vessels, such as vessel engine type, fuel efficiency, emission control systems, fuel type, length overall, hull configuration (e.g., bulbous bow), hull fouling, vessel speed, total cargo capacity, refrigerated container load. Many of these are difficult to measure or difficult to differentiate from other vessels. In addition, currently available data on GHG emissions does not provide emissions information for specific vessel types; the estimation of GHG emissions from vessels relies on the same emissions factor for broad engine classes (of which container vessel typically fall into a single class). As a result, it is not possible to craft an effective user-fee based on GHG emissions of a vessel. Rather than implement such an accounting system for vessel emissions, the Final EIS/EIR requires Project OGV to comply 100 percent of the time with proposed mitigation measures that would substantially reduce GHG emissions. These include vessel speed reduction and cold-ironing while at berth. While tariff rates for vessels are set Port-wide, the POLB has already established a tariff-based incentive that encourages participation in the VSRP and has created a financial incentive that accelerates the use of low-sulfur, distillate bunker fuels at the Port. Similar to the marine fuel incentive, other such programs would be considered on a Port-wide basis and through the CAAP process and the lease reopening process, as proposed in Final EIS/EIR **Mitigation Measure AQ-25** and presented in response to comment USEPA(B)-20.

Tenant Incentives to Reduce GHG Emissions. For the reasons mentioned in the previous paragraph, implementation of an incentive program is deemed to be infeasible. However, in the context of the implementation of **Mitigation Measure AQ-25**, tenant incentive programs may be part of the discussion.

New/Revised Mitigation Measures.

Based on the above evaluations, the Final EIS/EIR includes the following new/revised feasible project-level mitigation measures.

- AQ-7a: High Efficiency Rail Mounted Gantry (RMG) Cranes.** The Project terminal operator shall replace all diesel-powered RTGs with electric-powered RMGs, as soon as feasible, but no later than the completion of construction in 2020. Each RMG shall include high efficiency, regenerative drive systems.
- AQ-17a: Solar Carports.** The applicant will install carport-mounted PV solar panels over the employee and visitor parking areas to the maximum extent feasible.
- AQ-19a: Tree Planting – Transportation Corridors.** The Port shall plant new shade trees on Port-controlled lands adjacent to the roads into the Middle Harbor container terminal to the extent practicable given safety and other land use considerations.
- AQ-20: Cool Roofs.** Buildings on the Middle Harbor container terminal will incorporate cool roofing systems to the extent feasible. Building rooftop areas which are covered with solar panels in accordance with **Mitigation Measure AQ-17** shall be exempt from this measure.
- AQ-21: Energy Efficient Boom Flood Lights:** The Port shall install boom flood lights with energy efficient features on existing and new dock cranes to the extent feasible. Such features may include, but are not limited to, use of photo cells/timers, low energy fixtures, and light-spillover reduction features, electronic ballasts, use of double filaments, and applying auto-switch-off controls when the crane boom is up.
- AQ-22: Reefer Lighting.** The terminal tenant shall downsize light fittings and associated electrical power usage at reefer platforms to the extent feasible.
- AQ-23: Employee Carpooling.** The construction contractor and terminal tenant shall encourage construction and terminal employees to carpool or to use public transportation. These employers shall provide incentives to promote the measure, include preferential parking for carpoolers, vanpool subsidies, and they shall provide information to employees regarding the benefits of alternative transportation methods.
- AQ-24: Mitigation for Indirect GHG Emissions.** The terminal tenant shall be required to use green commodities, such as those available from the California Climate Action Registry's Climate Action Reserve, to offset carbon emissions associated with terminal's electricity consumption subject to the limitation specified below. This measure applies to all electricity consumed at the terminal, including shore-to-ship power usage ("cold ironing"). The terminal-related carbon emissions from electricity consumption will be calculated each year based on the local utility's carbon intensity for that year as recognized by the State of California. The tenant may adjust the carbon intensity value to wholly reflect any carbon offsets provided by the electricity deliverer (i.e., point of generation or point of importation) under applicable California and/or federal cap-and-trade regulations (i.e., no double offsetting).

The Port is limiting the potential cost of this measure. The maximum expenditure for purchased offsets required under this measure shall not exceed 15 percent of the terminal electricity costs for any given year (i.e., cost of offsets shall not exceed 15 percent of terminal electricity costs (US\$ basis).

The future implementation cost for **Mitigation Measure AQ-24** is not known because it is potentially affected by several unknown factors. These could include (a) the future carbon intensity of electricity delivered by the local utility, (b) the future price of green commodities (RECs and VERs), (c) the price of electricity, and (d) the effects of future cap-and-trade regulations on the (a), (b) and/or (c).

Greenhouse Gas Emission Reduction Program (GHG Program). To partially address the impacts of the Middle Harbor Redevelopment Project, the Port will require this Project to fund

the GHG Emission Reduction Program. This money will be used to fund one or more projects submitted to the Board of Harbor Commissioners for review and approval in accordance with the GHG Emission Reduction Program Guidelines. How this money will be used and the amount of GHG emissions reduced will depend on the mix of submitted projects approved according to the Guidelines. Applicable GHG reduction projects listed in the Guidelines include, but are not limited to, generation of green power from renewable energy sources, ship electrification, goods movement efficiency measures, cool roofs to reduce building cooling loads and the urban heat island effect, building upgrades for operational efficiency, tree planting for biological sequestration of CO₂, energy-saving lighting, and purchase of RECs.

As the Port moves toward the replacement of fossil-fuel driven equipment and operating practices, onsite renewable energy generation can help address the Port's increasing demand for electricity while avoiding GHG emissions. In order to ascertain the Port's potential solar energy generating capacity, a Solar Energy Technology and Siting Study was completed in October 2008. While cost estimates are highly dependent on a number of variables, such as the structural capability of an existing building to bear the weight of a solar installation, a typical \$1,000,000 solar project would be expected to generate approximately 200 megawatt hours (MWh) of clean energy each year, avoiding the emission of almost 60 metric tons of CO₂e each year. Wind energy technologies are continually improving, and while currently infeasible due to the lack of strong prevailing winds at the Port, wind may become a more cost-beneficial means of generating renewable energy onsite as technologies improve.

EPA's Guidelines for cool roofs estimates GHG reductions of six to seven percent at a cost of \$0.75 - \$1.50 per square foot. In one example, \$150,000 for such a roofing system for a 100,000 square foot building would reduce 30 metric tons of CO₂e per year due to reduced energy consumption. The applicability to roofs at the Port would have to be evaluated on a case-by-case basis.

The McKinsey Group has found that building efficiencies such as more efficient lighting and appliances, improved building insulation, and better heating and cooling can be achieved at costs under \$50 per metric ton CO₂e (annualized). Upgrading existing mobile source fleets so they produce less GHG emissions is expected to generate a cost savings over time due to increased fuel efficiency. They also found that low-cost forestation (e.g., tree planting) can achieve emission reductions equivalent from \$30 - \$50 per metric ton of CO₂e. While limited opportunities for tree-planting projects may exist within the Harbor District, the Guidelines set City-controlled projects as an important consideration. The Port is currently participating in the City's Urban Forest Renewal Program and may find additional GHG mitigation opportunities within the structure of this Program.

The ARB's AB 32 Scoping Plan and its associated appendices describe various control measures and projects that are under consideration for meeting California's commitment to reducing GHG emissions. Some projects are well established and their emission benefits and costs are well understood. Additional studies by private and other public organizations have shown that other projects considered for GHG emission reduction measures may have less well defined emission reduction benefits and cost estimates. However, even these estimates show a general cost-effectiveness range of \$30 - \$50 per metric ton of CO₂e reduced (annualized). At the upper range of \$50 per metric ton of CO₂e reduced, 20,000 metric tons of CO₂e could be reduced at a cost of \$1,000,000; more cost-effective projects could result in even greater GHG reductions.

RECs are currently available on a voluntary market and may be purchased to further mitigate GHG emissions. The cost for high-quality, Green-e certified, new project, US-based RECs is approximately \$21 for wind projects and \$34 for solar projects. Each REC is the equivalent of generating one MWh of renewable energy and represents the avoidance of generating 641 pounds of CO₂e at the Port. Therefore, a \$1,000,000 investment in wind RECs would result in

the avoidance of almost 14,000 metric tons of CO₂e at the Port. However, since RECs are generated by projects outside of the Harbor District, their purchase is listed as a low priority in the Guidelines.

Ultimately, the Board of Harbor Commissioners will have the final approval authority on which types or mix of projects will be funded for GHG emission reductions, as described by the review and approval procedures in the Guidelines. As an example, approximately \$5 million would pay for all of the following measures: 700 MWh capacity of solar generation, the conversion of 100,000 square feet of traditional roofs to cool roofs, investment of \$1 million toward energy-efficiency projects, and the installation of 2,500 trees within the Long Beach Urban Forest. A conservative calculation of the corresponding GHG emissions reductions/avoidance for this type of project mix would be approximately 22,000 metric tons CO₂e per year.

The Port is proposing to require the project to provide grant funding of \$5 million for the GHG mitigation program. Although it is not known which projects will ultimately be proposed and selected, the example above shows that this level of funding would provide the means to reduce GHG emissions, with an emphasis on projects that can be implemented locally. Depending on the types of projects submitted and ultimately approved, \$5 million in grant funding could annually reduce 22,000 metric tons CO₂e per year (based on the project mix described above) to 333,000 metric tons CO₂e per year (based on the most cost-effective projects at \$15/ton CO₂e). From the Middle Harbor Redevelopment Project EIS/EIR, the change in GHG compared to the CEQA Baseline ranged from an increase of 41,797 to an increase of 247,058 metric tons CO₂e per year in 2010 and 2030, respectively. Compared to the NEPA Baseline, the change in GHG emissions ranged from reduction of 2,287 to an increase of 36,360 metric tons CO₂e per year in 2010 and 2030, respectively. Depending on the cost-effectiveness of the submitted and approved projects, the grant funding from the Middle Harbor Redevelopment Project could mitigate some or all of these GHG increases. Projects approved pursuant to the Guidelines can be implemented shortly after grant funding becomes available, which will occur once the Middle Harbor Redevelopment Project receives final approval and any appeals have been exhausted. Since the mix of submitted and approved GHG mitigation projects (and their cost-effectiveness) cannot be determined *a priori*, the Port nonetheless concludes that the impacts of GHG emissions from the Middle Harbor Redevelopment Project remain significant and unavoidable.

AQ-28: Greenhouse Gas Emission Reduction Program (GHG Program). To partially address the cumulative GHG impacts of the Middle Harbor Project, the Port will require this Project to provide funding for the GHG Program in the amount of \$5 million. This money will be used to pay for measures pursuant to the GHG Emission Reduction Program Guidelines, include, but are not limited to, generation of green power from renewable energy sources, ship electrification, goods movement efficiency measures, cool roofs to reduce building cooling loads and the urban heat island effect, building upgrades for operational efficiency, tree planting for biological sequestration of CO₂, energy-saving lighting, and purchase of renewable energy certificates (RECs).

The timing of the payments pursuant to **Mitigation Measures AQ-28** shall be made by the later of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes the commencement of construction on the Phase 1 Construction Contract; or (2) the date that the Middle Harbor Final EIS/EIR is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.

In conclusion, the Port has thoroughly disclosed potential GHG emissions associated with the Project and it has expended considerable effort to identify all feasible project-specific measures to mitigate proposed GHG emissions. It would be economically infeasible and outside of the tenant's control to implement any additional measures beyond those described

above. The Port will continue to pursue additional GHG mitigation measures under the CC/GHG Plan. This will result in additional reductions in GHG emissions beyond those that would be achieved through the direct project mitigation measures described above.

DOJ-6.

This response addresses comments DOJ-6 and CDB-36. Comment DOJ-6 outlines the GHG emissions projected for Alternative 3, the NEPA Baseline. The comment states “there is no basis to exclude these significant increases in greenhouse gas emissions from the NEPA Baseline.” The Draft EIS/EIR did not *exclude* the subject GHG emissions from the NEPA Baseline. This response assumes the comment intended to reference the “inclusion” of these emissions rather than the exclusion.

This comment and the Commenters in CBD-36 have criticized the Draft EIS/EIR, asserting that the NEPA Baseline is flawed because it includes the proposed redevelopment and backland expansion on existing lands within the project site (the “Landside Parcels”) to accommodate additional containerized cargo up to the capacity of the existing wharfs and berths. Commenters contend that by doing so, the Draft EIS/EIR does not evaluate the impacts of this expansion, which must be evaluated not only by the Port, but by USACE, as well. Commenters further contend that USACE’s approvals are not a minor, tangential part of the overall Project, but encompass the heart of the development process, and that the Landside Parcels would not be developed absent the USACE approvals.

NEPA does not specify the scope of analysis that federal agencies must conduct in determining whether their actions, when combined with private actions, come within the mandate of 42 USC § 4332(2)(C). Under USACE’s NEPA Implementing Procedures (33 CFR Pt. 325, App. B 7 (b), where an activity requiring a federal permit is one component of a larger project, the lead agency must look at (i) the impacts of the portion of the project requiring the federal permits, and (ii) the impacts of the other portions of the entire project over which the federal authorities have “sufficient control and responsibility to warrant federal review.” This has been interpreted to require review of those environmental impacts of the larger project which are essentially products of the federal action. 33 CFR Part 325, Appendix B, Section (b)(1). Thus, the USACE must look at additional incremental impacts of the development of the Landside Parcels *attributable to the approval of the federal permits*. The USACE must examine any development of the Landside Parcels that would *not occur but for* the USACE’s approvals of the water improvements. See *Wetlands Action Network et al. v. United States Army Corps of Engineers, et. al.*, (9th Cir. 2000) 222 Fed.3d 1105.

The USACE scope of analysis established in the Draft EIS/EIR includes construction and operational activities that would not require issuance of federal permits. The NEPA Baseline does not include in-water activities (e.g., dredging, filling Slip 1 and the East Basin, and new wharf construction), no wharf upgrades would occur (except the provisions for shore-to-ship power), and channel and berth deepening would not occur. The USACE has no authority or responsibility to regulate activities, such as upland operations, that are occurring or could occur absent a USACE permit. These activities and resulting conditions, therefore, comprise the NEPA Baseline. Accordingly, the NEPA Baseline would include redevelopment of the existing terminal areas on Piers E and F and the land north of Gerald Desmond Bridge and Ocean Boulevard with the Project site would be converted to a container yard. The NEPA Baseline would include construction of the following upland site improvements: redevelopment and backland expansion on existing lands within the Project site (the Berth E23 oil area would be abandoned and redeveloped as container yard area); construction of a new 66kV Pier E Substation; construction of shore-to-ship infrastructure at Piers E and F to cold-iron vessels while at berth; construction of a Mainline Track Realignment at Ocean Boulevard/ Harbor Scenic Drive and the Pier F storage yard and tracks; and expansion of the existing Pier F intermodal railyard to six tracks.

It is important to note that this is not a situation where the operation and development of a cargo terminal is dependent upon the proposed federal permits. Middle Harbor already operates as a cargo terminal. Piers D and E were constructed in the 1940s. Pier F was

completed in 1965. Piers E and F are specifically designed for container handling, and Pier D is predominately used for break-bulk, dry-bulk and liquid-bulk. Each of the piers in the Project area already contain facilities that accommodate ship calls. Thus, the Project area already operates a functional container terminal at this location, and continued (and expanded) operations and additional development of the upland portions of the Project could and undoubtedly would occur in the absence of a USACE permit, which would result in increased throughput and additional impacts over time. Existing terminal operations include containerized cargo and break-bulk activities that are operated by two terminal operators (CUT and LBCT); the existing terminal consists of four berths with a total container berth length of 4,480 LF and a 10,000 track-feet intermodal rail facility (Pier F). By 2015, the existing total container terminal acreage (244 acres) would increase to 267 acres due to redevelopment of land (13 acres) north of Gerald Desmond Bridge and Ocean Boulevard as a container yard, and, absent USACE authorization of regulated activities in waters and navigable waters of the U.S. The change from existing to reasonable forecasted improvements under the NEPA Baseline would result in an 80 percent increase in TEUs, a 10 percent increase in total container terminal acreage, a 50 percent increase in annual vessel calls, and a 45 percent increase in average daily truck trips.

This upland area represents portions of the Project area that could be developed for container storage and transfer (i.e., nonfederal or private action) entirely independent of the CWA Section 404 and River and Harbor Act Section 10 authorization from USACE (i.e., federal action). The environmental consequences of using this site for container storage and transfer are clearly not the result of USACE permit action, and there is no other federal funding, guarantee, other financial assistance, or regulation pertaining to the Project area uplands requiring further expansion of the USACE scope of analysis into this nonfederal portion of the Project area (i.e., minimal federal control and responsibility). Vessel traffic and container throughput have increased and substantial additional increases are expected, necessitating an increased need for cargo-handling areas, such as this one, whether or not a USACE permit is issued.

For this project, the NEPA Baseline is not fixed because the upland area is expected to increase its throughput and impacts regardless of whether a USACE permit is issued. In contrast, the CEQA Baseline is static as normally required by CEQA (i.e., the conditions at the issuance of the NOP). The fact that Project area conditions would change in the absence of a USACE permit underscores the limited federal control and responsibility that exists and the need for a dynamic Project NEPA Baseline.

The Draft EIS/EIR specifically analyzes the portion of each impact attributable to federal control and responsibility, and, as appropriate, evaluates each NEPA increment in a broader context to assess Project-specific and cumulative effects. The Draft EIS/EIR correctly identified USACE's scope of analysis and area subject to federal control and responsibility for each resource or issue of concern, performed the appropriate independent analyses, and made justifiable NEPA impact determinations for the Project's direct and indirect impacts, as well as the cumulative impacts. Therefore, no revisions to the Final EIS/EIR are required.

DOJ-7.

This response addresses both comments DOJ-7 and CBD-40. Both comments criticizes the Draft EIS/EIR because under NEPA, the document delineates no federal "threshold of significance" to assess the significance of Project's GHG emissions. Specifically, the USACE noted that because there was no science-based GHG significance threshold, and no federal or state adopted standard, it would compare the GHG emissions associated with the Project and its alternatives to those associated with the NEPA Baseline, so that their relationship was disclosed, but that it would not express a judgment as to their significance (Draft EIS/EIR Section 3.2.2.2).

NEPA is a procedural statute requiring agencies to consider the environmental impacts of their actions, while at the same time "guaranteeing broad public dissemination of relevant information." Neither NEPA, CEQ guidelines, nor the USACE NEPA regulations require

quantitative thresholds in determining the significance of a NEPA impact. While the decision of whether or not to prepare an EIS does require a determination of significance, once that determination is made, and the EIS path is chosen, there is no legal requirement for a federal agency to reach conclusions on significance. NEPA requires disclosure of information. That function was fully accomplished. The ultimate labeling of the information as significant or not significant is not required.

Thus, as a result, no federal “threshold of significance” has been established for GHG emissions, and to the USACE’s knowledge, no federal agency has utilized a threshold of significance for GHG in NEPA documents. The USEPA has not promulgated any policies regarding this issue. It is anticipated that with the new administration, a policy may come to fruition in the future.

40 CRF Section 1502.22 specifically sanctions the approach taken by USACE in this instance. It provides guidance for the situation where information is unavailable. It instructs federal agencies to make it clear that the information is lacking and explain the relevancy of the missing information (40 CRF § 1502.22). See also, *Addressing Climate Change in NEPA and CEQA Documents*, Aug. 2007, ICF Jones & Stokes, pp. 16-17, available at www.climatechangeocusgroup.com. [“EIS is not necessarily required to disclose the significance of individual effects (biology, air quality, etc.) of the project and thus some federal lead agencies may analyze climate change effects but decide not to determine the specific significance of project impacts related to climate change.”]

Given the lack of a federal or scientifically-based GHG standard, the USACE believes it is premature to make a determination of significance under NEPA for proposed GHG emissions and instead chooses to fully disclose these emissions attributable to the proposed alternatives and compare them to the NEPA Baseline.

This position is entirely consistent with NEPA.

Comment CDB-40 raises the same general comment as DOJ-7, and additionally cites the Ninth Circuit Court of Appeal decision in *Center for Biological Diversity v. National Highway Traffic Safety Administrations*, 508 Fed.3d 508 (9th Cir. 2007) (“*National Highway*”), as the basis for the comment. In *National Highway*, the federal agency was attempting to avoid the preparation of an EIS altogether, even though the agency conceded that its actions would have an effect on global warming due to an increase in GHG emissions. The court concluded that while the Environmental Assessment for the action “catalogued” the total of CO₂ emissions from the action, it did not evaluate the “incremental impacts” of the emissions, and that it did not evaluate the results in the context of other past, present, or reasonable foreseeable future actions. In contrast, the Draft EIS/EIR has a detailed analysis of GHG emissions associated with each alternative, it identifies the incremental impacts, and it clearly places those incremental emissions in context. The Draft EIS/EIR had an extended discussion of the GHG emissions, various benchmarks, and various comparisons and measures of the incremental impact of Project scenarios. See, for example, Draft EIS/EIR Section 3.2.2.3 (Impact AQ-8) relating to Alternative 1. This specifically includes analysis of mitigation measures, under NEPA and CEQA. And even though it does not attach the federal label of “significant” or “not significant,” it clearly calls out that after mitigation the Project would exceed the estimated NEPA Baseline condition for 2010, 2020 and 2030, although it would be below the estimated NEPA Baseline for the 2015 condition (Draft EIS/EIR Section 3.2.2.3). In addition, the readers of the Draft EIS/EIR were provided with the threshold of significance discussion as it related to CEQA.

Given the lack of a federally sanctioned threshold of significance, to require anything further would be unwarranted.

DOJ-8. Your comment is noted and appreciated.

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Department of Toxic Substances Control



Linda S. Adams
Secretary for
Environmental Protection

Maureen F. Gorsen, Director
5796 Corporate Avenue
Cypress, California 90630

Arnold Schwarzenegger
Governor

June 4, 2008

Mr. Richard D. Cameron
Director of Environmental Planning
Port of Long Beach
925 Harbor Plaza
Long Beach, California 90802

DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR MIDDLE HARBOR REDEVELOPMENT PROJECT

Dear Mr. Cameron:

The Department of Toxic Substances Control (DTSC) has received your submitted Notice of Preparation of a Supplemental EIR for the above-mentioned project. The following project description is stated in your document: "The Port of Long Beach is proposing to redevelop a marine terminal of up to 345 acres by consolidating two existing terminals located on Piers D, E, and F in the Middle Harbor Planning District in the Port of Long Beach. Redevelopment would include construction of approximately 54.6 acres of landfill, a concrete wharf, buildings, a 66kV substation, expansion of an on-dock intermodal railyard, and paving, lighting, and utilities as necessary. A total of four alternatives, including the No Action Alternative are evaluated. The following significant impacts have been identified with this project: air emissions associated with construction and operational activities, noise associated with construction, biology impacts associated with the introduction of non-native species and whale strikes, and transportation impacts associated with the I-710 and SR-91. This EIS/EIR will be used as part of permit decisions pursuant to Section 10 of the Rivers and Harbor Act of 1899, Section 404 of the Clean Water Act of 1972, and the California Coastal Act of 1972."

DTSC-1

Based on the review of the submitted document DTSC has the following comments:

- 1) The EIR should identify the current or historic uses at the project site that may have resulted in a release of hazardous wastes/substances.
- 2) The EIR should identify the known or potentially contaminated sites within the proposed Project area. For all identified sites, the EIR should evaluate whether

DTSC-2

DTSC-2

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conditions at the site may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies:

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
- Envirostor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
- Leaking Underground Storage Tanks (LUST) / Spills, Leaks, Investigations and Cleanups (SLIC): A list that is maintained by Regional Water Quality Control Boards.
- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

DTSC-3

- 3) The EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents. Please see comment No.13 below for more information.

DTSC-4

- 4) All environmental investigations, sampling and/or remediation for the site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of
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|--|---------|
| any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found should be clearly summarized in a table. | DTSC-4 |
| 5) Proper investigation, sampling and remedial actions overseen by the respective regulatory agencies, if necessary, should be conducted at the site prior to the new development or any construction. All closure, certification or remediation approval reports by these agencies should be included in the EIR. | DTSC-5 |
| 6) If any property adjacent to the project site is contaminated with hazardous chemicals, and if the proposed project is within 2,000 feet from a contaminated site, then the proposed development may fall within the "Border Zone of a Contaminated Property." Appropriate precautions should be taken prior to construction if the proposed project is within a Border Zone Property. | DTSC-6 |
| 7) The project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination. | DTSC-7 |
| 8) Human health and the environment of sensitive receptors should be protected during the construction or demolition activities. If it is found necessary, a study of the site and a health risk assessment overseen and approved by the appropriate government agency and a qualified health risk assessor should be conducted to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment. | DTSC-8 |
| 9) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). | DTSC-9 |
| 10) If it is determined that hazardous wastes are or will be generated and the wastes are (a) stored in tanks or containers for more than ninety days, (b) treated onsite, or (c) disposed of onsite, then a permit from DTSC may be required. If so, the facility should contact DTSC at (714) 484-5423 to initiate pre-application discussions and determine the permitting process applicable to the facility. | DTSC-10 |

Mr. Richard D. Cameron
June 4, 2008
Page 4

- DTSC-11 | 11) If it is determined that hazardous wastes will be generated, the facility should obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942.
- DTSC-12 | 12) If during construction/demolition of the project, the soil and/or groundwater contamination is suspected, construction/demolition in the area would cease and appropriate health and safety procedures should be implemented.
- DTSC-13 | 13) Envirostor (formerly CalSites) is a database primarily used by the California Department of Toxic Substances Control, and is accessible through DTSC's website. DTSC can provide guidance for cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489 for the VCA.
- DTSC-14 | 14) In future CEQA documents please provide the contact person's e-mail address.

If you have any questions regarding this letter, please contact Ms. Eileen Khachatourians, Project Manager, at (714) 484-5349 or email at EKhachat@dtsc.ca.gov.

Sincerely,



Greg Holmes
Unit Chief
Brownfields and Environmental Restoration Program - Cypress

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
1001 I Street, 22nd Floor, M.S. 22-2
Sacramento, California 95814

CEQA# 2182

Department of Toxic Substances Control, June 4, 2008

- DTSC-1.** The comment states that the document should identify the current and historic uses of the Project site that have resulted in a release of hazardous wastes/substances. Draft EIS/EIR Sections 3.1.1.2 (Soil and Groundwater Contamination) and Section 3.10.1.2 (Hazardous Materials) summarize prior site uses, the known and potentially contaminated sites as a result of those prior site uses, and the results of site assessments and remediation activities on the Project site. Section 3.1.1.2 addresses soil and groundwater contamination as a result of prior site activities, and Section 3.10.1.2 discusses prior spills of petroleum products and hazardous substances, as well as buildings to be demolished that may contain asbestos-containing materials and lead-based paint. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-2.** Please see response to comment DTSC-1. Draft EIS/EIR Sections 3.1.1.2 and 3.10.1.2 summarize prior site uses, the known and potentially contaminated sites as a result of those prior site uses, and the results of site assessments and remediation activities on the Project site. The databases referenced in this comment were reviewed and all relevant information was included in the Draft EIS/EIR.
- DTSC-3.** The comment requests that the document identify the mechanism required to initiate remediation of contaminated sites. Draft EIS/EIR Section 3.1.1.3 (Soil and Groundwater Contamination) summarizes regulatory oversight requirements associated with potential soil and groundwater contamination. Draft EIS/EIR Section 3.1.2.2 (Soil and Groundwater Contamination) and Section 3.1.2.3 (Impact GEO-5) indicate that contaminated soil encountered during construction, caused by prior activities, would be remediated and/or disposed in accordance with all federal, state, and local regulations. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-4.** Please see response to comment DTSC-3. Contaminated soil encountered during construction, caused by prior activities, would be remediated and/or disposed in accordance with all federal, state, and local regulations. Draft EIS/EIR Section 3.1.1.2 (Soil and Groundwater Contamination) summarizes substances that are commonly found in oil fields and discusses the site assessment that was conducted in areas to be excavated adjacent to Slip 3. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-5.** Please see response to comments DTSC-3 and DTSC-4. Contaminated soil encountered during construction, caused by prior activities, would be remediated and/or disposed in accordance with all federal, state, and local regulations. In addition, substances that are commonly found in oil fields have been summarized and a site assessment has been conducted in areas to be excavated adjacent to Slip 3. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-6.** Final EIS/EIR Section 3.10.2.3 (Impact HAZ-5) has been revised to state that soil contamination as a result of prior spills on adjacent properties could potentially extend onto the Project site.
- DTSC-7.** Please see response to comment DTSC-3. Contaminated soil encountered during construction would be remediated and/or disposed in accordance with all applicable federal, state, and local laws and regulations. In the event that fill material is imported for use as backfill in areas excavated during soil remediation, the fill material would be systematically sampled to ensure that it is free of contamination. Either the fill material supplier would provide documentation that the fill has been tested and is free of contaminants, or the fill would be systematically tested by the Port prior to use as fill material. Analytical testing would typically include volatile organic compounds, semi-volatile organic compounds, halogenated organic compounds, metals, and pesticides/herbicides. No revisions to the Final EIS/EIR are required.

- DTSC-8.** The comment addresses procedures for protecting sensitive health receptors during construction and demolition activities. Draft EIS/EIR Section 3.10.1.2 (Hazardous Materials) summarizes the potential for hazardous materials, including ACMs, lead-based paint, and PCBs, to be present during construction and demolition activities. Draft EIS/EIR Section 3.10.1.3 summarizes regulations pertaining to hazardous materials and hazardous waste that are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. Draft EIS/EIR Section 3.10.2.3 (Impact HAZ-1) indicates that ACMs and lead-based paint may be present in buildings and other infrastructure (e.g., old utility lines) to be demolished as part of the Project. Similarly, PCBs may be present in pre-1979 electrical equipment and natural gas pipelines. Disturbance of such materials would be harmful if inhaled or ingested during demolition and disposal activities. Therefore, health impacts associated with demolition of onsite buildings and related infrastructure would be potentially significant. However, ACM, lead-based paint, and PCB surveys would be completed in accordance with all federal and state regulations. In the event that hazardous levels of ACMs, lead-based paint, and PCBs were detected, a contractor licensed to handle such materials would properly remove and dispose these materials offsite. Implementation of standard health and safety protocol during remediation activities, such as respiratory and skin protection, would prevent health and safety impacts to onsite personnel. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-9.** Please see response to comment DTSC-8. In the event that hazardous levels of ACMs, lead-based paint, and PCBs were detected, a contractor licensed to handle such materials would properly remove and dispose these materials offsite. Any hazardous waste generated by proposed operations would be managed in accordance with all applicable laws and regulations, including the California Hazardous Waste Control Law. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-10.** Please see response to comment DTSC-9. The Project would comply with all laws and regulations applicable to hazardous waste. No revisions to the Final EIS/EIR are required.
- DTSC-11.** The Project would obtain an EPA identification number if required. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-12.** Please see response to comment DTSC-3. Contaminated soil encountered during construction, caused by prior activities, would be remediated and/or disposed in accordance with all federal, state, and local regulations. Therefore, no revisions to the Final EIS/EIR are required.
- DTSC-13.** The Port will coordinate with DTSC as necessary regarding clean-up oversight through an Environmental Oversight Agreement.
- DTSC-14.** Your comment is noted and appreciated. Inclusion of email addresses of CEQA document preparers will be considered for future documents.

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@nahc.net



JUNE 5, 2008

MR. RICHARD CAMERON
PORT OF LONG BEACH

925 Harbor Plaza
Long Beach, CA 90802

Re: SCH#2004091010 Joint CEQA-NEPA draft Environmental Impact Report/draft Environmental Impact Statement (DEIR/DEIS) for the Middle Harbor Redevelopment Project, Port of Long Beach, Los Angeles County, California

Dear Mr. Cameron:

Thank you for the opportunity to comment on the above-referenced document. The Native American Heritage Commission (NAHC) is the State Agency designated for the protection of Native American cultural resources pursuant to California Public Resources Code §5097, Section 1 – 9, and related statutes. While the Commission concerns itself primarily with State laws requiring tribal consultation for projects requiring environmental review under the California Environmental Quality Act (CEQA, pursuant to CEQA Guidelines §15064.5 et.al., Government Code §65352.3 and issues involving the protection and the discovery of Native American Human Remains, per §7050.5 of the California Health & Safety Code and relevant section of Public Resources Code §5097, it does have 'oversight' in California by the authority provided in Public Resources Code §5097, 1-9 for any Native American cultural resources and human remains found in California. There it supports federal cultural resources management statutes and regulations and federal agency responsibilities under federal law, where appropriate. The Commission is called upon to assist with the facilitation of the tribal consultation process under the National Environmental Policy Act, the National Historic Preservation Act, (e.g. Section 106), the Indian Religious Freedom Act, and Executive Order 13175.

NAHC-1

The National Environmental Policy Act (NEPA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archeological resources, is a 'significant effect' requiring the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS). This provision is similar to that contained in CEQA (California Code of Regulations §15064.5). Therefore, your agency is urged to assess whether any proposed projects will have an adverse impact on these resources within the 'area of potential effect (APE),' and if so, to mitigate that effect. The draft EIR/EIS for the Middle Harbor Redevelopment Project is your agency's effort to provide comment concerning cultural, biological and related Native American resources.

NAHC-2 In order to systematically address issues of Native American cultural resources, the NAHC suggests the following:

√ Contacting the Native American Heritage Commission (NAHC), as was done by the archaeological firm noted above, is recommended for:

- The Native American Heritage Commission requests that contacts be made with the tribes on the attached list that have a history and concern for the Native American cultural resources of the proposed project.

NAHC-3 ■ The NAHC advises the use of Native American Monitors to ensure proper identification and care given cultural resources that may be discovered. √

NAHC-4 Lack of surface evidence of archeological resources does not preclude their subsurface existence.

- The Port of Long Beach should include in its mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to appropriate sections of NEPA, ARPA or the NHPA. In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.

NAHC-5 ■ The U.S. Army Corps of Engineers and the Port of Long Beach should include in its mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans. A list of Native American contacts is attached.

NAHC-6 √ The Port of Long Beach should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans. If such discoveries occur on nonfederal land, then, California Health & Safety Code §7050.5 may apply if in the opinion of the County Coroner or Medical Examiner.

- The NAHC recommends the Port of Long Beach work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within an APE. California Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens. Please consider those guidelines even though the project was prepared under NEPA guidelines

√ In the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Please consider those procedures even though this project is governed by the National Environmental Policy Act.

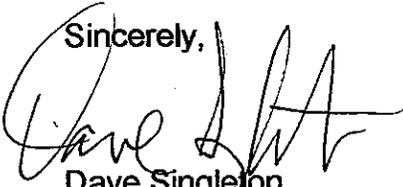
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NAHC-6

√ Lead agencies should consider avoidance even though this is a NEPA document when significant cultural resources are discovered during the course of project planning.

NAHC-7

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,



Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: List of Native American Contacts

Native American Contacts
Los Angeles County
June 5, 2008

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th Street, Rm. 403
Los Angeles , CA 90020
(213) 351-5324
(213) 386-3995 FAX

Gabrielino/Tongva Council / Gabrielino Tongva Nation
Sam Dunlap, Tribal Secretary
761 Terminal Street; Bldg 1, 2nd floor Gabrielino Tongva
Los Angeles , CA 90021
office @tongvatribes.net
(213) 489-5001 - Office
(909) 262-9351 - cell
(213) 489-5002 Fax

Ti'At Society
Cindi Alvitre
6515 E. Seaside Walk, #C Gabrielino
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Tribal Chair/Cultural Resources
5450 Slauson, Ave, Suite 151 PMB Gabrielino Tongva
Culver City , CA 90230
gtongva@verizon.net
562-761-6417 - voice
562-925-7989 - fax

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Gabrielino Tongva
tattnlaw@gmail.com
310-570-6567

Gabrielino/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
ChiefRBwife@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the propose SCH#2004091010; Joint cEQA-NEPA draft Environmental Impact Report/draft Environmental Impact Statement (DEIR/DEIS) for the Middle Harbor Redevelopment Project; Port of Long Beach; Los Angeles County, California.

Native American Heritage Commission, June 5, 2008

- NAHC-1.** Thank you for your comment. As described in Draft EIS/EIR Section 3.14.2.1, it was determined that most of the Project area (or Area of Potential Effects) is located on artificial fill material to a depth of approximately 30 feet below ground surface, which is below the depth of proposed Project ground disturbance. Therefore, there would be no adverse impact on an archaeological site or other resource considered significant to contemporary Native Americans. No revisions to the Final EIS/EIR are required.
- NAHC-2.** A copy of the Draft EIS/EIR was sent to the contacts identified in the NAHC letter. No revisions to the Final EIS/EIR are required.
- NAHC-3.** Please see response to comment NAHC-1. It was determined that most of the Project area (or Area of Potential Effects) is located on artificial fill material to a depth of approximately 30 feet below ground surface. There is no potential for intact archaeological sites to occur within this artificial fill and; therefore, it is considered to have very low sensitivity for archaeological resources or other resources considered significant to contemporary Native Americans. Use of Native American monitors and/or archaeological monitors is not warranted in this situation. No revisions to the Final EIS/EIR are required.
- NAHC-4.** It is agreed that lack of surface evidence of archaeological resources does not preclude their subsurface existence. However, in this case, soil boring demonstrated that most of the Project area is located on artificial fill material, and there is little potential for intact archaeological sites to occur within this artificial fill, as described in Draft EIS/EIR Section 3.14.1.3. To address NAHC's concerns, however, the following mitigation measure has been incorporated into the Final EIS/EIR Section 3.14.2.3 (Impact CR-1.1) to address unexpected discoveries:
- Mitigation Measure CR-1.1.1:** In the unlikely event that any archaeological material is discovered during construction, all work must be halted within the vicinity of the archaeological discovery until an assessment of the significance by a qualified archaeologist is completed. If the resources are found to be significant, they shall be avoided or shall be mitigated consistent with SHPO Guidelines. Treatment plans must be developed in consultation with the County, SHPO, and local Native Americans.
- If human remains are encountered, the Los Angeles County Coroner shall be contacted immediately. If the remains appear to be Native American, the coroner shall contact the Native American Heritage Commission who will appoint the Most Likely Descendent. Additionally, if the human remains are determined to be Native American, a plan will be developed regarding the treatment of human remains and associated burial objects, and the plan will be implemented under the direction of the Most Likely Descendent.
- NAHC-5.** Although the potential for damaging unknown prehistoric remains is remote, **Mitigation Measure CR-1.1.1** has been added to the Final EIS/EIR Section 3.14.2.3 (Impact CR-1.1) to address unexpected discoveries. This measure includes provisions for a Treatment Plan that must be developed in consultation with the County, SHPO, and local Native Americans.
- NAHC-6.** Although the potential for damaging unknown prehistoric remains is remote, **Mitigation Measure CR-1.1.1** has been added to the Final EIS/EIR Section 3.14.2.3 (Impact CR-1.1) to address unexpected discoveries. This measure includes procedures to follow if human remains are encountered.
- NAHC-7.** Although the potential for damaging unknown prehistoric remains is remote, **Mitigation Measure CR-1.1.1** has been added to the Final EIS/EIR Section 3.14.2.3 (Impact CR-1.1) to address unexpected discoveries. This measure includes a provision that if resources are found to be significant, they shall be avoided or shall be mitigated consistent with SHPO Guidelines.

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South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

E-MAILED: AUGUST 15, 2008

August 15, 2008

Richard D. Cameron, Director of Environmental Planning
Port of Long Beach
925 Harbor Plaza
Long Beach, CA 90802

Dear Mr. Cameron:

Draft Environmental Impact Statement/Report (Draft EIS/EIR) for the Proposed Middle Harbor Redevelopment Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The proposed Middle Harbor container terminal is located in the Port of Long Beach near already impacted residential communities that are currently experiencing health risks in excess of 1500 in a million¹. If approved, the proposed Middle Harbor Redevelopment Project will be the largest container terminal expansion project since the adoption of the San Pedro Bay Ports Clean Air Action Plan (CAAP) by the Ports of Los Angeles and Long Beach. At full implementation, the proposed Middle Harbor Redevelopment Project will generate over 3.6 million truck trips, 360 ship calls, and 2,000 rail trips annually. Although the proposed project through implementation of mitigation measures is expected to reduce the health risk to the surrounding community, the residual health risk remains elevated and of concern.

SCAQMD-1

In general, the SCAQMD staff has concerns regarding the air quality analysis, sufficiency of mitigation measures, and development of the San Pedro Bay Standards. These comments are briefly discussed below. Additional and more detailed comments are provided in Attachment I.

Air Quality Analysis. The SCAQMD staff is concerned that the lead agencies have not adequately calculated the peak daily emissions from the proposed project. The peak daily emissions should be representative of the highest emissions estimate that can occur during the construction phase, operational phase, and any overlapping construction and operational phases of the proposed project. Because the construction phase extends over a ten year period and will occur simultaneously with operation of the proposed project, the significance determination in the Final EIR should be based on the peak daily overlapping construction and operational emissions compared to the significance thresholds for operational emissions.

SCAQMD-2

¹ California Air Resources Board. April 2006. "Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach."

- SCAQMD-3 | The SCAQMD staff is concerned that reductions from mitigation measures are inappropriately applied to the unmitigated project. The proposed unmitigated project does not specify strategies for Vessel Speed Reduction Program (VSRP) and 0.2 percent sulfur fuel for ocean-going vessels. SCAQMD staff recommends the lead agencies clearly indicate in Final EIR if the VSRP and use of 0.2 percent low sulfur fuel requirement is considered as part of the unmitigated or mitigated project. The Final EIR air quality analysis for the unmitigated scenario should reflect only those reductions described in the projection description.
- SCAQMD-4 | To achieve the goals of the San Pedro Bay Ports CAAP and the regional air quality goals, it is imperative that the air pollution impacts be appropriately quantified and communicated, and that the project include all feasible measures to mitigate air quality and public health impacts. Additional mitigation measures are feasible, and some measures included in the DEIS/EIR can feasibly be accelerated or modified for stronger commitment. Such measures must be included as required by CEQA Guidelines §15126.4 to reduce impacts below significance.
- SCAQMD-5 | *Low Sulfur Fuel.* Reducing fuel sulfur is one of the most significant and feasible means of expeditiously reducing particulate and sulfur oxides emissions from the proposed Middle Harbor container terminal. Based on a conversation with Port staff regarding MM AQ-6, it is SCAQMD staff's understanding that the 0.2 percent low sulfur fuel within 40 nautical miles of Point Fermin compliance requirement for ocean going vessels calling at the Middle Harbor container terminal would begin immediately upon project approval. SCAQMD staff recommends the commitment by Port staff to implement MM AQ-6 should include greater specificity and commitment to use low sulfur fuel in main and auxiliary engines of vessels calling at the proposed Middle Harbor container terminal. This measure is consistent with the low sulfur marine fuel requirements in the CAAP Control Measures OGV-3 and OGV-4. In addition, SCAQMD staff recommends all vessels calling at the Middle Harbor container terminal shall use fuel in main and auxiliary engines with sulfur content no higher than 0.1 percent sulfur fuel by 2010.
- SCAQMD-6 | *On-dock Rail.* With roughly a fifteen fold increase in annual rail movements by 2020 for the proposed Middle Harbor Redevelopment project, SCAQMD staff recommends implementation of CAAP Measure RL-2 to reduce emissions from existing Class I railroad operations that will be servicing the on-dock rail yard. SCAQMD staff believes that the emissions reduction strategy should be based on the State Implementation Plan (SIP) of accelerating introduction of cleaner locomotives. SCAQMD staff recommends 90% control of PM and NOx for switchers and helper locomotives at the expanded Pier F intermodal on-dock rail yard by 2011. In addition, SCAQMD staff recommends all line haul locomotives at the expanded Pier F intermodal on-dock rail yard achieve a Tier 4 emission rate by 2014, as assumed in the SIP.
- SCAQMD-7 | The proposed project should include sufficient on-dock rail capacity for all containers destined to be transported out of the region by rail. This will minimize highway congestion impacts caused by truck drayage to near and off-dock rail yards, and will reduce the need for additional capacity at near and off-dock rail yards. We understand that space for on-dock yards is limited, but CAAP measure RL-3 committed the ports to explore all opportunities to maximize on-dock rail and explore alternative operating procedures such as transporting containers by rail from the docks unsorted by destination as a means of freeing up space devoted to creating single destination trains.

Main Engine Controls for New Vessel Builds and for Existing Vessels. SCAQMD staff is concerned that the Middle Harbor Redevelopment Project DEIS/EIR requires no mitigation measure for main engine controls for ocean going vessels. SCAQMD staff recommends a mitigation measure for new vessels to utilize a combination of advanced control technologies to achieve fleet average emission reductions of 30% for NOx and particulates by 2014, and a 70% reduction of NOx and 50% reduction of particulates by 2023. There are currently a significant number of new vessels on order. Once those vessels are built and in the water, the technical and economic challenges to control them will be much greater. Controls such as water injection, emulsified fuels or humid air are feasible technologies. In addition, SCR is a mature technology in use on a wide variety of sources including marine vessels. The feasibility of using advanced controls on marine vessel engines, including main engines, is supported by the recent proposal by the Marine Environmental Protection Committee of the International Maritime Organization to establish increasingly stringent marine vessel emissions limits.

SCAQMD-8

San Pedro Bay Standards. We understand the Ports are proceeding to develop the San Pedro Bay Standards. The CAAP includes a Project Specific Standard stating that the contribution of emissions from a project to cumulative effects will allow for timely achievement of the San Pedro Bay Standards. It is uncertain if the residual emissions and health risk from the Middle Harbor container terminal over the course of the long term lease will allow for the timely achievement of the San Pedro Bay Standards. In the absence of the San Pedro Bay Standards, the SCAQMD staff urges the Lead Agencies to compare residual emissions from this proposed project, including cumulative emissions from all other foreseeable port actions, with the 2007 Air Quality Management Plan (AQMP) mass emission targets for the ports, and ensure project approval is consistent with achieving those targets.

SCAQMD-9

The SCAQMD staff appreciates the opportunity to comment on this important project. We look forward to working with the Port of Long Beach on this and future projects. If you have any questions, please call me at (909) 396-3105.

SCAQMD-10

Sincerely,



Susan Nakamura
 Planning Manager

Attachment

LAC080521-01
 Control Number

Attachment I
Additional Comments on the Draft EIS/EIR for the Proposed
Middle Harbor Redevelopment Project

SCAQMD-11 | The following includes more detailed and specific comments on the Proposed Middle Harbor Redevelopment Project.

Mitigation Measures

Pursuant to CEQA Guidelines §15126.4 (a)(2) mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments. One means of making the mitigation measures for the proposed project legally binding is for the lead agencies to incorporate them into the Terminal Operator's lease agreement. Furthermore, the lease agreement or permit language with the Terminal Operator must specifically contain binding requirements to monitor the air quality mitigation measures and must provide a legal mechanism to allow the Lead Agencies to enforce the mitigation measures. As discussed in more detail below, many of the mitigation measures lack specificity such as specific dates and milestones. The lease agreement or permit language should also include an annual environmental status report wherein the terminal operator would be required to provide a status update of implementation of mitigation measures.

SCAQMD-12 | *Mitigation Measure for On-road Trucks During Construction*

SCAQMD staff urges the lead agencies to require that as part of a mitigation measure for construction, that the lead agencies require use of the cleanest available trucks. Specifically, trucks used for construction prior to construction year 2015 should use engines with the lowest certified NOx emissions levels, but no greater than the 2007 NOx emission standards. In addition, trucks used during construction in 2015 and beyond should meet U.S. EPA 2010 emission standards.

SCAQMD-13 | *MM AQ-1: Additional Fugitive Dust Controls*

MM AQ-1 requires the Project construction contractor to develop and implement dust control methods that will achieve controls levels indicated in the SCAQMD Rule 403 dust control plan. The lead agencies have determined on page 3.2-27 of the DEIS/EIR that the construction related air quality impacts from the proposed project are estimated to exceed established daily significance thresholds for PM10 and PM2.5. SCAQMD staff recommends that the lead agencies modify existing and add new mitigation measures to further reduce particulate matter from the proposed project. Recommended changes include:

- Apply approved non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more).
- Suspend all soil disturbance activities when winds exceed 25 mph as instantaneous gusts or when visible plumes emanate from the site and stabilize all disturbed areas.

Recommended additions include:

- Appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM10 generation;

- Sweep all streets at least once a day using SCAQMD Rule 1186, 1186.1 certified street sweepers or roadway washing trucks if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water);
- Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces;
- Pave road and road shoulders;
- Apply water three times daily or as needed to areas where soil is disturbed.

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SCAQMD-13

MM AQ-2: Emission Controls for Non-road Construction Equipment

MM AQ-2 requires construction equipment shall meet the EPA Tier 4 non-road engine standards, where feasible (Tier 4 standards assumed to become available in year 2012). SCAQMD staff is concerned that this mitigation measure lacks commitment by the lead agencies. SCAQMD staff recommends including interim standards prior to 2012. Specifically, all construction equipment prior to 2012 should be equipped with a Level 2 or 3 verified diesel emissions control and also should meet the cleanest off-road diesel emission level, but no greater than Tier 3 NOx emission standards. In addition, all construction equipment post 2012 should meet Tier 4 emission standards.

SCAQMD-14

The SCAQMD staff also recommends mandatory inclusion of Best Management Practices (BMPs) for construction equipment. BMPs, in addition to the Tier requirements specified above, should include at a minimum Diesel Oxidation Catalysts and catalyzed diesel particulate traps; maintain equipment to manufacturers' specification; unnecessary idling restriction to 5 minutes (per CARB regulation); high pressure fuel injectors; and use electricity from power poles rather than temporary diesel or gasoline power generators.

MM AQ-3 Emission Controls for Construction Tugboats

MM AQ-3 requires all tugboats used in construction shall meet the EPA Tier 2 marine engines standards, and if feasible use construction tugs that meet EPA Tier 3 marine engine standards (assumed to become available starting in year 2012). SCAQMD staff recommends the lead agencies provide specific language to the mitigation measure to clarify when tugs meeting EPA Tier 3 standards are required. Lastly, as stated in CAAP measure HC-1, the lead agencies should modify the mitigation measure to require all tugboats to use shore-power while at their home fleeting location.

SCAQMD-15

MM AQ-4: Expanded VSR Program

MM AQ-4 requires all ocean going vessels that call at the Middle Harbor container terminal to comply with the expanded VSR program of 12 knots from 40 nm from Point Fermin to the Precautionary Area. SCAQMD staff recommends the mitigation measure commit to 100% of all ocean going vessels that call at the Middle Harbor container terminal comply with the Expanded VSR Program of 12 knots from 40 nm from Pont Fermin to the Precautionary Area upon project approval. If the 100% compliance rate cannot be met, then the lead agencies should indicate in the mitigation measure that similar reductions would be achieved elsewhere, with specifics.

SCAQMD-16

MM AQ-5: Shore-to-Ship Power ("Cold Ironing")

MM AQ-5 requires ocean going vessels that call at the Middle Harbor container terminal to utilize shore-to-ship power while at berth. The mitigation measure allows for lease stipulations

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SCAQMD-17 in considering alternative technologies that would achieve 90 percent of the emission reductions of cold-ironing. Based on the proposed wharf construction schedule, 33% of ocean going vessels (OGVs) calling at the Middle Harbor Container Terminal will cold-iron in 2010 with 100% of vessels to cold iron by 2015. SCAQMD staff recommends clarification of the lease stipulation mentioned in the mitigation measure which will include consideration of alternative technologies that achieve 90 percent of the emission reduction of cold ironing. The mitigation measure should list those alternative technologies for consideration. Furthermore, SCAQMD staff recommends the mitigation measure to have an interim phase-in target prior to 2015. Lastly, beginning 2010, all ships retrofitted for cold ironing, should be required to cold iron while hoteling at 100% compliance rate, with the exception of circumstances when a cold iron capable berth is unavailable due to utilization by another cold iron capable ship.

Lastly, as mentioned in the above paragraph, MM AQ-5 Shore-to-Ship Power (“Cold Ironing”) would require 33 percent of all OGVs calling at the Middle Harbor Terminal to cold iron in 2010 and this activity would increase to 100 percent by 2015. However, based on review of the construction schedule, the electrical Pier E Substation will not be completed until 2010. SCAQMD staff requests clarification of how the 33 percent cold ironing mitigation measure requirement for 2010 will be met with limited access to the shore power infrastructure that is needed. In addition, SCAQMD staff requests information detailing the amount of shore power berths the proposed Middle Harbor Terminal will have for operational years 2010, 2015, 2020, and 2030.

SCAQMD-18 | *MM AQ-6: Low-Sulfur Fuels in OGV*
MM AQ-6 requires use of 0.2 percent low-sulfur fuel in all OGV auxiliary and main engines at berth and out to a distance of 40 nm from Point Fermin, or implement equivalent emission reductions. However, the mitigation measure lacks a specific commitment date for compliance. Based on a conversation with Port staff regarding MM AQ-6, it was SCAQMD staff’s understanding that the 0.2 percent low sulfur fuel compliance requirement for OGVs calling at the Middle Harbor container terminal would begin immediately upon project approval. This commitment by Port staff to implement MM AQ-6 should be included in the Final EIR. In addition, on or before January 1, 2010, all vessels calling at the Middle Harbor Terminal should use fuel in main and auxiliary engines with sulfur content no higher than 0.1 percent within 40 nm of Point Fermin.

SCAQMD-19 | *MM AQ-7: Container Handling Equipment*
MM AQ-7 requires all project container handling equipment (CHE) to be equipped with VDEC by 2009 and a phase-in of EPA Tier 4 non-road engine standards for CHE from 2010 to 2014. SCAQMD staff understands that the electric yard tractor is currently in the test phase. However, SCAQMD staff recommends the use of an all electric yard tractor fleet for the Middle Harbor terminal once the test phase is successfully completed. The mitigation measure should anticipate the electric yard tractor becoming commercially available for use at the terminal. Furthermore, SCAQMD staff recommends designing the terminal to utilize electric rail mounted gantry cranes reducing the need for other terminal equipment such as yard tractors, top-picks, and side-picks. The Port of Los Angeles has proposed using electric rail mounted gantry cranes on the China Shipping terminal.

MM AQ-8: Heavy Duty Trucks

MM AQ-8 requires a replacement schedule for all project heavy duty trucks consistent with the POLB Clean Truck Program Tariff. To augment this mitigation measure, SCAQMD staff recommends a phase-in schedule of electric drayage trucks for the Middle Harbor terminal once the test phase is successfully completed. SCAQMD staff understands that the electric drayage truck is currently in the test phase. The mitigation measure should anticipate the electric drayage truck becoming available for use at the terminal. However, LNG-fueled or other alternative fueled trucks should also be considered if the electric drayage trucks are not available. Similar to the China Shipping terminal project at the Port of Los Angeles, SCAQMD staff recommends heavy-duty diesel trucks entering the Middle Harbor Container Terminal required to be LNG-fueled in the following percentages:

- 50% in 2012 and 2013
- 70% in 2014 through 2017
- 100% in 2018 and thereafter

SCAQMD-20

MM AQ-9: Clean Railyard Standards

MM AQ-9 indicates that the expanded Pier F Intermodal rail yard shall incorporate the cleanest locomotive technologies into its operations. SCAQMD staff recommends the expanded Pier F intermodal on-dock rail yard should incorporate the cleanest locomotive technologies consistent with CAAP measure RL-3. The SCAQMD staff recommends that the Final EIS/EIR include specific language clarifying the types of technologies and timeframe that this measure will implement. With roughly a 15 fold increase of trains from year 2005 (138 trains) to 2020 (2098 trains) anticipated at the proposed Middle Harbor Terminal, SCAQMD staff recommends 90% control of PM and NOx for switchers and helper locomotives at the expanded Pier F intermodal on-dock rail yard by 2011. In addition, SCAQMD staff recommends all line haul locomotives at the expanded Pier F intermodal on-dock rail yard achieve a Tier 4 emission rate by 2014, as assumed in the SIP.

SCAQMD-21

MM AQ-10: Truck Idling Reduction Measures

MM AQ-10 indicates that the Middle Harbor container terminal operator will minimize on terminal idling and emissions. Potential methods listed in the mitigation measure to reduce idling include:

- Maximize the durations when the main gates are left open, including during off-peak hours.
- Implement a container tracking and appointment-based truck delivery and pick-up system to minimize fuel consumption and resulting criteria pollutant emissions.

SCAQMD staff recommends that this mitigation measure go beyond the CARB regulation. Although the CARB regulation restricts idling to five minutes, there are many exceptions to this regulation. One particular exception that increases the need for this mitigation measure is the truck queuing exception allowing idling to go beyond five minutes, thus increasing potential emissions in the future years with increased capacity and growth. Therefore, it is imperative for the lead agencies consider a mitigation measure that would increase terminal efficiency, beyond the current Pier Pass System. SCAQMD staff recommends the mitigation measure include as an example, implementing an Automated Gate System (AGS) to increase the efficiency of cargo transportation processing at the proposed Middle Harbor terminal. The mitigation measure should provide specific commitments and compliance dates.

SCAQMD-22

SCAQMD-23 *MM AQ-11: Slide Valves on OGV Main Engines*

MM AQ-11 indicates that all ocean-going vessels that call at the middle harbor container terminal will have slide fuel valves installed on their main engines, or implement an equivalent emission reduction technology. The SCAQMD staff supports use of slide valves in ship main engines. However, the mitigation measure lacks commitments that are specific or enforceable. Slide valves are available technology that can be readily retrofitted into existing engines without the need to enter dry-dock. Many such applications have occurred. A phase-in schedule for slide valves is feasible now and should be provided in the DEIS/EIR as part of this mitigation measure. We urge that 100 percent of ship calls be equipped with slide valves no later than two years after project approval.

Slide valves and other control technologies could be used in combination to obtain higher control rates, and can be retrofitted to existing vessels. These additional control technologies can feasibly be applied to ship main engines and should be required by the project approval. Below is a table listing feasible measures with the associated emission reduction estimates compiled by SCAQMD staff.

List of Feasible Controls

Control	Control Details	Estimated Emission Reductions		
		PM	NO _x	Other
SCR and DOC	Selective Catalytic Reduction with Urea Injection and Diesel Oxidation Catalyst	25-50%	90%	90% CO
Engine Optimization	Slide Valves, Injection Timing Delay	20-30%	30%	N/A
Exhaust Gas Water Treatment	Exhaust Gas Mixes with Sea Water	80%	N/A	70-90% SO ₂
Water Injection	Humidification of Fuel-Air Mixture	10-20%	20-40%	N/A

Slide valves that provide a 30 percent reduction in NO_x emissions and 20-30% reduction in PM emissions are available from Mann, one of the leading marine engine manufacturers. These slide valves have been installed on several ocean-going vessels and are being demonstrated as part of a joint effort with the California Air Resources Board (CARB). Water injection, emulsified fuels, or humid air are established technologies used in Europe. In addition, SCR is a mature technology used on a wide variety of sources including marine vessels and could potentially be applied to a large container ship. Based on SCAQMD staff visits to European marine vessel operators, such an application is feasible and merely a matter of appropriate engineering. Utilization of the control device could be limited to areas adjacent to the coast. Space constraints would be an issue, thus making installation most feasible in new builds, but SCR may be retrofitted if space issues are addressed.

Many of the above retrofit technologies are summarized in a report by Lovblad and Fridell (2006). The report can be found at www.profu.se or can be obtained from the SCAQMD staff.



Retrofits of existing vessels should meet the State Implementation Plan (SIP) of achieving fleet average emission reductions utilizing a combination of advanced controls technologies mentioned above. Those emission reductions include a 30% reduction of NOx and particulates by 2014, and a 70% reduction of NOx and 50% reduction of particulates by 2023.

↑ SCAQMD-23

Main Engines in New Vessel Builds

SCAQMD staff is concerned that no mitigation measure was found in the DEIS/EIR for main engine controls in new vessel builds and consider the DEIS/EIR to be inadequate without this mitigation measure. Based on the comments and list of Feasible Controls summarized in the preceding section, SCAQMD staff urges inclusion of a mitigation measure requiring new vessel builds for the proposed Middle Harbor container terminal to meet at a minimum the SIP requirement for main engine controls for new vessel builds. As mentioned in MM AQ-11, the SIP assumes that new and existing vessels will utilize a combination of advanced control technologies to achieve fleet average emission reductions of 30% for NOx and particulates by 2014, and a 70% reduction of NOx and 50% reduction of particulates by 2023.

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The relative feasibility of installing advanced control in new builds as discussed in MM AQ-11 underscores the importance of acting immediately to establish control requirements for new vessels in the proposed terminal operator’s lease. There are currently an extraordinary number of vessels on order to be constructed. Once those vessels are built and in the water, the technical and economic challenges to control them will be much greater. Reductions from advanced controls on new vessel builds are feasible now and needed to ensure consistency with the adopted air quality plans to meet federal attainment deadlines.

The feasibility of using advanced controls on marine vessel engines, including main engines, is supported by the recent proposal by the Marine Environmental Protection Committee of the International Maritime Organization to establish increasingly stringent marine vessel emissions limits. These proposed limits include a requirement that new vessels built after January 2016 and operated in Emission Control Areas control NOx emissions by 80% beyond pre-existing standards. Approximately 100 nations agreed to propose these limits. The limits are similar to those in a proposal made by the United States that was supported by the World Shipping Council – an industry organization made up of carriers of over 90% of containerized cargo. Under these circumstances, the failure of the Middle Harbor EIR to include emissions standards that are at least as stringent as those proposed at IMO is a failure to include all feasible mitigation measures. Indeed, we believe that, given that the proposed IMO standards are based on existing technologies, the Middle Harbor EIR can and should accelerate implementation of such standards sufficiently for the emission reductions assumed in the SIP to be achieved.

MM AQ-12: Expanded VSR Program for GHG

MM AQ-12 indicates that all ocean going vessels that call at the Middle Harbor container terminal will comply with the expanded VSR Program of 12 knots from the California overwater border to the precautionary area. However, no commitment date or distance to the California overwater border was provided. SCAQMD staff request clarification with regards to the difference between MM AQ-12 and MM AQ-4. Furthermore, SCAQMD staff recommends combining MM AQ-4 and MM AQ-12 into one mitigation measure that would achieve the

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- SCAQMD-25 | greatest emissions reductions for the project and require 100% compliance upon project approval.
- SCAQMD-26 | *MM AQ-13: Low Sulfur Fuels in OGV for GHG*
MM AQ-13 indicates that all ocean going vessels that call at the Middle Harbor container terminal will use 0.2% or lower sulfur MGO fuel in vessel auxiliary and main engines at Berth and within California State Waters, or implement equivalent emission reductions. However, no commitment date or distance to the California State Waters was provided. SCAQMD staff request clarification with regards to the difference between MM AQ-13 and MM AQ-6. Furthermore, SCAQMD staff recommends combining MM AQ-6 and MM AQ-13 into one mitigation measure that would achieve the greatest emissions reductions for the project and require 100% compliance upon project approval.
- SCAQMD-27 | *Green-Container Transport System.* The Final EIS/EIR should commit to a process of implementing zero- or near-zero emission transport technologies such as rail electrification. Through implementation of the CAAP, the Ports of Los Angeles and Long Beach are evaluating advanced cargo transportation technologies. The Lead Agencies should include a mitigation measure that would incorporate this commitment. Freight rail electrification is clearly feasible, being in wide use in Europe.
- SCAQMD-28 | *Exceedance of Projected Throughput.* The lease agreement or permit should mandate the performance of an annual analysis of cargo throughput. The SCAQMD staff urges the lead agencies to establish requirements in the lease providing that if the analysis shows the throughput is above levels assumed in the Final EIS/EIR, additional mitigation measures will be required.
- SCAQMD-29 | *Metropolitan Stevadore (METRO) Bulk Loading Terminal Railyard.* Page 1-30 of the DEIS/EIR states that track realignments and connection of a third track under Ocean Boulevard located to the west of the existing mainline tracks would allow METRO to perform switching operations safely and not interfere with mainline train traffic. SCAQMD recommends that if the METRO rail yard is being redeveloped under this DEIS/EIR, CAAP measure RL-3 for new and redeveloped rail yards should be applied to the METRO rail yard.
- SCAQMD-30 | *Air Quality Analysis*
Peak Daily Emissions. The SCAQMD staff is concerned that the lead agencies have not adequately calculated the peak daily emissions from the proposed project. The peak daily emissions should be representative of the highest emissions estimate that can occur during the construction phase, operational phase, and any overlapping construction and operational phases of the proposed project. Because the construction phase extends over a ten year period and will occur simultaneously with operation of the proposed project, the significance determination in the Final EIR should be based on the peak daily overlapping construction and operational emissions compared to the significance thresholds for operational emissions.
- In addition, it appears that emission evaluated in project years 2010, 2015, 2020 and 2030 were arbitrarily selected incorporating peak daily assumptions by the lead agencies, which does not necessarily reflect peak daily emissions that are expected to occur from implementation of the proposed project. The SCAQMD staff is concerned that the peak daily emissions may occur
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during interim years and therefore adverse air quality impacts are not adequately addressed. The SCAQMD staff recommends that the lead agencies determine the year in which peak daily operational emissions will actually occur and provide additional clarification in the Final EIR to substantiate selection of the peak year.

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SCAQMD-30

Operation Emissions. The SCAQMD staff believes that for existing equipment or sources, only those emission reductions that are achieved beyond adopted rules and regulations should be attributed to the proposed project. Thus, emission reductions that result from adopted rules and regulations with future effective compliance dates can only be attributed to implementation of those existing regulatory programs and are not a result of implementation of the proposed project. The SCAQMD staff recommends that the FEIR excludes from the project emissions, those emission reductions from existing equipment or sources that will occur due to adopted rules, regulations, or other enforceable reduction programs. However, for existing equipment or sources, any emission reductions that go beyond adopted rules or regulations or other enforceable agreements can be attributed to implementation of the proposed project.

SCAQMD-31

Construction Emissions Assumptions. Page 3.2-20 provides a brief discussion on the methodologies used for determining construction emissions and the peak daily construction emissions. SCAQMD staff recommends providing a more detailed discussion on the methodology and the assumptions used in determining the construction emissions and the peak daily construction emissions. A similar table to Table 3.2-9 (Middle Harbor Project Air Quality Operational Assumptions for the Project and Alternative Scenarios) used to describe construction emission assumptions outlining regulations/CAAP measure assumption for each source category by project scenario would be helpful to the reviewer of the DEIS/EIR. Some examples of assumptions that should have been provided include (not all encompassing list):

SCAQMD-32

- On-road Trucks: Construction related truck travel distances and speed, truck idling times
- Tugboats: Sulfur content of fuel, tugboat usage description usage during dredging, tugboat usage description during assist of general cargo ship during crane delivery, tugboat usage description during landfill and wharf construction activities
- General Cargo Ships: Description of VSRP observation, boundary for emissions calculations, usage description for crane delivery (if any) or general cargo (if any)

Construction Fugitive Dust Emissions. Page 3.2-24 of the DEIS/EIR, the lead agencies assumes a 75 percent reduction from uncontrolled PM10 fugitive dust emissions from soil disturbance during construction from watering and the use of other measures on page 3.2-27 (AQ-1: Additional Fugitive Dust Control). Based on control efficiencies from the Western Regional Air Partnership (WRAP) Fugitive Dust Handbook (September 2006), the SCAQMD staff recommends using a control efficiency of 61 percent to estimate mitigated fugitive dust impacts from soil disturbance. Therefore, the lead agency should revise the construction air quality impacts from fugitive dust (PM10) in the Final EIS/EIR using the 61 percent control efficiency.

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The lead agency also uses a 90 percent control efficiency for construction PM10 fugitive dust stating that dust control methods would be developed and implemented in a SCAQMD Rule 403 (Fugitive Dust) dust control plan but does not include in the Draft EIS/EIR the specific measures that the lead agency is committed to implement. In the Final EIS/EIR, the lead agency should

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- SCAQMD-33 | specify those measures and quantify the effects of the control measures to demonstrate the control efficiencies of those measures.
- SCAQMD-34 | *Construction Emissions Significant.* Page 3.2-27 of the DEIS/EIR indicates that the construction air quality impacts from the proposed project are estimated to exceed established daily significance thresholds for volatile organic compounds (VOC), nitrogen oxide (NO_x), and particulate matter (PM10 fugitive dust) and PM2.5 (fugitive dust). SCAQMD staff recommends that the lead agencies consider adding the following additional mitigation measures to further reduce construction air quality impacts from the project, if applicable and feasible:
- Use electricity from power poles rather than temporary diesel or gasoline power generators;
 - Provide temporary traffic controls such as flag person, during all phases of construction to maintain smooth traffic flow;
 - Schedule construction activities that affect traffic flow on the arterial system to off-peak hour to the extent possible;
 - Reroute construction trucks away from congested street or sensitive receptor areas;
 - Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site;
 - Configure construction parking to minimize traffic interference;
 - Improve signal flow by traffic synchronization;
 - All vehicles and equipment will be properly tuned and maintained according to manufacturer' specifications; and
 - Traffic speeds on all unpaved roads to be reduced to 15 mph or less.
- SCAQMD-35 | *Contaminated Sediments.* Page 1-37 of the DEIS/EIR states that if borrowed materials included contaminated sediments, those materials would be capped and sequestered in an engineered fill by the placement of uncontaminated materials on top and at the sides in accordance with regulatory requirements and permits. SCAQMD staff requests that the lead agency provide in the Final EIR additional information regarding the contaminated sediments (amount, type of contaminant(s), transportation method of the contaminated sediments, etc.). The lead agencies are reminded that, if soil is contaminated by hydrocarbon contaminants, contaminated sites would be subject to SCAQMD Rule 1166 – Volatiles Organic Emissions from Decontamination of Soil and that compliance should be referenced in the Final EIR.
- SCAQMD-36 | *Electrification of Dredge Equipment.* Page 3.2-22 of the DEIS/EIR indicates that all dredge equipment will use shoreside electricity to power during construction. SCAQMD staff is concerned that under the unmitigated scenario, the shoreside power infrastructure will not be available for use to electrically power dredge equipment. SCAQMD staff requests clarification with regards to the shoreside power source. Please identify in the Final EIR the source of power for the electric dredge equipment to be used during construction. If the shoreside power for the dredge equipment is anticipated to come from a diesel generator, the emissions from the generators should also be included in the unmitigated and possibly the mitigated scenarios.
- SCAQMD-37 | *Operational Emission Assumptions.* Page 3.2-21, Table 3.2-9 identifies regulations/CAAP measures assumed for each project operational scenario. Some of the assumptions were also found in the footnotes of the tables in Attachments A-1.2 and A-1.3. However, when reviewing the tables, assumption specific approaches to calculating the emissions for the various emissions
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sources during project operations was found to be deficient in the DEIS/EIR. SCAQMD staff requests the lead agencies adequately list all assumptions in a narrative or bullet list format for each source type for unmitigated and mitigated scenarios by source category. In addition, provide all additional assumptions used by source category with respect to the peak daily emissions estimates for the proposed project. Some examples of assumptions that should have been provided include (not all encompassing list):

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- Container Ships: Boundary for emission calculations, VSRP compliance rate for baseline and future years, hoteling assumptions with and without AMP, hoteling durations, fleet mix for baseline and future years, ships at berth during peak scenario with validating explanation, ship activity during peak day scenario with validating explanation, hoteling time during peak day scenario, and sulfur content of fuel during peak day scenario.
- Tugboats: Fuel sulfur content for baseline and future operational years.
- Terminal Equipment: Available cranes for baseline and future operational years, peak day scenario with validating explanation, peak day factor used (if any).
- Trucks: Truck trip distances to off-dock rail yards, truck trip distances to non-rail yard destinations within California, truck trip distances to the California border, truck speed, and truck idling time for on-terminal and off-terminal, peak day scenario with validating explanation.
- Train and Rail Yard Equipment: Average train trip distance to the California border, distribution of containers moving through on-dock rail yards and off-dock rail yards, containers transported by each inbound and outbound train; peak day scenario for on-dock and off-dock rail yard with validating explanation, idling times for line-haul locomotives, and sulfur content of fuel.
- AMP Power Generation: Amount of electricity required by hoteling container ships.

Furthermore, The SCAQMD staff is concerned that reductions from mitigation measures are inappropriately applied to the unmitigated project. The proposed unmitigated project does not specify strategies for Vessel Speed Reduction Program (VSRP) and 0.2 percent sulfur fuel for ocean-going vessels. SCAQMD staff recommends the lead agencies clearly indicate in Final EIR if the VSRP and use of 0.2 percent low sulfur fuel requirement is considered as part of the unmitigated or mitigated project. The Final EIR air quality analysis for the unmitigated scenario should reflect only those reductions described in the projection description.

Emission Estimates in California. The Final EIR should include all emissions that would occur in the state of California. The DEIS/EIR did not calculate emissions in the state of California and only included emission to the edge of the South Coast Air Basin. The Annual and Peak Train Emission Tables found in Attachments A-1.2 and A-1.3 only provide emissions up to the South Coast Air Basin border. It is SCAQMD staff’s understanding that it is the intent of CEQA to apply impacts occurring within the state of California. Further, CEQA Guidelines §21080(14) states that, “any emissions or discharge that would have significant effect on the environment in the state are subject to this division.”

↑ SCAQMD-38

Vessel Speed Reduction Program (VSRP) 100% Compliance Assumption. Table 3.2-9 Middle Harbor Project Air Quality Operational Assumptions for the Project and Alternative Scenarios on Page 3.2-21 of the DEIS/EIR indicates 100% compliance for VSRP in the unmitigated project scenario. SCAQMD staff requests clarification of this assumption. SCAQMD staff understands

↓ SCAQMD-39

- SCAQMD-39 ↑ the VSRP to be mostly voluntary and that there is no specific rule, tariff, or agreement that would require container ships that would be calling at the proposed Middle Harbor Terminal to reduce speeds to 12 knots from 40 nm from Point Fermin to the Precautionary Areas.
- SCAQMD-40 | *Annual Trains.* Page 1-19, Table 1.6-1 of the DEIS/EIR includes the number of annual trains for baseline conditions and project alternatives. As shown in the table, there is a significant increase in the number of annual trains due to the proposed project alternatives. The DEIS/EIR lacks sufficient detail on how these estimates were determined and SCAQMD staff requests that the Final EIR provide the assumptions for these projections. In order to show whether on-dock rail is being maximized, SCAQMD staff recommends that the table be amended to add percent TEUs going by way of trucks, near-dock rail, and on-dock rail for each alternative, as well as the baseline scenario.
- SCAQMD-41 | During the review of the Attachment tables in A-1.2 and A-1.3 with regards to the annual trains, several discrepancies were detected by SCAQMD staff. SCAQMD staff recommends the lead agencies correct the following discrepancies and recalculate the emissions accordingly:
- Annual trains for year 2030 found on Tables A.1.2-AltM-19 and A1.3-AltM-19 is inconsistent with Table 1.6-4 (Project Operations Summary). Annual trains for year 2030 for the unmitigated scenario tables appear to be inconsistent as well.
 - Annual trains for years 2010, 2015, 2020, and 2030 found on Tables A.1.3-Alt2M-19 and A1.3-Alt2U-19 for Alternative 2 is inconsistent with Table 1.6-1 (Project Alternatives Operations Summary).
- SCAQMD-42 | *Auxiliary Engine Fuel Sulfur Content Assumption.* Table A.1.3-Alt1U-6 Annual Aux. Gen. Emissions (Cargo Vessel Transit, Fairway Zone), Table A.1.3-Alt1U-7 Annual Aux. Gen. Emissions (Cargo Vessel Transit, Precautionary Area), Table A.1.3-Alt1U-8 Annual Aux. Gen. Emissions (Cargo Vessel Transit, POLB Breakwater), Table A.1.3-Alt1U-9 Annual Aux. Gen. Emissions (Cargo Vessel Docking, POLB Breakwater), and Table A.1.3-Alt1U-10 Annual Aux. Gen. Emissions (Cargo Vessel Hoteling) assumes 100% usage of 0.2% sulfur MGO fuel for the unmitigated proposed project scenario. SCAQMD staff requests clarification of this assumption and because the scenario is unmitigated, the Lead Agencies should provide the state or federal law or tariff/agreement that would require 100% usage of 0.2% sulfur MGO fuel. SCAQMD staff is aware of no specific requirement where container ships that would be calling at the proposed Middle Harbor terminal would be required to use 0.2% sulfur MGO fuel in the unmitigated scenario. Furthermore, in reviewing Table 3.2-9 Middle Harbor Project Air Quality Operational Assumptions for the Project and Alternative Scenarios on page 3.2-21, the assumption of 0.2% sulfur MGO fuel is not marked as part of the unmitigated scenario. SCAQMD staff recommends using the new CARB Fuel Requirements that will take affect in 2009 (0.5% or less fuel sulfur content) and 2012 (0.1 fuel sulfur content) for the unmitigated scenario calculations in the Final EIS/EIR. The assumptions for both the mitigated and unmitigated scenarios should be clearly specified in the Final EIR.
- SCAQMD-43 ↓ *Cargo Handling Equipment Peak Daily Assumption.* Table A.1.3-Alt1M-31 in Attachment A-1.3 provides a footnote stating that the gate peak daily TEUs were “reduced 50% to simulate that half of the gate throughput is not handled by CHE. This reducing factor is necessary to prevent overprediction of CHE usage for the entire terminal.” It is SCAQMD staff’s understanding that

all gate throughput is handled by cargo handling equipment. SCAQMD staff requests clarification of this assumption in the Final EIR and supporting information to show the lead agencies are not under estimating the peak daily cargo handling equipment emissions.

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SCAQMD-43

Total Container Berth Length. Page 1-41, Table 1.6-4 Project Operations Summary of the DEIS/EIR indicates a decrease in total container berth length from 4,590 LF in 2010 to 2,900 LF in 2015. In addition, operating berths are decreased from 5 berths to 4 berths. However, the total TEUs and annual vessel calls increase by over 500,000 TEUs and 50 annual vessel calls from 2010 to 2015, respectively. SCAQMD staff requests clarification of the throughput increase in the Final EIS/EIR when almost half of the total container berth length is unavailable with one less operating berth.

SCAQMD-44

Average Daily Truck Trips. Page 1-41, Table 1.6-4 Project Operations Summary of the DEIS/EIR indicates a decrease in average daily truck trips with a dramatic increase in annual trains from year 2010 to 2015. SCAQMD staff requests clarification on the decrease in truck trips and the dramatic increase in annual trains from year 2010 to 2015.

SCAQMD-45

Health Risk Assessment. Information on how emissions were assigned to air dispersion modeled sources and justification for the source parameters (width, height, initial vertical and horizontal dimensions, etc.) were not provided for construction. Since this information was not provided, SCAQMD staff could not verify that the correct emissions were used in the model or that the source parameters used were correct for construction. The Final EIR should include this documentation. The documentation should be sufficient for the public to verify that the emissions and source parameters are correct.

SCAQMD-46

In addition, detailed information on the allocation of operational emissions to sources and justification for operational source parameters was not supplied for HRA sources. SCAQMD staff is assuming that operational emissions allocation and source parameters are the same as the criteria pollutant analysis. If this is not the case, then the Final EIR should include documentation on how the operational emissions were allocated to sources and how source parameters were developed in a way that the public can verify that this was done correctly.

SCAQMD-47

Lastly, the sources for construction do not appear to be sized appropriately. An Excel file, Middle Harbor - Const Emissions - DPM (Alt1-Alt2-NEPA).xls, was provided that listed widths of the construction sources. The width of source S7 is listed as 700 meters; however the initial horizontal dimension is listed as 700 meters in the modeling file. Since the initial horizontal dimension is either the length of side divided by 4.3 or 2.15 depending on whether the volume source is a single source or adjacent to another source, the width modeled would be either 1,503 or 3,010 meters. This and other width appear to be much greater than the widths assigned to construction sources in the AQIA. The construction sources in the HRA and AQIA should be made consistent in the Final EIR.

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South Coast Air Quality Management District, August 8, 2008

SCAQMD-1. Thank you for participating in the Draft EIS/EIR public review process. We appreciate your time and effort. It should be noted that the annual projected truck trips, ship calls, and rail trips identified in the comment equates to the combined level of existing plus future operations of the proposed Middle Harbor container terminals. Because the terminals currently exist and operate, and would continue to operate with or without the Project, it is not correct to suggest that all of the trips and ship calls listed are “generated” by the Project. The Draft EIS/EIR sets forth the 2005 level of operations, as well as projected level of operations which would exist in the year 2030 if the Project were not built (Draft EIS/EIR Section 1.6.3.1).

SCAQMD-2. The comment states that the peak daily emissions associated with the Project were not adequately calculated because the emissions for construction and operation were calculated separately. Pursuant to the SCAQMD CEQA Air Quality Handbook, the recommended approach to calculate proposed emissions for criteria pollutants is to quantify construction and operation emissions separately and compare each to the applicable construction and operational thresholds of significance (Chapters 6 and 9 of the CEQA Handbook). To the Port’s knowledge, the SCAQMD has not developed or published combined construction and operational emission significance thresholds, with the exception of its December 5, 2008 adoption of a GHG Significance Threshold for certain projects where SCAQMD is the lead. There, the construction emissions are amortized over 30 years and added to the operational emission. Additionally, the SCAQMD did not make a request for this type of combined assessment in its comments on the Project NOP.

It should be noted that the HRA cancer and non-cancer risk analyses provided in the Draft and Final EIS/EIR consider health impacts from both proposed construction and operational emissions, combined.

Nonetheless, in response to the SCAQMD’S request, Tables 10-15 through 10-19 provide summaries of the analysis of peak daily emissions associated with overlapping operational and mitigated construction activities that would occur from the Project and alternatives between years 2009 and 2019. SCAQMD has not adopted significance thresholds that apply to the combined construction and operation activities. The Port and the USACE determined that it was most appropriate to determine the significance of these emissions by comparing them to the SCAQMD daily construction emission thresholds. While the comment suggests using the operational threshold of significance for this purpose, the analysis used construction thresholds instead, since this overlapping situation is caused by the temporary presence of construction activities. Final EIS/EIR Appendix A-1, Section 3.0 provide more clarifications on the assumptions used in the peak daily emissions analysis. Additionally, the series of Tables A.1.2- in Appendix A-1 provide peak daily emissions assumptions in tabular form.

Peak daily impacts were calculated by subtracting CEQA Baseline peak daily emissions from the combined peak daily operational and mitigated construction emissions that would occur from the Project and alternatives. This peak CEQA Baseline scenario differs from the annual average daily scenario used in the Draft EIS/EIR to evaluate operational emissions. This new approach was taken, as it was deemed as a more representative evaluation to compare peak baseline to peak future conditions. The series of Tables A.1.2-CB- in Appendix A-1 provide peak daily emissions assumptions in tabular form for the CEQA Baseline.

The data in Tables 10-15 through 10-19 show that the combined operational and mitigated construction peak daily emissions for the *unmitigated* Alternatives 1 and 2 scenarios would exceed the SCAQMD daily construction emission significance thresholds for (1) NO_x in years 2009 through 2011 and (2) VOC in 2010. These exceedances would represent significant impacts. Those significant impacts were identified in the Draft EIS/EIR for construction of Alternatives 1 and 2. In other words, this analysis does not identify any new significant impacts. Lastly, the combined *mitigated* operational and construction peak daily emissions for Alternatives 1, 2, and 3 would not exceed any SCAQMD emission significance threshold for construction during any year.

Table 10-15. Peak Daily Construction + Operational Emissions for Project Years 2009 – 2019 - Unmitigated Alternative

Year/Activity	Pounds per Day					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009						
Construction	37	172	756	1	89	40
Operation	1,154	4,321	22,544	2,871	707	661
Project Year 2009 Total	1,191	4,492	23,300	2,871	796	701
Net Change from CEQA Baseline	(35)	(453)	1,428	(215)	(278)	(307)
2010						
Construction	254	1,087	5,177	6	252	192
Operation	1,136	4,164	22,712	2,817	615	574
Project Year 2010 Total	1,390	5,252	27,890	2,822	867	766
Net Change from CEQA Baseline	164	306	6,018	(264)	(207)	(242)
2011						
Construction	121	550	2,464	3	236	103
Operation	1,081	3,904	20,562	2,296	539	503
Project Year 2011 Total	1,201	4,453	23,026	2,299	775	607
Net Change from CEQA Baseline	(24)	(493)	1,154	(787)	(300)	(402)
2012						
Construction	63	331	1,289	1	162	66
Operation	1,025	3,643	18,411	1,775	463	433
Project Year 2012 Total	1,089	3,973	19,701	1,777	625	499
Net Change from CEQA Baseline	(137)	(972)	(2,171)	(1,309)	(450)	(510)
2013						
Construction	70	359	1,428	2	367	127
Operation	970	3,382	16,261	1,254	386	363
Project Year 2013 Total	1,040	3,741	17,689	1,256	753	490
Net Change from CEQA Baseline	(186)	(1,204)	(4,183)	(1,830)	(322)	(519)
2014						
Construction	70	359	1,428	2	386	139
Operation	915	3,121	14,111	734	310	292
Project Year 2014 Total	985	3,480	15,538	735	696	431
Net Change from CEQA Baseline	(241)	(1,465)	(6,334)	(2,351)	(379)	(577)
2015						
Construction	59	341	1,207	1	367	120
Operation	859	2,860	11,960	213	233	222
Project Year 2015 Total	918	3,202	13,167	214	601	342
Net Change from CEQA Baseline	(307)	(1,744)	(8,705)	(2,872)	(474)	(667)
2016						
Construction	46	315	947	1	536	141
Operation	853	2,988	11,814	205	233	221
Project Year 2016 Total	899	3,303	12,761	206	769	363
Net Change from CEQA Baseline	(326)	(1,643)	(9,111)	(2,880)	(306)	(646)
2017						
Construction	74	569	1,508	2	546	150
Operation	846	3,116	11,668	196	232	221
Project Year 2017 Total	920	3,685	13,176	198	778	371
Net Change from CEQA Baseline	(305)	(1,260)	(8,696)	(2,888)	(297)	(638)
2018						
Construction	74	569	1,508	2	461	145
Operation	840	3,244	11,521	188	231	220
Project Year 2018 Total	914	3,813	13,030	190	692	365
Net Change from CEQA Baseline	(312)	(1,132)	(8,842)	(2,896)	(383)	(644)
2019						
Construction	21	125	425	0	271	74
Operation	833	3,372	11,375	180	231	219
Project Year 2019 Total	854	3,497	11,800	181	502	293
Net Change from CEQA Baseline	(372)	(1,449)	(10,072)	(2,905)	(572)	(716)
CEQA Baseline - 2005	1,226	4,946	21,872	3,086	1,075	1,008
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55

Table 10-16. Peak Daily Construction + Operational Emissions for Project Years 2009 – 2019 – Mitigated Alternative

Year/Activity	Pounds per Day					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009						
Construction	37	172	756	1	89	40
Operation	1,051	3,922	17,519	852	397	371
Project Year 2009 Total	1,088	4,094	18,275	853	486	412
Net Change from CEQA Baseline	(137)	(852)	(3,597)	(2,233)	(588)	(597)
2010						
Construction	254	1,087	5,177	6	252	192
Operation	1,008	3,666	16,431	293	228	212
Project Year 2010 Total	1,262	4,753	21,608	299	480	404
Net Change from CEQA Baseline	36	(193)	(264)	(2,787)	(595)	(604)
2011						
Construction	121	550	2,464	3	236	103
Operation	968	3,481	15,275	270	224	210
Project Year 2011 Total	1,089	4,031	17,738	273	460	313
Net Change from CEQA Baseline	(137)	(915)	(4,133)	(2,813)	(614)	(695)
2012						
Construction	63	331	1,289	1	162	66
Operation	929	3,297	14,119	248	221	208
Project Year 2012 Total	992	3,628	15,408	249	384	274
Net Change from CEQA Baseline	(234)	(1,318)	(6,464)	(2,837)	(691)	(735)
2013						
Construction	70	359	1,428	2	367	127
Operation	889	3,113	12,963	225	218	206
Project Year 2013 Total	959	3,472	14,390	226	585	333
Net Change from CEQA Baseline	(267)	(1,474)	(7,481)	(2,859)	(490)	(676)
2014						
Construction	70	359	1,428	2	386	139
Operation	849	2,928	11,807	202	215	204
Project Year 2014 Total	919	3,288	13,234	204	601	343
Net Change from CEQA Baseline	(306)	(1,658)	(8,637)	(2,882)	(473)	(666)
2015						
Construction	59	341	1,207	1	367	120
Operation	810	2,744	10,651	179	212	202
Project Year 2015 Total	869	3,085	11,857	181	579	322
Net Change from CEQA Baseline	(357)	(1,860)	(10,015)	(2,905)	(496)	(687)
2016						
Construction	46	315	947	1	536	141
Operation	809	2,804	10,580	175	212	202
Project Year 2016 Total	855	3,118	11,527	176	749	343
Net Change from CEQA Baseline	(370)	(1,828)	(10,345)	(2,910)	(326)	(665)
2017						
Construction	74	569	1,508	2	546	150
Operation	808	2,863	10,509	170	213	202
Project Year 2017 Total	882	3,432	12,017	172	758	352
Net Change from CEQA Baseline	(343)	(1,514)	(9,855)	(2,914)	(317)	(656)
2018						
Construction	74	569	1,508	2	461	145
Operation	807	2,923	10,438	165	213	203
Project Year 2018 Total	881	3,492	11,946	167	673	347
Net Change from CEQA Baseline	(344)	(1,454)	(9,925)	(2,919)	(401)	(661)
2019						
Construction	21	125	425	0	271	74
Operation	807	2,982	10,367	161	213	203
Project Year 2019 Total	827	3,107	10,792	161	485	277
Net Change from CEQA Baseline	(398)	(1,839)	(11,080)	(2,925)	(590)	(732)
CEQA Baseline - 2005	1,226	4,946	21,872	3,086	1,075	1,008
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55

Table 10-17. Peak Daily Construction + Operational Emissions for Project Years 2009 – 2019 – Unmitigated Alternative 2

Year/Activity	Pounds per Day					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009						
Construction	37	172	756	1	89	40
Operation	1,131	4,229	22,108	2,870	705	659
Project Year 2009 Total	1,168	4,401	22,863	2,871	795	700
Net Change from CEQA Baseline	(58)	(545)	992	(215)	(280)	(309)
2010						
Construction	254	1,087	5,177	6	160	106
Operation	1,107	4,050	22,166	2,816	613	572
Project Year 2010 Total	1,361	5,137	27,344	2,822	773	678
Net Change from CEQA Baseline	135	191	5,472	(264)	(301)	(330)
2011						
Construction	121	550	2,464	3	160	64
Operation	1,057	3,808	20,113	2,295	537	502
Project Year 2011 Total	1,177	4,358	22,577	2,298	697	565
Net Change from CEQA Baseline	(48)	(588)	705	(788)	(377)	(443)
2012						
Construction	63	331	1,289	1	131	37
Operation	1,006	3,567	18,060	1,775	461	432
Project Year 2012 Total	1,069	3,897	19,349	1,776	592	468
Net Change from CEQA Baseline	(156)	(1,049)	(2,522)	(1,310)	(482)	(540)
2013						
Construction	35	256	716	1	332	88
Operation	956	3,325	16,007	1,254	385	361
Project Year 2013 Total	991	3,581	16,723	1,255	717	449
Net Change from CEQA Baseline	(235)	(1,365)	(5,149)	(1,831)	(358)	(559)
2014						
Construction	54	375	1,106	1	332	88
Operation	905	3,084	13,953	733	309	291
Project Year 2014 Total	960	3,458	15,060	735	641	379
Net Change from CEQA Baseline	(266)	(1,488)	(6,812)	(2,351)	(434)	(629)
2015						
Construction	24	154	495	1	298	69
Operation	855	2,842	11,900	213	232	221
Project Year 2015 Total	879	2,996	12,395	213	531	290
Net Change from CEQA Baseline	(346)	(1,949)	(9,477)	(2,873)	(544)	(719)
2016						
Construction	17	99	347	0	515	122
Operation	831	2,866	11,498	199	227	216
Project Year 2016 Total	848	2,965	11,845	199	742	338
Net Change from CEQA Baseline	(377)	(1,981)	(10,027)	(2,886)	(332)	(671)
2017						
Construction	44	317	898	1	426	113
Operation	808	2,890	11,095	185	221	211
Project Year 2017 Total	852	3,207	11,994	186	648	324
Net Change from CEQA Baseline	(374)	(1,738)	(9,878)	(2,900)	(427)	(685)
2018						
Construction	36	277	725	1	113	24
Operation	784	2,914	10,693	172	216	206
Project Year 2018 Total	820	3,191	11,418	172	329	229
Net Change from CEQA Baseline	(406)	(1,754)	(10,454)	(2,913)	(746)	(779)
2019						
Construction	-	-	-	-	-	-
Operation	761	2,939	10,291	158	210	201
Project Year 2019 Total	761	2,939	10,291	158	210	201
Net Change from CEQA Baseline	(465)	(2,007)	(11,581)	(2,928)	(864)	(808)
CEQA Baseline - 2005	1,226	4,946	21,872	3,086	1,075	1,008
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55

Table 10-18. Peak Daily Construction + Operational Emissions for Project Years 2009 – 2019 – Mitigated Alternative 2

Year/Activity	Pounds per Day					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009						
Construction	37	172	756	1	89	40
Operation	1,029	3,819	17,210	851	395	370
Project Year 2009 Total	1,066	3,991	17,966	852	484	410
Net Change from CEQA Baseline	(159)	(955)	(3,906)	(2,234)	(590)	(598)
2010						
Construction	254	1,087	5,177	6	160	106
Operation	980	3,537	16,044	293	225	210
Project Year 2010 Total	1,234	4,624	21,222	298	385	316
Net Change from CEQA Baseline	8	(321)	(650)	(2,787)	(689)	(692)
2011						
Construction	121	550	2,464	3	160	64
Operation	945	3,375	14,954	270	222	208
Project Year 2011 Total	1,066	3,925	17,418	273	383	272
Net Change from CEQA Baseline	(160)	(1,021)	(4,454)	(2,813)	(692)	(737)
2012						
Construction	63	331	1,289	1	131	37
Operation	910	3,213	13,864	247	220	206
Project Year 2012 Total	974	3,543	15,153	249	351	243
Net Change from CEQA Baseline	(252)	(1,402)	(6,719)	(2,837)	(724)	(765)
2013						
Construction	35	256	716	1	332	88
Operation	875	3,051	12,774	225	217	205
Project Year 2013 Total	910	3,307	13,490	225	549	292
Net Change from CEQA Baseline	(315)	(1,639)	(8,382)	(2,861)	(526)	(716)
2014						
Construction	54	375	1,106	1	332	88
Operation	840	2,888	11,683	202	214	203
Project Year 2014 Total	895	3,263	12,790	203	546	290
Net Change from CEQA Baseline	(331)	(1,683)	(9,082)	(2,883)	(528)	(718)
2015						
Construction	24	154	495	1	298	69
Operation	806	2,726	10,593	179	211	201
Project Year 2015 Total	830	2,881	11,088	180	509	270
Net Change from CEQA Baseline	(396)	(2,065)	(10,784)	(2,906)	(565)	(739)
2016						
Construction	17	99	347	0	515	122
Operation	789	2,699	10,309	170	207	197
Project Year 2016 Total	806	2,798	10,656	170	722	319
Net Change from CEQA Baseline	(420)	(2,148)	(11,216)	(2,916)	(352)	(689)
2017						
Construction	44	317	898	1	426	113
Operation	772	2,672	10,026	161	204	194
Project Year 2017 Total	816	2,989	10,924	162	630	307
Net Change from CEQA Baseline	(410)	(1,957)	(10,948)	(2,924)	(445)	(702)
2018						
Construction	36	277	725	1	113	24
Operation	755	2,645	9,742	151	200	191
Project Year 2018 Total	791	2,922	10,467	152	313	214
Net Change from CEQA Baseline	(435)	(2,024)	(11,405)	(2,934)	(762)	(794)
2019						
Construction	-	-	-	-	-	-
Operation	738	2,618	9,458	142	196	187
Project Year 2019 Total	738	2,618	9,458	142	196	187
Net Change from CEQA Baseline	(487)	(2,328)	(12,414)	(2,944)	(878)	(821)
CEQA Baseline - 2005	1,226	4,946	21,872	3,086	1,075	1,008
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55

Table 10-19. Peak Daily Construction + Operational Emissions for Project Years 2009 – 2019 – Alternative 3

Year/Activity	Pounds per Day					
	VOC	CO	NOx	SOx	PM10	PM2.5
2009						
Construction	-	-	-	-	-	-
Operation	1,024	3,801	17,003	851	391	366
Project Year 2009 Total	1,024	3,801	17,003	851	391	366
Net Change from CEQA Baseline	(201)	(1,145)	(4,869)	(2,235)	(684)	(643)
2010						
Construction	6	33	117	0	62	62
Operation	974	3,515	15,786	292	220	205
Project Year 2010 Total	980	3,548	15,903	293	281	266
Net Change from CEQA Baseline	(246)	(1,398)	(5,969)	(2,793)	(793)	(742)
2011						
Construction	6	46	117	0	180	181
Operation	939	3,343	14,685	270	213	199
Project Year 2011 Total	944	3,389	14,802	270	393	380
Net Change from CEQA Baseline	(281)	(1,557)	(7,070)	(2,816)	(681)	(628)
2012						
Construction	11	62	217	0	124	123
Operation	904	3,172	13,584	248	207	194
Project Year 2012 Total	914	3,234	13,801	248	331	317
Net Change from CEQA Baseline	(311)	(1,712)	(8,070)	(2,838)	(744)	(691)
2013						
Construction	11	77	217	0	309	308
Operation	869	3,000	12,483	225	201	189
Project Year 2013 Total	879	3,077	12,700	225	509	497
Net Change from CEQA Baseline	(346)	(1,869)	(9,171)	(2,861)	(565)	(511)
2014						
Construction	8	173	173	0	311	310
Operation	833	2,828	11,382	203	195	183
Project Year 2014 Total	842	3,002	11,556	203	505	494
Net Change from CEQA Baseline	(384)	(1,944)	(10,316)	(2,883)	(569)	(515)
2015						
Construction	17	99	347	0	315	314
Operation	798	2,657	10,281	180	188	178
Project Year 2015 Total	815	2,755	10,628	181	503	492
Net Change from CEQA Baseline	(410)	(2,190)	(11,244)	(2,905)	(572)	(516)
2016						
Construction	17	99	347	0	503	502
Operation	784	2,664	10,034	171	187	177
Project Year 2016 Total	801	2,763	10,381	171	690	679
Net Change from CEQA Baseline	(424)	(2,183)	(11,491)	(2,915)	(384)	(329)
2017						
Construction	17	99	347	0	503	502
Operation	771	2,672	9,787	162	186	176
Project Year 2017 Total	788	2,770	10,134	162	689	679
Net Change from CEQA Baseline	(438)	(2,176)	(11,738)	(2,924)	(385)	(330)
2018						
Construction	8	49	173	0	397	396
Operation	757	2,679	9,540	152	185	175
Project Year 2018 Total	765	2,728	9,714	153	582	572
Net Change from CEQA Baseline	(460)	(2,217)	(12,158)	(2,933)	(492)	(437)
2019						
Construction	-	-	-	-	-	-
Operation	743	2,686	9,293	143	184	175
Project Year 2019 Total	743	2,686	9,293	143	184	175
Net Change from CEQA Baseline	(483)	(2,259)	(12,578)	(2,943)	(890)	(834)
CEQA Baseline - 2005	1,226	4,946	21,872	3,086	1,075	1,008
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55

- SCAQMD-3.** Draft EIS/EIR Table 3.2-9 in Section 3.2.2.2 shows that the 100 percent compliance with the VSRP would apply to all Project scenarios. However, this table should have also showed that, with the exception of the CEQA Baseline, all Project scenarios use of 0.2 percent sulfur diesel fuel in OGV sources. Final EIS/EIR Section 3.2.2.2 clarifies how each emission control measure/regulation applies to each unmitigated/mitigated Project scenario. Emission reductions for unmitigated scenarios that would occur due to CAAP measures that are part of the Project lease agreement are attributed to the Project (Final EIS/EIR Table 3.2-9). Please see response to comment SCAQMD-31, which explains how the analysis adequately simulates the effects of currently adopted regulations for the estimation of future proposed emissions.
- SCAQMD-4.** Your comment is noted. The comment does not identify what additional mitigation measures are feasible, or which of the existing mitigation measures could be accelerated or made stronger. The EIS/EIR provides a thorough and adequate analysis of the proposed Project's air quality and health impacts for NEPA/CEQA purposes. **Mitigation Measures AQ-1 through AQ-29** represent all feasible means to reduce air pollution impacts from proposed construction and operational emission sources and they include all applicable CAAP measures.
- SCAQMD-5.** **Mitigation Measure AQ-6** requires all Project OGV to use 0.2 percent sulfur diesel in auxiliary generators and main engines beginning with lease commencement and Project year 1, estimated to be 2010. Additionally, the Final EIS/EIR assumes that beginning in Project year 1, all Project scenarios would comply with the ARB Fuel Sulfur Regulation for OGV, as proposed by the ARB on October 21, 2008. This regulation requires use of 0.1 percent sulfur diesel in auxiliary generators, main engines, and boilers beginning in year 2012. Mandating the use of 0.1 percent sulfur diesel in Project OGV prior to this time would be infeasible, due to its unavailability in the international setting. Additionally, the new IMO regulations recently adopted do not require 0.1 percent sulfur until January 2015 and only for the Emission Control Areas (ECAs). Otherwise, the global standard (areas other than ECAs) only lowers the fuel sulfur content to 0.5 percent sulfur in 2020, but it is subject to a review in 2018, with no delay past 2025.
- SCAQMD-6.** The comment requests implementation of CAAP Measure RL-2 to reduce emissions from existing Class I railroad operations at the expanded Pier F intermodal railyard. Implementation of the requested emission control measures to line haul locomotives that service the expanded Pier F intermodal railyard is infeasible as these sources are not bound by the Project terminal lease agreement. The infeasibility primarily stems from the Port's lack of jurisdiction over rail operations. The Surface Transportation Board has exclusive jurisdiction over transportation by rail carriers, including rules, practices, and operations. 49 U.C.S. § 10501(b). Federal law defines "transportation" very broadly to include "a locomotive, car, vehicle, vessel, warehouse, wharf, pier, dock, yard, property, facility, instrumentality, or equipment of any kind related to the movement of passengers or property, or both, regardless of ownership or an agreement concerning use." 49 U.S.C. §10102(9). The courts have recognized that "[i]t is difficult to imagine a broader statement of Congress's intent to preempt state regulatory authority over railroad operations." *City of Auburn v. United States*, 154 F. 3d 1029, 1030 (9th Cir. 1998). The commenter's request for the Port to assert control over line haul locomotives ignores the practical, contractual, and legal issues relating to interstate rail operations.

On March 14, 2008, the EPA adopted Tier 3 and Tier 4 emission standards for diesel line-haul and switcher locomotives. Conversion of the national line haul locomotive fleet to these standards will substantially reduce emissions from these sources as compared to the fleet with only Tier 2 standards. Since the air quality analysis in the Draft EIS/EIR was finalized in March 2008, it was not able to simulate implementation of these updated non-road Tier 3 and Tier 4 standards. As a result, the analysis overestimated future emissions from these sources. However, the Final EIS/EIR has been revised to assume that based on EPA-estimated remanufacturing rates and new purchases, the fleet of locomotives serving SCAB

would have the equivalent of Tier 3 emissions beginning in 2025. The Baywide HRA used to develop the SPBS includes this same assumption. Since locomotive engines with Tier 4 standards will not be available until 2015, it is infeasible to assume the entire fleet could comply with this requirement, especially by 2014.

SCAQMD-7. The commenter (1) asserts that the Project should include sufficient on-dock rail capacity to accommodate all direct intermodal throughput at the terminal (i.e., capacity for all containers destined to be transported out of the region by rail, and (2) mistakenly contends that transporting trains unsorted from the railyard would maximize on-dock rail capacity.

1. As for a need to provide more on-dock rail capacity, the Project as proposed is designed to maximize on-dock rail facilities. The existing railyard on site is underutilized and serves only one of the two existing terminals. The proposed Project will combine the operations of two terminals into one, thereby facilitating efficient operation of the proposed expanded Pier F intermodal railyard and increasing the number of containers that can travel by rail.

By expanding on-dock rail infrastructure on 47 acres, the redeveloped terminal will accommodate 2,098 annual trains while ensuring sufficient container yard capacity to handle 3,320,000 annual TEUs. Every effort was made from the design and operation perspective to maximize the railyard capacity, taking into account the need for the additional container yard capacity necessary to accommodate projected demand. Even were there a legitimate need for more on-dock rail capacity, which there is not, the planned on-dock railyard could not be expanded into the planned container yard because overall terminal capacity would be reduced, thus creating a less efficient terminal. In light of the physical constraints of the site and the need to provide sufficient container yard capacity to handle the projected cargo throughput, the proposed Project maximizes on-dock rail capacity. The proposed re-use of this site has been carefully planned to ensure adequate space for operations, storage, and trackage that will result in an increase of 613,160 TEUs between the 2030 No Project and 2030 Project alternatives (the only difference in throughput being the design of the site).

Moreover, a sizeable amount of the Project throughput will be made up of low-volume destination cargo that must be assembled at the near- and off-dock railyards throughout the region. Specifically, low-volume-destination containers (i.e. non-Chicago-bound containers) oftentimes cannot wait for a unit train to be built on-dock. Rather, these boxes are assembled off-dock from multiple terminals in order to achieve the appropriate volumes to generate a single train in a timely fashion. Therefore, some direct intermodal containers will always need to be drayed to the Intermodal Container Transfer Facility, Hobart Yards, and other railyards throughout the region regardless of the size of the on-dock railyard at Middle Harbor.

2. As for adding unsorted trains as an operating feature of the Project, this would not enhance on-dock railyard capacity. It should be understood that Parson's railyard capacity model assumes that trains are fed constantly with containers, in essence mimicking the effect of building unsorted trains. Consequently, the capacity numbers would not be increased by including unsorted trains as an alternative operating procedure.

Further, the Class-1 railroads (UP and BNSF) already have the ability to sort unsorted trains inland, and the railroads will do so if, and when, it makes business and operating sense. This decision involves a change in business operations, and it is not within the control of the Port to unilaterally impose such a condition, especially since the feasibility of such a condition has not yet been established. The Port is currently undertaking a

feasibility study to explore other opportunities for inland port operations (not to be confused with maximizing on-dock rail capacity) that would minimize truck trips.³

SCAQMD-8. The comment recommends a new mitigation measure for main engine emission controls on new and existing OGV. Draft EIS/EIR **Mitigation Measure AQ-11** requires the use of slide valves on OGV main engines. However, it would be extremely complex and therefore infeasible for the Port to negotiate implementation of the requested advanced control technologies with a proposed shipper (such as water injection, emulsified fuels, humid air, and SCR), as in part, there may not be enough incentive for the shipper to do so if the vessel is not committed totally to the Project terminal trade. These technologies are currently not feasible for large container ships that would call at the Project terminal. Although SCR technology has been demonstrated on a limited number of smaller vessels with a limited geographic range (e.g., small vessels carrying scrap/steel in the San Francisco Bay), the applicability of low-emission technologies like SCR to large OGV that travel long distances such as container ships requires further evaluation and demonstration of feasibility.

Implementation of the requested controls is best handled at the national and international regulatory level and progress has been made in this area. For instance, the Project shippers must comply with the IMO MARPOL Annex VI NOx limits that took effect in 2005 and the new standards approved in October 2008 that limit fuel sulfur content and NOx emissions. These requirements include (1) global standards, and (2) tighter standards for ships that operate in areas with air quality problems, designated as ECAs. The engine standards include the following.

1. The ECA engine emission standards are Tier 3 for new engines and equate to 80 percent NOx reduction starting January 2016 (based on the use of advanced catalytic after treatment systems). EPA is in the process of preparing an application for ECA status for U.S. coastal waters. The Port is working with the EPA to develop a West Coast ECA and they fully support the establishment of the West Coast as an ECA;
2. The global engine emission standards are (1) Tier 2 for new engines (20 percent NOx reduction starting January 2011) and (2) Tier 1 for existing engines, or equal to those adopted by EPA in 2003 and the current IMO Annex VI standards (15-20 percent NOx reduction from current uncontrolled levels);

Manufacturers may begin certifying systems (sets of upgraded replacement parts) starting in 2010. Installation will occur at a vessel's first "renewal survey" following the Tier 1 certification applicable to the vessel's engines. A renewal survey is a major inspection and maintenance activity, typically done every five years;

It is expected that with the implementation of Project **Mitigation Measure AQ-11** (slide valves), **Mitigation Measure AQ-6** (low sulfur fuels in OGV), and the introduction of IMO-compliant OGV, the Project OGV fleet would achieve the fleet average NOx and PM emission reductions recommended in the comment; and

Emission controls in new OGV engines is also a topic of research by the CAAP TAP process. Additional emission controls on new OGV builds will be implemented as they

3 The feasibility of inland port operations is in question for several reasons: First, the rail-lines are currently shared by several operators, including PHL railroad, passenger railroad, and the Class-1 (UP and BNSF) railroads. It is unclear whether the Class-1 rail carriers have sufficient common interests to agree with a single common user inland port terminal as a practical solution, or whether separate terminals are required for each rail carrier, in which case the concept of an inland port could be economically infeasible. Second, there may be no near-term sites available for a large conventional intermodal facility in the Inland Empire. Sites easily accessible from UP and BNSF are heavily developed, and available parcels large enough for a conventional intermodal terminal are often inaccessible from the railroads, inappropriately zoned, or physically unsuitable as intermodal terminals. Finally, the Class-1 railroads have stated concerns that short haul container moves to an inland port would not be financially feasible and that utilizing mainline capacity for these short moves at the expense of long haul moves is not a sound business decision. Any goods destined within 800 miles of the Ports travel by truck for economic reasons. Shippers choose trucks over trains for short haul trips due to the cost difference. Class-1 railroads discourage short haul moves by pricing them out due to limited rail corridor capacity. Moreover, costs and emissions associated with double handling containers (once at the marine terminal, again at the inland port) prior to distribution would be increased.

become required by regulations or are deemed feasible through the TAP process. However, to help address this concern, the Final EIS/EIR includes new **Mitigation Measure AQ-25**, as presented in response to comment USEPA(B)-20, that requires the terminal tenant in 2015 and every 5 years afterwards, to review new air quality technological advancements for the purpose of implementing new feasible mitigations.

SCAQMD-9. In developing the SPBP CAAP, the Port of Long Beach and the Port of Los Angeles (collectively, "Ports") established a series of principles and goals designed to reduce air emissions and related health impacts while allowing Ports development to continue. The CAAP committed the Ports, with the assistance of their agency partners (the technical working group or TWG, comprised of representatives from ARB, SCAQMD, and the EPA) to establish SPBS to define targets for reduction of Ports-related air impacts, specifically air quality and health risk impacts. The SPBS address the Ports' primary air quality goals of reducing health risks to local communities from Ports operations and reducing emissions to allow the region to reach attainment with the health-based ambient air quality standards. The Ports have been actively engaged in discussions with the TWG to reach agreement on the Standards since the CAAP was adopted in November 2006. The development of the Standards has been challenging, as no precedent existed that could be used as a framework. The Ports recently completed the Draft SPBS, which is currently under review by the other members of the SPBS working group, including the SCAQMD. The Ports anticipate that agreement between the TWG and the Ports on the SPBS will be achieved shortly, and at that time the SPBS will be available for public review.

To develop the Standards, the Ports have met regularly and frequently with the TWG from March 2007 through early 2009 to discuss the technical underpinning of the SPBS; over 18 meetings and conference calls were held. While the original goal was to develop and present the agreed upon SPBS by in 2007, this has not been possible due to the complexity of the issues and the number of agencies involved in their formulation and approval. The supporting technical analyses for the SPBS, including the development of emissions forecasting and a Baywide HRA tool, represent significant and time-consuming efforts, but were necessary to ensure that the Ports resources would be utilized most effectively as they worked to improve air quality. The analyses completed include: (1) Ports-wide emissions inventories for 2005 (developed over the period 2006 to early 2008); (2) Ports-wide forecast emissions for 2014 and 2023 (developed over the period 2007 to mid-2008); (3) Bay-wide HRA tool for diesel particulate matter (draft HRA Protocol completed in October 2007, which included a detailed analysis of data from meteorology stations near the Ports, and a draft HRA tool finalized in June 2008); and (4) the regular collection and analysis of data from Ports air monitoring stations (on-going). For each of these efforts, the Ports developed a technical analysis, provided supporting documents to the TWG for review, and received and responded to numerous verbal and written comments on those documents from the TWG. The technical complexity of the analyses meant that they were time consuming to complete, and often required multiple meetings between the Ports and TWG to achieve mutual understanding and consensus. For example, six meetings were held solely to discuss and agree upon the methods to be used for forecasting emissions. In early July 2008 the Ports provided the results of key supporting analyses to the TWG, and several weeks later, proposed the Health Risk portion of the SPBS. Since that time, the Ports have continued to meet regularly with the TWG to develop the final language of the SPBS, which describes both the Health Risk Reduction and the Emission Reduction components of the SPBS.

The primary purpose of the SPBS will be to provide a valuable tool for long-term air quality planning, aiding the Ports and the agencies to achieve substantial reductions in the long-term cumulative air quality impacts of emissions from ongoing and future ports operations over time in conjunction with implementation of CAAP measures and existing regulations. In developing the SPBS, the Ports, including the POLB, recognize the importance of ensuring that new projects are designed to be consistent with the CAAP as well as with other applicable regulations and that implementation of the project will allow for the Ports to meet their long-term health risk and emission reduction goals. The forecasting used for developing

the Health Risk Reduction and Emission Reduction components of the SPBS was based upon implementation of the CAAP through the specified implementation mechanisms, such as CEQA mitigations and terminal leases, and implementation of existing regulations. As long as the project meets the assumptions used to develop the SPBS, including all then-applicable CAAP measures and regulatory requirements, as well as any new emissions control measures determined to be feasible, available and effective at reducing emissions covered under the Standards, then the project will be consistent with the SPBS. The Port has worked to ensure that the Project fully meets these criteria; the proposed project is consistent with the draft SPBS as it includes all applicable CAAP measures, existing regulations, and, in some areas, exceeds compliance with applicable CAAP measures.

SCAQMD-10. Your comment is noted and your input is appreciated.

SCAQMD-11. Approval of the Project is dependent upon an acceptable MMRP that identifies all feasible mitigation measures to reduce Project air quality impacts. The MMRP in the Final EIS/EIR would be certified by the Board of Harbor Commissioners and adopted as a Project lease condition. Accordingly, the mitigation measures identified in the Final EIS/EIR will become part of the conditions of the Project terminal lease agreement. Periodic reporting on implementation of mitigation measures proposed in the Final EIS/EIR is a compliance function of the MMRP, which includes monitoring and enforcement mechanisms to ensure appropriate implementation of all mitigation measures (CEQA Guidelines Sections 15091(d), 15097). Final EIS/EIR Section 3.2.4 clarifies this process and states that the MMRP will require an annual mitigation compliance report within the first year of Project approval and then annually thereafter, unless otherwise directed by the Board. Additionally, the Final EIS/EIR more clearly identifies the implementation schedule for each mitigation measure.

SCAQMD-12. Thank you for your comment. The Final EIS/EIR has been revised to include the suggested comment as **Mitigation Measure AQ-2b**, which requires trucks used for construction: (1) prior to 2015 to use engines with the lowest certified NOx emissions levels, but no greater than the 2007 NOx emission standards; and (2) in 2015 and beyond to meet EPA 2010 emission standards.

SCAQMD-13. Final EIS/EIR **Mitigation Measure AQ-1** (Section 3.2.2.3) has been revised to include the requested fugitive dust control measures.

SCAQMD-14. Please see response to comment USEPA(B)-18 regarding the difficulty and infeasibility of implementing USEPA Tier 4 engine standards on proposed land-base construction equipment. However, Final EIS/EIR **Mitigation Measure AQ-2** does require Tier 4 standard engines in construction equipment, where feasible. The Final EIS/EIR includes **Mitigation Measure AQ-2a** that will require the BMPs identified in your comment, with the qualifier that they shall be implemented where feasible:

AQ-2a: Best Management Practices (BMPs) for Construction Equipment. The construction contractor shall implement the following BMPs on construction equipment, where feasible, to further reduce emissions from these sources:

1. Use of diesel oxidation catalysts and/or catalyzed diesel particulate traps, as feasible;
2. Maintain equipment according to manufacturer specifications;
3. Restrict idling of equipment and trucks to a maximum of five minutes (per ARB regulation);
4. Use of high-pressure fuel injectors on diesel-powered equipment; and
5. Use of electricity from power poles rather than temporary diesel- or gasoline-powered generators.

SCAQMD-15. Final EIS/EIR **Mitigation Measure AQ-3** requires Tier 3 standard engines in tugboats, where feasible. This requirement applies for the entire period of Project construction. However, it is acknowledged that Tier 3 standard harbor craft engines whose sizes match those needed for proposed construction are not required by the EPA Final Marine Engine Rule until 2012 through 2014. Due to the slow penetration of Tier 3 engines into the harbor craft fleet and the substantial cost associated with engine replacement, it would be economically infeasible to require these engines on all proposed tugboats during Project construction.

Construction tugboats that home port in the SPBP generally shut down their engines when they return home, as any nominal lighting/instrumentation requirements are already provided by electrical shore power. Nevertheless, the Final EIS/EIR has been revised to include the suggested comment as new **Mitigation Measure AQ-3a**:

AQ-3a: Construction Tugboat Home Fleeting. The construction contractor shall require all construction tugboats that home fleet in the SPBP to (a) shut down their main engines and (b) refrain from using auxiliary engines at dock or to use electrical shore power, if need be.

SCAQMD-16. Draft EIS/EIR **Mitigation Measure AQ-4** requires all (100 percent) OGV that call at the Middle Harbor container terminal to comply with the Expanded VSRP of 12 knots within 40 nm of Point Fermin. Implementation of this measure would occur at the effective date of the new terminal lease(s) and Project year 1. Final EIS/EIR Section 3.2.4 (MMRP) clarifies this point.

SCAQMD-17. Regarding the request to clarify lease stipulations that would consider alternative technologies to achieve 90 percent of the emission reduction of cold ironing, the Port's intention is that in the event that alternative technologies, including equipment, fuel or fuel additives, are or become available that achieve 90 percent or more of the emissions reductions of cold-ironing, the terminal operator may request use of such alternative technologies, by providing documentation and demonstration of effectiveness. At the discretion and subject to the approval of the Executive Director, the Terminal Operator may substitute the use of the requested technology instead of cold-ironing. Because of the long-term nature of the new lease agreement⁴, it is not possible to identify those future technologies at this time. This provision serves as a place holder given that the technologies evolve over time.

Three new berths with the capacity to cold-iron OGV would become available according to the following Project construction schedule: (1) December 2009; (1) March 2012; and (3) December 2014. As each of these berths become available, they would cold-iron one-third of the total annual ship visits at the Project terminal, so by December 2014, 100 percent of the Project's ship visits would cold-iron. Given the magnitude and scale of proposed construction, this is the earliest that the Project could provide cold-iron capable berths. This schedule complies with the CAAP and it exceeds the requirements of the ARB At-Berth Ocean-Going Vessels Regulation. Essentially, any Project OGV that is retrofitted to cold-iron would moor at a berth with cold-ironing capabilities unless it is already in use by another cold-ironing vessel.

The Port will provide the Terminal Operator with a construction schedule for installation of shore-side power at least one year before anticipated completion, and quarterly construction updates, to provide time to retrofit candidate vessels. The Terminal Operator will submit quarterly reports to the Director of Planning demonstrating compliance with the cold-ironing requirement. The Terminal Operator will ensure that vessels use shore-side power when assigned to any wharf where cold-ironing is available unless the Executive Director determines in a particular case that this cannot be done for safety reasons or because no other berths are available.

⁴ Given the magnitude of the capital investment necessary to meet the CAAP and mitigation measures, the term of the new terminal lease, which is still under negotiation, is likely to be at least 30 years.

SCAQMD-18. **Mitigation Measure AQ-6** requires all Project OGV to use 0.2 percent sulfur diesel in auxiliary generators and main engines beginning with lease commencement and Project year 1, which is estimated to be 2010. Regarding the feasibility of using 0.1 percent sulfur diesel prior to 2012, please see response to comment SCAQMD-5.

SCAQMD-19. The comment recommends the use of electric yard hostlers and RMGs at the Middle Harbor container terminal. Electrification of yard hostlers is not a proven technology and therefore it is infeasible under CEQ Regulations 40 CFR 1502.16(h) and CEQA Guidelines Section 15126.4(a) due to economic and productivity considerations. Balqon Corporation built a prototype electric vehicle for use as either a drayage truck or yard hostler as a proof of concept. Balqon conducted some initial testing for both yard hostler and minor drayage duty-cycles. Initial drayage testing was only conducted for a single day; however, initial yard tractor testing was conducted for approximately one month. That testing was able to establish proof of concept but was insufficient to demonstrate the commercial, operational, and financial viability of the technology. The prototype unit is no longer in use; however, based on the results of the prototype the POLA decided to initially conduct a demonstration of an electric yard hostler at marine terminals where duty-cycle is less demanding than a drayage truck demonstration. Consequently, POLA ordered 20 yard hostler units, at a cost of \$4.3 million for vehicles and chargers, to determine the commercial, operational, and financial viability of the equipment. The demonstration units are expected to be delivered through February and March 2009. As part of the TAP, the POLB is also participating in the demonstration through the development and implementation of the work plan. Should the demonstration of an electric yard hostler prove successful, the Ports will then begin the demonstration of an electric drayage truck. Given the current cost of nearly \$200,000 per unit plus charging equipment (compared to approximately \$60,000 per unit for diesel technology), this technology does not currently represent a financially feasible mitigation absent the conclusions of the demonstration.

Final EIS/EIR **Mitigation Measure AQ-7a** proposes the replacement of all Project diesel-powered RTGs with electric-powered RMGs by 2020, or sooner, if feasible. This measure also requires each RMG to include regenerative drive systems. Additionally, the Final EIS/EIR includes new **Mitigation Measure AQ-25** that requires the terminal tenant in 2015 and every five years afterwards, to review new air quality technological advancements for the purpose of implementing new feasible mitigations.

SCAQMD-20. The comment recommends that Port limit the trucks that can enter the Middle Harbor container terminal. Specifically, the comments recommends a phase in schedule under which by 2018, only LNG fuels vehicles may enter the terminal.

The mitigation of Project truck emissions is handled through the CTP. The Port of Long Beach adopted a port-wide approach to dealing with drayage trucks rather than a project by project approach due to a number of complicating factors. It is important to understand the complexities and difficulties of dealing with the unconsolidated and highly competitive drayage industry. No trucking company calls at a single terminal, but rather calls at all port terminals. In addition, trucking companies do not serve the ports exclusively; rather port drayage represents only a portion of their trucking business. One survey funded by both Ports shows that 72 percent of the Licensed Motor Carriers (LMCs) have at least some business with non-port related customers, and for 19 percent of the LMCs, more than 50 percent of their business occurs outside of the Ports (Husing, et al. 2007). Due to the high degree of competition in port drayage, the ports realized it was not cost-effective to address fleet modernization on a terminal-by-terminal basis. Serving a single terminal cannot provide enough business to sustain a trucking company, while increased costs of fleet modernization could not be realized through higher trucking rates at facilities that were not subject to similar requirements (due to the fact that trucking companies would be competing against trucking firms that did not face increased compliance costs). This would be the case for either new diesel or new alternative-fueled vehicle requirements imposed on a single terminal. As a result, the Ports have taken an approach that spread fleet modernization costs over an

accelerated five-year schedule that covered all terminals on port-owned property in the two ports. Through this approach, the Board of Harbor Commissioners also adopted, as part of the CTP, Clean Truck Fee exemptions that encourage the purchase of alternatively-fueled trucks by industry and adopted a goal that 50 percent of the CTP-funded trucks be LNG. Accordingly, it is not feasible to address further mitigation of these emissions through a terminal-specific approach. Such an approach would result in unsustainable trucking rates calling at the terminal, while at the same time imposing a cost structure that would prevent a trucking firm from competing in the rest of the trucking market.

Also, it is important to note that emissions benefits achieved through the use of LNG-fueled trucks would only provide marginal emissions benefits. Currently, most of the diesel trucks being funded through the CTP program have lower particulate matter emissions than LNG trucks. While LNG trucks do currently have lower emissions of nitrogen oxides, by 2010 new diesel and new LNG trucks will have the same emission rates for nitrogen oxides. Given the 50 -100 percent increased cost of LNG trucks for the small, short term benefit, this is another reason why it is not cost-effective to require these technologies on a terminal specific basis.

As electric-powered drayage trucks are not proven technologies, it is infeasible at this time to require them to mitigate Project truck emissions. However, these technologies are topics of research for the CAAP TAP process. If the TAP process determines that an emission control technology is feasible, it will be promoted in the future. Additionally, Final EIS/EIR **Mitigation Measure AQ-25** includes a requirement to periodically review new emission control technologies for purposes of including them within the lease for the terminal.

SCAQMD-21. Regarding measures to control locomotive emissions within the expanded Pier F intermodal railyard, please see response to comment SCAQMD-6.

SCAQMD-22. The comment requests that **Mitigation Measure AQ-10** be revised to go beyond the ARB regulations that restrict truck idling to five minutes. The Port encourages efforts to minimize truck trips and associated on-terminal idling through programs including the PierPass and virtual container yards. The enforcement mechanisms for **Mitigation Measure AQ-10** are included in Final EIS/EIR Section 3.2.4.

Marine container terminal gates already use the most sophisticated automated gate technologies throughout the Port. As requested in the comment, the Project gate would include this type of system and would be designed to handle the peak terminal truck traffic. A terminal in-gate is normally comprised of three stations: a security checkpoint, an optical character recognition/radio frequency identification (OCR/Rfid) portal, and a pedestal. In order to comply with security requirements, all trucks must pass through a security checkpoint where terminal security controls site access. Next, at the OCR/Rfid portal, several items are read by the OCR scanner, typically the container number, chassis number, and truck license plate. Finally, based on that information, the truck will receive instructions on where to proceed in the terminal at the pedestal. As a result of these technologies, gate queues have been substantially reduced throughout the Port. These Project terminal systems would maximize terminal efficiencies and they would keep truck idling to less than what was assumed in the air quality analysis. In conclusion, the Project gate system is already designed to prevent any substantial delays or idling during peak Project truck traffic conditions.

SCAQMD-23. The comment requests inclusion of a phase-in schedule for slide valves in the Final EIS/EIR. Draft EIS/EIR **Mitigation Measure AQ-11** requires installation of slide valves on all OGV that call at the Middle Harbor container terminal, where feasible. Implementation of this measure is conditional, as only OGV with MAN B&W engines can readily accept such a retrofit. Final EIS/EIR **Mitigation Measure AQ-11** and Section 3.2.4 (MMRP) have been revised to clarify this requirement.

Regarding retrofitting existing OGV with the other control technologies requested in the comment, please see response to comment SCAQMD-8. It is expected that with the

implementation of **Mitigation Measure AQ-11** (slide valves), **Mitigation Measure AQ-6** (low sulfur fuels in OGV), and the introduction of IMO-compliant OGV, the Project OGV fleet would achieve the fleet average NO_x and PM emission reductions recommended in the comment.

- SCAQMD-24.** Regarding installing other control technologies requested in the comment into new vessel builds, please see response to comment SCAQMD-8. It is expected that with the implementation of Project **Mitigation Measure AQ-11** (slide valves), **Mitigation Measure AQ-6** (low sulfur fuels in OGV), and the introduction of IMO-compliant OGV, the Project OGV fleet would achieve the fleet average NO_x and PM emission reductions recommended in the comment.
- SCAQMD-25.** The comment requests clarification of Draft EIS/EIR **Mitigation Measures AQ-4 and AQ-12**, and further requests a commitment date and a quantification of distance to the California overwater border. **Mitigation Measures AQ-4 and AQ-12** apply to criteria pollutant and GHG emission reductions, respectively. The Final EIS/EIR keeps these vessel speed reduction measures separate to clarify this point and to enable separate enforcement mechanisms. Both measures require 100 percent compliance rates at lease commencement in Project year 1 (2010 or sooner). Final EIS/EIR Section 3.2.4 has been revised to clarify the mitigation monitoring and reporting requirements for the measures. The California overwater border is equal to the offshore state boundary, meaning that for the northern vessel route out of the Port, this boundary lies about three nm west of Point Conception at the western end of the Santa Barbara Channel.
- SCAQMD-26.** **Mitigation Measures AQ-6 and AQ-13** apply to criteria pollutant and GHG emission reductions, respectively. The Final EIS/EIR keeps these measures separate to clarify this point. **Mitigation Measure AQ-13** takes effect beginning with lease commencement and Project year 1, which is estimated to be 2010. The distance between the state waters boundary 3 nm beyond Point Conception and the northern end of the expanded vessel speed reduction program zone (40 nm beyond the Precautionary Area) that is used in the Final EIS/EIR is 117 nm.
- SCAQMD-27.** The comment states that the Final EIS/EIR should commit to a process of implementing zero- or near-zero emission transport technologies such as rail electrification. Commenter further states that the POLB and POLA are evaluating advanced cargo transportation technologies per the CAAP and recommends that the lead agencies include a mitigation measure to incorporate this commitment.

With regard to electrification, the Alameda Corridor Use and Operating Agreement specifically prohibits the Ports from unilaterally mandating rail electrification. Specifically, in Section 2.2(c), the Agreement provides: "Neither POLA, POLB nor ACTA will require the Railroads to operate Through Trains powered by electric locomotives on the Rail Corridor unless the Railroads voluntarily agree thereto, provided, however, if electrification is otherwise required, such requirements shall not be a basis on which any party may terminate this Agreement, but if legally permissible, a Railroad may satisfy the requirement to use electric powered locomotives by using locomotives powered by an alternative energy source acceptable to the appropriate government entities." (P. 15). Thus, any steps toward rail electrification in the future would have to be jointly agreed to by the railroads.

The Port is in the process of reviewing possible zero- or near-zero emission transport technologies as envisioned in the CAAP. In 2007, Cambridge Systematics prepared the Alternative Container Technology Evaluation and Comparison assessment for the POLB and POLA. While the assessment identified 14 candidate technologies that may prove suitable for a demonstration project between a container terminal and a near- or off-dock rail facility, it also pointed out that none of these technologies has ever been demonstrated to be functionally or financially feasible. Pursuant to its commitments under the CAAP, the Port is exploring feasible technologies and in 2009 will release a Request for Proposals for the design of a zero- or low-emission container movement demonstration project between one

marine terminal and a near-dock rail facility. The demonstration project will address certain key issues that will help determine whether this technology can be feasibly employed in Port operations, including the functionality of the system, the availability of rights-of-way to accommodate the system, the capital costs for the construction of the system and the costs of operations and maintenance, and the needed interface between the terminals and the railyards.

Functionality: As stated, there are no zero emissions technologies currently in practical operation, so it is unknown whether these technology systems can feasibly transport containers. Although one such technology is being tested in Italy, the testing and construction of such a technology in the POLB would require a minimum of five years according to vendors.

Rights-of-way: For such technologies to be feasible, adequate rights of way must be available. The Port has identified potential alignments, but each poses different challenges. The SR-47 alignment requires Caltrans approval; the LA River alignment would require approvals by several regulatory agencies; and the other alignments may require use of privately owned land or leased marine terminal property, and could impact oil and gas production.

Capital costs and operation/maintenance expenses: Preliminary cost estimates for construction of these technologies range from \$180 to \$264 million per mile.⁵ The estimated annual operation and maintenance costs range from \$7.5 to \$10.5 million.⁶ To be viable, the system must be financially feasible. At this point, there is insufficient data to determine the financial feasibility of a zero-emission container mover system.

Port/railyard interfacing: The system must integrate with marine terminal and railyard operations. The throughput of the system depends upon the functionality of the interfaces. As yet, none of the systems are service-proven.

Should the Port's demonstration project establish that a zero- or near-zero emission transport technology is operationally and financially feasible, the Port will investigate expanding the system to include the Middle Harbor operations. At this point, it is not financially or operationally feasible to include a zero- or near-zero emission transport technology as a mitigation measure for the Project. However, to help address this concern, the Final EIS/EIR includes a new mitigation measure, **Mitigation Measure AQ-25**, that requires the terminal tenant in 2015 and every five years thereafter, to review new air quality technological advancements for the purpose of implementing new feasible mitigations.

SCAQMD-28. The Project air quality analysis is based on terminal and operational activities that pertain to the maximum capacity of the Project facility. It is unlikely that actual throughput levels would exceed those evaluated in the Final EIS/EIR. Additionally, a given amount of cargo throughput could result in substantially different emissions depending upon its form of transport and handling. Therefore, if the Project exceeds throughput values used in the Final EIS/EIR analyses for years 2010, 2015, 2020, or 2030, the Port will estimate annual emissions for these years and compare them to the annual emission estimates presented in the Final EIS/EIR. If these actual annual emissions exceed those in the Final EIS/EIR for a given year, the Port would apply new or additional mitigations as part of the requirements of Final EIS/EIR, new **Mitigation Measure AQ-26**, periodic throughput tracking:

AQ-26: Annual Cargo Throughput Monitoring. Every five years, the Port shall compare actual cargo throughput that occurred at the terminal to the cargo assumptions used to

⁵ Alternative Goods Movement Technology Analysis, I-710 Initial Feasibility Study prepared by URS Corporation for Los Angeles County Transportation Authority, January 6, 2008.

⁶ Ibid.

develop the Final EIS/EIR. The years used in this analysis shall include 2015, 2020, 2025, and 2030. The Port shall calculate annual air emissions associated with these throughput levels (for OGV, assist tugs, locomotives, cargo handling equipment, and trucks) and compare them to the annual air emissions presented in the Final EIS/EIR. If actual emissions exceed those presented in the Final EIS/EIR, then new/additional mitigations would be applied through **Mitigation Measure AQ-25**.

SCAQMD-29. RL-3 is a CAAP measure that applies specifically to modifications to railyards. The construction of a long lead track between the Pier G railyard and the Pier G mainline tracks does not constitute a redevelopment of the Pier G railyard. The redevelopment of the Pier G railyard is not planned as part of this Project. Therefore, this modification does not trigger CAAP measure RL-3. Therefore, no revisions to the Final EIS/EIR are required.

SCAQMD-30. Please see response to comment SCAQMD-2 for discussion regarding the analysis of peak daily emissions associated with overlapping Project construction and operational activities.

The emission estimates provided for years 2010, 2015, 2020, and 2030 match evenly spaced milestones used in the Draft and Final EIS/EIR to define activity data associated with the Project alternatives as shown in Draft and Final EIS/EIR Table 1.6-10. The analyses provided in response to comment SCAQMD-2 also verify that the year of peak daily unmitigated and mitigated emissions from Project operations would occur in year 2010 and not an interim year between these milestones.

SCAQMD-31. It is acknowledged that the accounting of how existing and proposed regulations and mitigation measures affect the emission scenarios presented in the EIS/EIR is complex. The Draft EIS/EIR adequately simulates the effects of currently adopted regulations on future emissions for each Project scenario. As discussed under Impact AQ-3 in Draft EIS/EIR Section 3.2.2.3, “the unmitigated Project would produce lower operational emissions compared to the CEQA Baseline levels in 2005. This is the case, as due to currently adopted regulations (Table 3.2-9), most unmitigated Project vehicle fleets would turn over to substantially lower emission standards with time, compared to 2005 existing conditions. These lower emission rates would offset throughput increases and activities associated with the Project.” In other words, the Draft EIS/EIR does not specifically attribute these emission reductions to the Project. Additionally, unmitigated scenarios do include emission reductions that are associated with the implementation of Port-wide CAAP measures (Draft EIS/EIR Table 3.2-9). However, **Mitigation Measures AQ-4 through AQ-11** that are proposed in the Draft EIS/EIR are attributed to implementation of the Project, as these control measures (e.g., **Mitigation Measure AQ-5**, Shore-to-Ship Power) could not be put in place unless the terminal is redeveloped and a new lease is established that includes these mitigation measures. Section 3.2.2.2 of the Final EIS/EIR includes clarifications of the emission control measures/regulations that apply to each unmitigated/mitigated Project scenario.

In addition, the definition of the CEQA Baseline established by the Port is in strict compliance with the CEQA Guidelines (CEQA Guideline 15125(a) and 15126.2(a)).

SCAQMD-32. The comment requests additional clarification regarding the methodology and assumptions used in determining the construction emissions and peak daily construction emissions. In response to the request in the comment, Table 3.2-10 in Final EIS/EIR Section 3.2.2.2 includes a tabulation of applicable regulations/assumptions used in the estimation of construction emissions. Draft EIS/EIR Section 1.6.3.1 and Appendix A-1 (Tables A.1.1-Alt1-1 through A.1.1-Alt1-158) include specific activity data associated with construction of the Project, such as those identified in the comment. Final EIS/EIR Appendix A-1 (Section 2) more clearly specifies the locations of the requested data in these tables, as providing a substantial amount of technical data in the text would not improve the readability of the document. OGV would not take part in proposed construction activities, including crane delivery or delivery of construction-related cargo.

SCAQMD-33. Project construction has to comply with SCAQMD Rule 403, which essentially prohibits dust from blowing beyond the Project property line. The Project air quality analysis assumes that for the unmitigated construction scenario to comply with Rule 403, it would require a high level of dust control. Hence, the selection of a 75 percent control rate achieved with rigorous watering of the construction site. To achieve the mitigated dust control level of 90 percent would require applying water at least every two hours during construction.

According to an EPA study, a dust control level of 74/95 percent can be achieved on unpaved roads by watering every 3-4/2 hours, respectively (<http://www.cdc.gov/niosh/mining/pubs/pdfs/hrdcf.pdf>). Additionally, test results discussed in the Western Regional Air Partnership (WRAP) Fugitive Dust Handbook (September 2006), show similar control efficiencies.

As stated in response to comment SCAQMD-13, implementation of the additional fugitive dust control measures requested by the SCAQMD that are included in Final EIS/EIR **Mitigation Measure AQ-1** will assist in achieving the 90 percent control efficiency. The Project construction contractor would be required to comply with this level of fugitive dust control through the bid specification issued for the Project.

SCAQMD-34. The requested additional construction mitigation measures will be included as specifications/conditions for the Project construction contractor, with the qualifier that they shall be implemented, if feasible. The measure in the first bulleted paragraph is included in Final EIS/EIR **Mitigation Measure AQ-2a**, as stated in response to comment SCAQMD-14. The measures in bulleted paragraphs two through eight are included in Final EIS/EIR **Mitigation Measure AQ-2b**, as stated in response to comment SCAQMD-12. The measure in the last bulleted paragraph is included in Final EIS/EIR **Mitigation Measure AQ-1**.

The Final EIS/EIR includes new **Mitigation Measure AQ-2b** that would reduce air quality impacts from Project construction traffic, with the qualifier that they shall be implemented where feasible:

AQ-2b: Construction Traffic Emission Reductions. The construction contractor shall implement the following measures to further reduce emissions from construction:

1. Trucks used for construction (a) prior to 2015 shall use engines certified to no less than 2007 NO_x emissions standards and (b) in 2015 and beyond shall meet EPA 2010 emission standards;
2. Provide temporary traffic control such as flag person, during all phases of construction to maintain smooth traffic flow;
3. Schedule construction activities that affect traffic flow on arterial systems to off-peak hour where possible;
4. Re-route construction trucks away from congested streets or sensitive receptor areas;
5. Provide dedicated turn lanes for movement of construction trucks and equipment on- and offsite;
6. Configure construction parking to minimize traffic interference;
7. Improve traffic flow by signal synchronization;
8. All vehicle and equipment will be properly tuned and maintained according to manufacturer specification; and
9. Reduce traffic speeds on all unpaved roads to 15 miles per hour or less.

SCAQMD-35. The Port does not intend to use contaminated sediments as proposed landfill materials nor would these materials have a VOC concentration of 50 ppm or greater. Therefore, SCAQMD Rule 1166 is not applicable to proposed landfilling activities. Proposed construction would follow an approved fill plan that prevents the use of contaminated sediments.

Final EIS/EIR Section 1.6.3.1 (Construction Phase 2) has been revised to clarify that the Project does not intend to use any contaminated soil. Should it be determined that the excavated soil is contaminated, the requisite reviews and permits will be performed to ensure compliance with all applicable appropriate regulatory and permitting requirements, including Rule 1166.

SCAQMD-36. The source of electricity for the proposed electric dredges would come from Pier T. No diesel generators would be utilized. The Pier T infrastructure allowing for electric dredging was built expressly for this purpose.

SCAQMD-37. Draft EIS/EIR Table 3.2-9 has been revised with updated information, as presented in Table 3.2-11 of the Final EIS/EIR. The text of Final EIS/EIR Appendix A-1 (Section 3.0) more clearly references the locations of operational source emissions assumptions to the tables in Appendix A-1 Attachments A.1.2 and A.1.3, such as those requested in the six bulleted items in the comment. This approach was followed as providing a substantial amount of technical data in the text would not improve the readability of the document.

Regarding the last paragraph of the comment, the Draft EIS/EIR air quality analysis assumed that all OGV in all Project scenarios would comply with the VSRP, as shown in Draft EIS/EIR Table 3.2-9. The Draft EIS/EIR air quality analysis also assumed that OGV in all Project scenarios would use 0.2 percent sulfur diesel in their auxiliary engines, although this is not correctly shown in Draft EIS/EIR Table 3.2-9. Lastly, the Draft EIS/EIR air quality analysis assumed that OGV in the unmitigated Alternatives 1 and 2 scenarios would use 0.2 percent sulfur diesel in their main engines in the estimation of emissions in Draft EIS/EIR Tables 3.2-16, -17, -32, and -33, although this is not shown accurately in Draft EIS/EIR Table 3.2-9. Final EIS/EIR Table 3.2-9 includes the correction. However, the HRA performed for the unmitigated Alternatives 1 and 2 scenarios in the Draft EIS/EIR and Final EIS/EIR assumed that OGV would use 2.7 percent sulfur diesel in their main engines.

SCAQMD-38. The comment requests that the Final EIS/EIR includes all emissions that would occur in the state of California. This is a new request. It was not included in the SCAQMD comments on the Project NOP. The air quality analysis in the Draft EIS/EIR focused on the SCAB region, as this is where the Project would produce the highest spatial concentration of emissions. The regulatory scheme relating to air quality is based upon a network of distinct geographic air basins. Thresholds of significance are basin-specific, and are based about the criteria pollutants generated within the basin.

Criteria pollutant emissions were quantified within the SCAB and compared to the SCAQMD emission thresholds for SCAB to determine the significance of regional emission impacts. The Project would generate substantially more emissions within the SCAB than any other affected air basin. The Port acknowledges that criteria pollutant emissions from Project operations also would occur across numerous other air basins beyond the SCAB and beyond California borders. Due to the intermittent nature of Project truck and train trips outside the SCAB, their emissions would produce substantially lower impact concentrations compared to Project emissions within the SCAB. As a result, Project emissions outside of the SCAB would produce less than significant air quality impacts. Therefore, calculation of emissions from Project sources that operate beyond the SCAB is deemed unnecessary for purposes of CEQA.

SCAQMD-39. The comment requests clarification of the enforcement measures for the VSRP under the unmitigated Project scenario. Draft EIS/EIR **Mitigation Measure AQ-4** (Expanded VSRP) requires the all OGV that call at the Middle Harbor container terminal shall comply with the expanded VSRP of 12 knots from 40 nm from Point Fermin to the Precautionary Area beginning in Project year 1. This measure equates to CAAP measure OGV1, which is a Port-wide requirement for terminal lease renewals. The Project terminal lease agreement would require all OGV that call at the terminal to comply with CAAP measure OGV1 under the unmitigated Project scenario. Section 3.2.4 of the Final EIS/EIR (MMRP) includes monitoring and enforcement mechanisms to ensure appropriate implementation of all mitigation measures. The MMRP would be certified by the Board of Harbor Commissioners and

adopted as a Project lease condition. As evidence that this is an achievable compliance rate, it should be noted that the existing Middle Harbor container terminals in the baseline year of 2005 achieved a nearly 100 percent compliance rate with the VSRP (POLB 2007d).

- SCAQMD-40.** Commenter requests that the Final EIS/EIR provide the assumptions for annual train projections and recommends that Table 1.6-1 be amended to add percent TEUs going by way of trucks, near-dock rail, and on-dock rail for each alternative, as well as the baseline scenario.

The assumptions are based on a conversion of annual TEUs to annual containers/boxes, with each container/box on average equal to 1.817 TEUs. Thus, the total of 3,320,000 TEUs in 2030 would equal 1,827,188 boxes. Based on mode split, the on-dock containers, which are those boxes being shipped by eastbound rail transport, are estimated to be 16.5 percent of total cargo in 2030 (1,827,188 boxes x .165 = 301,486 annual on-dock boxes). The assumption of train utilization is estimated at 87 percent, meaning that up to 13 percent of the bare tables are empty. (This primarily occurs in the westbound direction.) Thus, 301,486 boxes times 0.87 equals 262,293 boxes. Each train consists of 25 cars, and each car can carry up to 10 containers. Thus, 262,293 boxes divided by 25 cars equals 10,492 boxes, which divided by 10 boxes equals 1,049 trains. The number of trains is then multiplied by 2 to account for trips in both directions (2 x 1049 = 2098). The annual train formula is as follows:

$$\text{Annual Trains} = [(\text{annual on-dock containers} \times 0.165 \times 0.87)/25]/10 \times 2$$

Refer to revised Table 3.5-7 in the Final EIS/EIR, which has been updated with mode split percentage for each of the scenarios. The assumptions for these splits are based on the design of the facility. The Project design balances berth locations, container yard space, on-dock rail, and vehicular access. Each of these elements has been maximized to ensure that cargo efficiently moves to and from vessels with minimum delays to trucks, trains, and ships.

Please refer to response to comment SCAQMD-7 for more detailed information.

- SCAQMD-41.** Just prior to publication of the Final EIS/EIR, it was discovered that the air quality analysis included in the Draft EIS/EIR used an outdated value for the Alternative 1 annual train trips in year 2030 only. The actual estimated number train trips for Alternative 1 for year 2030 is 2,098 trips, which is an increase of 1.8 percent from the 2,061 train trips that were used in the Draft EIS/EIR. Consequently, the daily emissions for Alternative 1 in 2030 were updated in the Final EIS/EIR to correct this issue. The change in train trips results in an underestimation of the annual train trips in the Draft EIS/EIR in years 2030 and beyond by 1.8 percent, or less than 0.43 percent of the total project DPM emissions in 2030. This change has not been incorporated into the HRA in the Final EIS/EIR because inclusion of this revised information would result in an immeasurable increase in the cancer risks estimated for the unmitigated and mitigated Alternative 1 scenarios in the Final EIS/EIR. Additionally, as discussed in Final EIS/EIR Section 3.2.2.3, under Impact AQ-6, with respect the HRA cancer results for unmitigated Alternative 1 (Table 3.2-24) and the mitigated Alternative 1 (Table 3.2-25), ships and trucks are the major emission sources that contribute to the maximum cancer risk values. Thus, a small 1.8 percent increase in annual train emissions would not be expected to change the overall maximum cancer risk results of the cancer risk analysis for Alternative 1. Consequently, project-specific cancer, acute, and chronic risk impacts for all Project alternatives under both NEPA and CEQA would remain less than significant.

The number of annual train trips for Alternative 2 identified in Table 1.6-1 are correct. The Draft EIS/EIR air quality analysis for Alternative 2 used the correct number of annual train trips, as shown in Tables A.1.2-Alt2U-19 and A.1.2-Alt2M-19, which are not the tables referenced in the comment. The comment references A.1.3-Alt2M-19 and A.1.3-Alt2U-19. Those two tables do have a typographical error. Specifically, Tables A.1.3-Alt2U-19 and A.1.3-Alt2M-19, which pertain to data used to estimate peak daily emissions for unmitigated and mitigated Alternative 2, inadvertently showed the annual number of train trips for Alternative 1 and not Alternative 2 (this tabular error has been corrected in the Final EIS/EIR). The estimation of peak daily locomotive emissions for Alternative 2 did not use these annual

data. Rather, the analysis used the peak daily train trips shown in these tables. However, the estimation of peak daily railyard equipment (RYE) is in part based upon the ratio of peak day versus annual train trips. Therefore, emissions for RYE are overestimated in 2010 by 4.9 percent and underestimated in 2015, 2020, and 2030 by 0.3, 0.8, and 1.7 percent, respectively. Review of Tables A.1.3-Alt2M-33 and A.1.3-Alt2U-33 show that revising the RYE emissions with these correct inputs would produce imperceptible changes to total peak daily emissions for Alternative 2, as RYE produces less than 1.5 percent of any pollutant (CO) during the peak day. Therefore, no revisions to the Final EIS/EIR are deemed necessary.

SCAQMD-42. The comment requests clarification of the OGV sulfur fuel assumptions used in the Project air quality analysis. Please see responses to comments SCAQMD-5 and SCAQMD-37. The unmitigated Project scenarios would operate according to the ARB Fuel Sulfur Regulation for OGV, meaning use of 1.5/0.1 percent sulfur fuel in Project year 1/year 2012. The mitigated Project scenarios would implement **Mitigation Measure AQ-6** in Project year 1, which requires the use of 0.2 percent sulfur diesel in OGV auxiliary generators and main engines. Beginning in year 2012, the mitigated Project scenarios would use 0.1 percent sulfur diesel in auxiliary generators, main engines, and boilers and consistent with the requirements of the ARB Regulation. For the years prior to 2012, the mitigation measure is more stringent than the ARB Fuel Sulfur Regulation. Table 3.2-9 in the Final EIS/EIR has been revised to show these assumptions.

SCAQMD-43. To create a worst-case peak daily emissions scenario, the analysis maximized the amount of cargo that could move through the wharf, railyard, and gate. This scenario results in an extreme amount of cargo that would converge in the terminal yard in one day. If the gate throughput handled by CHE were not reduced by 50 percent, the amount of cargo handled by CHE in this scenario would be about 5.5 times the annual average daily terminal throughput. It would be impossible for the proposed CHE to handle this amount of cargo in a normal manner in one day, including unloading/loading truck trailers, sorting, stacking, and distributing cargo to the railyard and wharf. Review of Table A.1.3-Alt1M-31 shows that amount of cargo handling used in the analysis to generate peak day CHE emissions is about 3.3 times the annual average daily terminal throughput for each year of consideration, which is a substantial amount of CHE activity for one day. It is true that all cargo that goes through the gate ultimately gets handled by CHE, but during this hypothetical peak day, it is assumed that 50 percent of the gate cargo essentially would stay on trailers until CHE become available to service them the following day(s). However, the analysis did calculate emissions for all of the truck trips that would transport cargo through the gate during this peak day.

SCAQMD-44. The comment requests clarification of the throughput increase assumptions used in the Draft EIS/EIR. Interim year throughput (2010/2015) is based on forecast market demand and terminal capacity at build-out. This process was described in the terminal throughput protocol; it can be summarized as follows:

1. Estimate terminal capacity at full build-out;
2. Calculate completed terminal's share of overall San Pedro Bay capacity (post 2020);
3. Allocate the 2020 San Pedro Bay container throughput forecast (36.2 million TEU) to individual terminals based on share of overall capacity. (e.g., a terminal with 10 percent of San Pedro Bay container capacity at build-out would receive 10 percent of the projected throughput at 2020.);
4. Calculate compound annual growth rate (CAGR) needed for throughput to grow from most recent observed throughput (NOP) to estimated 2020 throughput; and
5. Interpolate interim year throughput by growing observed terminal throughput at the terminal's CAGR through the interim years (2010/2015).

Interim year vessel activity was estimated by allocating weekly vessel services calling at the terminal sufficient to handle its projected throughput. Neither of these measures (throughput or vessel activity) were limited by physical capacity during the interim years.

This approach is more conservative, from an overall activity and emissions perspective, than estimating interim terminal capacities and limiting interim year throughput based on those capacities. Additionally, this methodology is consistent with the overall level of throughput growth for the Port developed in the long-term forecast project. While it may be reasonable to expect that the construction phasing for Middle Harbor could prevent the terminal from accommodating all of the throughput allocated during interim years, this methodology is more conservative for analysis purposes. No revisions to the Final EIS/EIR are required.

- SCAQMD-45.** Commenter states that the Draft EIS/EIR indicates a decrease in average daily truck trips with a dramatic increase in annual trains from year 2010 to 2015.

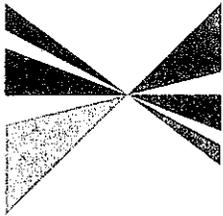
Draft EIS/EIR Table 1.6-4 shows that average daily truck trips decrease from 2010 to 2015 at the same time annual train trips increase significantly. Several rail projects are scheduled to begin construction in 2009/2010 and be fully operational by 2015. As illustrated in Table 3.5-7 on page 3.5-36, approximately 10 percent of cargo throughput is expected to use rail in 2010 under the 345-Acre and 315-Acre alternatives. By 2015, nearly 31 percent of cargo throughput is expected to use rail.

- SCAQMD-46.** Draft EIS/EIR Appendix A-2 provides details regarding the criteria pollutant modeling, while Draft EIS/EIR Appendix A-3 provides details regarding the HRA modeling analysis. Since the emission source configurations are used for both criteria pollutant modeling and HRA analysis, the information was provided in Appendix A-2 (where it is first needed to be described) and Appendix A-3 refers the reader to Appendix A-2 for the details.

Draft EIS/EIR Appendix A-2 (Section 3.1) provides an adequate description of the assumptions used for the physical simulation of construction and operational sources for both the criteria pollutant modeling and HRA analyses. This description is set forth on pages A-2-5 through A-2-9. Appendix A-2 includes modeling emission estimations and calculations of how these emissions are distributed to each modeled source. Final EIS/EIR Appendix A-2 shows the locations of volume sources evaluated in the construction modeling analyses in Figure A-2-1 and provides explanations of the requested source parameters. Additionally, Final EIS/EIR Appendices A-2 and A-3 provide further clarifications and justifications for construction and operational source definitions used in the modeling analysis.

- SCAQMD-47.** Regarding the adequacy of operational emissions data used in the HRA, please see response to comment SCAQMD-46.

In the Draft EIS/EIR HRA, the size (i.e., width and height) of each construction source were erroneously inputted into the AERMOD model as initial vertical and horizontal dimensions. The modeling parameters have been corrected and were used to revise the Project HRA and they are included in the HRA impact summary tables for each project alternative in the Final EIS/EIR. These revisions slightly reduced the maximum cancer impacts to occupational receptors for each Project alternative and otherwise had no effect on maximum cancer risks to other receptor types. Realizing that this correction slightly reduced the predicted pollutant impacts for construction sources and therefore to be conservative, the criteria pollutant modeling analyses were not revised in the Final EIS/EIR.



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June 12, 2008

Mr. Richard D. Cameron
Director of Environmental Planning
Port of Long Beach
925 Harbor Plaza
Long Beach, CA 90802

RE: SCAG Clearinghouse No. I 20080291 Port of Long Beach Middle Harbor Redevelopment Project

Dear Mr. Cameron:

Thank you for submitting the **Port of Long Beach Middle Harbor Redevelopment Project** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Port of Long Beach Middle Harbor Redevelopment Project**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time.

A description of the proposed Project was published in SCAG's **May 1-31, 2008** Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1857. Thank you.

Sincerely,

LAVERNE JONES, Planning Technician
Environmental Planning Division

SCAG-1

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Southern California Association of Governments, June 12, 2008

- SCAG-1.** The comment concurs with the Draft EIS/EIR findings that the Project is not regionally significant per SCAG Intergovernmental Review Criteria and CEQA Guidelines (Section 15206). Therefore, no revisions to the Final EIS/EIR are required.

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CITY OF COMMERCE

Joe Aguilar
Mayor Pro Tem

August 13, 2008

Dr. Robert G. Kanter, Ph.D.
Director of Environmental Affairs & Planning
Port of Long Beach
925 Harbor Plaza
Long Beach, CA 90802

Subject: Middle Harbor Redevelopment Project EIR

Dear Doctor Kanter:

The purpose of this letter is to provide you with our initial comments regarding the Middle Harbor Redevelopment Project Draft Environmental Impact Report (EIR). The document consisted of three distinct elements that included a Draft EIR, a Draft Environmental Impact Statement (EIS), and the Application Summary Report. The report in its entirety was nearly 3,500 pages in length and covered a wide range of issues. Given the length and scope of the document, we were surprised that no mention was made regarding the proposed project's impact on the intermodal facilities in Commerce which are operationally connected to the Port's intermodal activity. The Long Beach Port operations have had, and will continue to have, a direct and measurable impact on the intermodal facilities in the City of Commerce. An expansion of the Port's capacity along with the increased truck and train traffic will certainly translate into increased truck and train traffic in the Commerce community.

CC-1

The EIR/EIS evaluated the potential impacts of the proposed project together with a wide range of project alternatives which are required pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Our comments are generally limited to the analysis completed for the *Alternative 1 - 345-Acre Alternative* that is identified as the proposed project. We have also limited our comments to those specific issues that are of immediate concern to the City of Commerce. Our comments address the proposed project's potential for generating air quality, traffic, noise, and environmental justice impacts that could affect Commerce. Simply stated the EIR/EIS fails to recognize and analyze the operational and synergistic nexus between the Port of Long Beach and the intermodal facilities in Commerce.

CC-2 **Overview of the Proposed Project:**

The proposed project involves the following elements according to the project description provided in the draft EIR/EIS:

- The rehabilitation and/or replacement of deteriorated and obsolete terminal facilities;
- The provision of deep water berth facilities and the dredging of basins and channels within the port area;
- The creation of new land along with the modernization of marine terminal facilities; and,
- The implementation of certain environmental controls including as a means to accommodate a portion of the predicted future increases in containerized cargo volume and the larger cargo vessels that will be accommodated by the improved facilities.

When completed, the Port project would consist of one consolidated container terminal that would be designed to load and unload containerized cargo to and from ocean-going vessels. When completed in the year 2030, the terminal would accommodate approximately 3,320,000 containers per year. This is an increase of 2,055,979 containers over the existing number of containers handled on an annual basis (an increase of more than 162% over the existing levels). The baseline figure was assumed to be 1,264,021 containers which represented the number of containers handled in 2005.¹ The terminal operations would also result in a maximum of approximately 364 vessel calls per year compared to 185 vessel calls per year in 2005.

Truck trips to and from the Middle Harbor container terminal would also increase from the 2005 baseline average of 6,528 truck trips per day to more than 10,112 truck trips per day in the year 2030.² In addition, 2,098 annual train trips were projected at maximum capacity in 2030 to accommodate the Port's future projected container terminal operations. This is an increase of 1,972 annual trains over the existing baseline of figure of 126 trains per year.

CC-3 **Scope of the Project**

The EIR identified the scope of the project and essentially focused on the project's potential impacts in the port area only. However, the analysis failed to consider the broader impacts associated with the project's operations on the surrounding region and specifically the impacts to Commerce. The intermodal facilities in Commerce are operated in support of the intermodal activities at the Port of Long Beach. By extension, the Commerce facilities

¹ The NEPA baseline figures for container throughput shown in Table 1.6-4 of the draft EIR/EIS projected 2,910,000 containers being handled at the port under full capacity.

² The same NEPA baseline figure for truck trips at build-out without the project was 9,830 trucks per day. Table 1.6-4 also projected more vessel calls under the 2030 baseline (416 per year) compared to that envisioned for the proposed project under build-out (364 per year). While some ambient growth may be assumed, it is unclear how the unimproved facilities could be expected to accommodate more vessel calls compared to the proposed project. The significant port activities identified for the NEPA 2030 baseline are very close to those identified for the proposed project's 2030 build-out. The inflation of the 2030 baseline will reduce the level of impact when comparing the proposed project's impacts in 2030 with the 2030 NEPA baseline.

are port facilities. For example, the annual number of trains would increase from the existing baseline of 126 annual trains to more than 2,098 annual trains at build-out. This increased train traffic would result in an adverse impact, not only on the City of Commerce which contains two of the region's largest rail yards, but also those communities located along the mainline routes. As indicated in the introduction of this letter, any enhancement of the Port's ability to accommodate freight and goods movement will have an impact on those intermodal facilities in Commerce. The draft EIR/EIS needs to indicate the additional train traffic that would be expected in the City of Commerce as a result of the additional train traffic arising from the increased Port operations.

↑
CC-3

The same is true for truck traffic which would increase to the current baseline of 6,528 daily truck trips to more than 10,112 daily truck trips. The draft EIR/EIS only analyzes these impacts as they relate to the port and the immediate area. However, this increased truck traffic and rail traffic would likely have a direct and measurable impact on those communities such as Commerce that contain rail yards, intermodal facilities, mainlines, and warehousing. However, no analysis or indication of the potential localized impact is provided in the draft EIR/EIS. The draft EIR/EIS needs to indicate the truck traffic that would be expected in the City of Commerce as a result of the increased port operations.

Air Quality Impacts

CC-4

The City of Commerce is also concerned that the proposed project will result in localized air quality impacts associated with increased truck traffic and rail traffic. The Bandini rail yard and the Hobart rail yard are among the largest in the western United States and will be a direct recipient of some portion of the increased rail traffic associated with the Port improvements. The increased rail traffic using the Alameda Corridor that will be funneled into these local rail yards needs to be evaluated.

Unfortunately, the draft EIR/EIS fails to mention the nature and extent of truck and rail traffic in Commerce and the attendant emissions that could impact nearby sensitive receptors. A large number of Commerce residents live next door or in the immediate area of these large rail yards and are continually exposed to the emissions from locomotives and trucks. Any increase in rail traffic will have a dramatic and deleterious impact on local residents that are presently exposed to toxic air emissions from the existing rail yard operations. The draft EIR/EIS must include an analysis of local air quality impacts in Commerce arising from the additional truck and train traffic and the analysis must focus on those sensitive receptors located within Commerce.

Ground Transportation

CC-5

The City is equally concerned that the proposed project's growth inducing impacts as they relate to truck traffic. The addition of more than 3,316 truck trips (as measured from the 2005 baseline) over the existing number will lead to significant congestion on the area roadways and freeways. The draft EIR/EIS states that the analysis does not consider mitigation for the freeways because the Port lacks jurisdiction over the Caltrans facilities. However, the EIR/EIS fails to provide any analysis as to the impacts that would be expected

CC-5 outside the Port area from the addition of more than 3,316 trucks per day. These 3,316 additional daily truck trips are only those directly related to Port operations. The increased berth capacity and the attendant increase in containers (an increase of more than 160%) will lead to many more thousands of truck trips that are secondary in nature. The City of Commerce is concerned that the proposed project will have a significant adverse impact on those freeway segments, major thoroughfares, and local streets and roads that directly serve the City. The draft EIR/EIS makes no mention of the potential truck traffic impacts that could be expected in Commerce, a community directly linked to the Port's intermodal operations.

CC-6 **Noise**

The substantial increase in rail traffic and truck traffic will translate into significant increases in mobile noise on local freeways and streets. In addition, the increased container operations at the two rail yards will result in significant stationary noise impacts. The Draft EIR/EIS does not evaluate the proposed project's growth inducing and cumulative noise impacts outside of the port area: specifically, those residential neighborhoods located in Commerce adjacent to the intermodal facilities. The draft EIR/EIS needs to identify the nature and extent of any increased rail and truck operations in the City of Commerce along with the identification of the attendant noise impacts that could affect the thousands of local residents that live next door to those intermodal facilities.

CC-7 **Environmental Justice**

The draft EIR/EIS acknowledges the proposed port project may have an adverse impact on low income and minority populations living and working in the immediate area of the port. As indicated above, the City of Commerce is concerned with the proposed project's truck traffic and rail traffic and the attendant traffic impacts, air quality impacts, and noise impacts on those persons living and working in the City which also includes many minority and low income residents. The analysis of environmental justice needs to consider other affected populations that are located outside the port area. As we have stated repeatedly in our comments, the facilities in Commerce are directly linked to the intermodal activities at the Port. Any changes in the Port's operations will translate into corresponding changes in the operation of local intermodal facilities.

CC-8 **Mitigation**

Throughout this letter, the City has expressed concerns as to the potential for significant and adverse impacts on the community. In the absence of a thorough and complete examination of these impacts, the nature and extent of any needed mitigation is unknown. The draft EIR/EIS must contain mitigation measures that will be effective in eliminating or reducing the impacts of the project on our residents. At a minimum, the mitigation measures that are required to protect Long Beach residents must also be applied to Commerce so our residents are afforded similar protection.

Conclusions

CC-9

Given the failure of the draft EIR/EIS to adequately address the cumulative and growth inducing impacts outside the Port area, the City of Commerce requests that the incomplete analysis be expanded to consider the proposed project's impacts on the City of Commerce and its residents. We also believe that these revisions will require the EIR/EIS to be re-circulated. In this way the City of Commerce, with significant intermodal facilities in service to the Port of Long Beach, may have an opportunity to clearly understand the proposed project's impact on our community.

Should you have any questions or concerns, please do not hesitate to contact our City Administrator Jorge Rifa at (323) 722- 4805.

For the Mayor and City Council,



Joe Aguilar
Mayor Pro Tem

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City of Commerce, August 13, 2008

- CC-1.** The comment suggests that the Draft EIS/EIR fails to analyze the Project's impacts on the intermodal facilities in the City of Commerce. Please see response to comments CC-4 through CC-8 for additional details.
- CC-2.** The comment correctly summarizes the proposed Project description as stated in Draft EIS/EIR Chapter 1 (Section 1.6.3.1).
- CC-3.** Commenter requests additional analysis of the Project's impacts on the broader region. Commenter erroneously assumes that railyards in Commerce, by extension, are port facilities and that any enhancement of the Port's ability to accommodate freight and goods movement will have an adverse impact on those intermodal facilities in Commerce. Commenter requests that information on additional train and truck traffic affecting the City of Commerce be provided.

Train Impacts: As discussed in detail below, the response to this comment regarding rail impacts is two-fold: First, the two main rail corridors, including the BNSF and UP connecting the Ports to the Hobart and East Los Angeles railyards via the Alameda Corridor, have no at-grade crossings in the City of Commerce. There are several rail spurs connecting these two Class I rail corridors to warehouses, industrial uses, and distribution centers in the City of Commerce. Although some of these spurs traverse roadways at-grade, the spurs are not used by Port trains. Trains traveling from the Project would be destined for long-haul destinations outside of the southern California region. Short-haul trips to nearby distribution centers, retail centers, industrial uses, and warehouses will continue to occur by truck. The Project is not anticipated to alter the existing operations of these facilities, and therefore the Project will not have an impact at the at-grade crossings.

Secondly, the number of trains anticipated to traverse Commerce via the Alameda Corridor is contained in Table 1.6-1 of the Draft EIS/EIR. This table indicates that the Project would increase the number of trains traveling from the Middle Harbor container terminal to downtown Los Angeles via the Alameda Corridor from 0.378 per day in 2005 to 5.75 per day in 2020 and beyond, an addition of 5.37 trains per day. The analysis assumed an average length of 7,500 feet for each train. Existing train lengths generally vary from 6,000 to 8,000 feet. The primary rail corridors serving the Ports are grade separated. There will be no traffic impacts resulting from Project generated trains.

Truck Traffic Impacts: The commenter claims that the increase in truck traffic will likely have a direct and measureable impact on Commerce. However, the ultimate source of congestion and delays on transportation facilities in the City of Commerce, including at-grade rail crossings, is from planned and approved land developments and the associated population and employment growth that has occurred on either side of long-standing railroad rights-of-way. The City of Commerce's 2008 General Plan Update⁷ and its certified EIR describe the City as follows: "Industrial uses account for 62.7 percent of the City's land area (2,630 acres) and these activities are located throughout Commerce. Land uses in this category range from warehousing and distribution activities to heavy manufacturing uses. In addition, a substantial amount of land area in the City is devoted to railyards and related railroad uses." As part of the General Plan Update approved in 2008, the City converted some industrial type land uses to retail resulting in the addition of nearly 8,000 daily vehicle trips. In spite of the existing congestion on roadways and freeways, this increase was deemed to have no significant impact, and therefore, no traffic mitigation measures were included.

⁷ <http://www.ci.commerce.ca.us/pdf/EnvironmentalImpact.pdf>

In 2030, Project average daily truck trips are estimated to be 10,112, which is 3,548 above the 2005 CEQA Baseline (Table 1.6-1 in the Draft EIS/EIR). However, this number includes future traffic growth that will occur without the Project. Analyzing the Project’s truck traffic impacts in the City of Commerce using the same methodology that the City uses for analyzing traffic impacts (the Los Angeles CMP Traffic Impact Analysis guidelines), which measures project impacts by comparing “Future without Project” to “Future with Project traffic,” the Project impact is only 518 daily trips. Even if all these trips ran through the City, this number of trips is well-below the nearly 8,000 vehicle trips resulting from the City of Commerce’s General Plan Update (2008), which were deemed by the City to be less than significant.

CMP also includes a significance threshold of 150 trips in any one direction for determining an impact on a freeway. As shown in Table 3.5-23 of the Draft EIS/EIR, in 2030 the peak hour trucks on I-710 will be 131 during the p.m. peak hour in the northbound direction south of Willow Street. Moreover, as explained below, the truck trips would be even fewer in Commerce due to the dispersal of trucks on various other highway routes. This is below the level of significance; therefore, no mitigation is required.

Additional select link analysis was conducted to provide the commenter with more detailed information about the number of Project trips anticipated to travel to Commerce. According to the traffic model, the highest volume of Project trucks traveling on I-710 is 55 trucks in the northbound direction during the p.m. peak hour, which is defined as 4:00 p.m. to 5:00 p.m. Of these trips, the model projects that 20 trucks would exit Atlantic Boulevard in the City during this period. According to the City of Commerce’s General Plan EIR, Atlantic Boulevard carries 28,500 trips per day, including 331 trips during the p.m. peak hour. Thus, the addition of 20 Project trucks is anticipated to result in less than a significant impact.

A select link analysis of the traffic model was also conducted to compare the difference in traffic volumes between 2030 with and without Project scenarios. When the “Future with Project” is compared to the “Future without Project”, the analysis reveals that there is a nearly immeasurable difference with the Project, as the Project would result in no additional truck trips on the I-710 north of I-105. The No Project Alternative (2030) actually results in more truck trips in Commerce than the Project or alternatives in the northbound direction.

Location	2030 Project p.m. Peak Hour (northbound)	2030 No Project p.m. Peak Hour (northbound)	2030 p.m. Peak Hour Difference (northbound)	2030 Project p.m. Peak Hour (southbound)	2030 No Project p.m. Peak Hour (southbound)	2030 p.m. Peak Hour Difference (southbound)
I-710 North of I-405	173	141	32	113	98	15
I-710 North of SR-91	85	79	6	62	59	3
I-710 North of I-105	55	56	-1	46	46	0
I-710 at Atlantic Blvd	22	33	-11	16	15	1
Atlantic Blvd. NB Off-Ramp	12	9	3	16	15	1

CC-4. The Final EIS/EIR provides an adequate analysis of air quality impacts for NEPA/CEQA purposes. Annual and daily emissions generated by Project truck traffic that would travel through the City of Commerce to their first point of rest are included in the Draft EIS/EIR. These truck trip destinations would include the Bandini and Hobart railyards. Implementation of the expanded Pier F intermodal railyard would reduce the number of truck trips generated between the POLB and Bandini and Hobart railyards compared to existing conditions and, therefore, would reduce localized impacts from truck traffic to all receptor types within the City of Commerce.

The Draft EIS/EIR also estimated annual and daily emissions from Project trains that would travel through the City of Commerce. These trains would not stop at the Bandini and Hobart railyards and therefore impacts attributed to these sources are not directly the result of these facilities. The evaluation of train trips generated out of these railyards due to Project cargo

was not evaluated in the EIS/EIR, as they are deemed to be the responsibility of these facilities and not the Port. In the absence of the expanded Pier F intermodal railyard, train trips generated by Project cargo still would occur through the City of Commerce, as they would be generated by other near-dock railyards or the Bandini and Hobart railyards.

The ARB is in the process of evaluating and mitigating air quality impacts from these and other railyards in California. These analyses evaluate existing plus future growth emission scenarios from these facilities. Information on ARB's Railyard Emission Reduction Program, including HRAs and air quality mitigation plans for the Bandini and Hobart railyards, is available on the ARB website at <http://www.arb.ca.gov/railyard/railyard.htm>.

- CC-5.** Commenter incorrectly asserts that the Draft EIS/EIR does not analyze the effects that the Project's additional direct and secondary truck trips will have on the freeway segments, major thoroughfares, and local streets and roads that serve the City, and considers only the effects of truck trips directly related to Port operations. Commenter further states that the Project does not consider mitigation for the freeways.

Please refer to response to comment CC-3 for a detailed explanation, including a table that summarizes anticipated Project truck trips in Commerce. Please also refer to responses to comments CT-2 through CT-4 for detailed information about the Project's fair share contribution to the I-710 Corridor Project.

- CC-6.** The comment implies that the Project would have cumulative noise impacts at sensitive receptor locations adjacent to intermodal facilities in the City of Commerce due to increased rail and truck operations. However, even though Project operations would generate significant truck traffic impacts on the Port's perimeter roadways (Draft EIS/EIR Section 3.5.2.3). As stated in Draft EIS/EIR Section 3.9.2.3 (Impacts NOI-1.2 and NOI-2.2), Project operations would contribute no more than 0.5 dB to ambient noise levels in the vicinity of the Port and would not exceed LBMC maximum noise levels adjacent to sensitive receptors sites on local surface streets and the Port's perimeter roadways. Both rail and truck traffic from the proposed Project would be less in Commerce than in the immediate vicinity of the Port because Project rail and truck traffic would disperse in different directions. Consequently, the less than significant noise levels near the Port would be even lower in Commerce, including at sensitive receptors near the intermodal facilities. As explained in Section 3.5 of the Draft EIS/EIR and in responses to comments CC-3, CC-5, and CC-7, the Project's rail and truck traffic does not cause significant impacts in the City of Commerce. Consequently, Project operations would not generate significant noise impacts at sensitive receptor locations adjacent to City of Commerce intermodal facilities. As a point of clarification, freeways and interstate highways across the nation serve as transportation corridors for regional goods movement. Additionally, the comment does not acknowledge the contribution of planning by local land use agencies in the region to reduce noise impacts on sensitive receptors adjacent to intermodal facilities. For example, truck and rail operations that support intermodal facilities in the City of Commerce are a direct result of the land use permitting of intermodal facility operations. Truck and rail traffic that transports containers to and from intermodal facilities in the City would have been addressed in the CEQA analysis conducted for those facilities. Therefore, no revisions to the Final EIS/EIR are required.

- CC-7.** Commenter asserts that the analysis of environmental justice needs to consider the effects of additional truck trips on the affected minority and low-income populations of Commerce.

Please refer to response to comment CC-3 regarding City of Commerce's General Plan Update (2008) EIR determination of less than significant traffic impacts, as well as the CMP traffic impact discussion. No mitigation measures were identified in the General Plan EIR because the traffic generated by the planned goods movement land use types was deemed to be less than significant. As the Project traffic impacts are well below the threshold of significance in Commerce, no mitigation is required. Even though the Project would not have

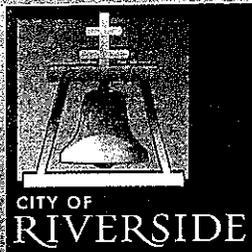
a significant impact on the community of Commerce, it should be noted that the Los Angeles County Metropolitan Transportation Authority (Metro), in cooperation with Caltrans, is managing the preparation of an EIS/EIR for the I-710 Corridor Project. Preparation of the EIR/EIS includes a comprehensive public outreach process to address key issues, such as environmental justice. Several stakeholder groups participate in guiding the project alternatives, including elected officials, residents, and technical staff from various agencies and each City adjacent to the freeway. The City of Commerce has been actively involved in participating in the design of the proposed freight corridor, which is envisioned as four truck lanes connecting the railyards to the Ports. The freight corridor alternative would address several of the issues raised by the commenter. As stated in response to comment CT-2, the Port is committed to working with Caltrans and regional transportation agencies to improve the transportation system and mitigate the impacts of goods movement. The Project's anticipated fair share for I-710 improvements is included in Draft EIS/EIR Section 3.5 (Table 3.5-23).

CC-8. This comment incorrectly asserts that the Project affords mitigation measures to Long Beach residents that are not extended to additional areas, including the City of Commerce. Consistent with NEPA and CEQA requirements, the Draft EIS/EIR incorporates all feasible mitigation measures to address the significant impacts of the proposed Project. If those impacts occur in Long Beach, then the mitigation measures would apply in Long Beach. If, however, a significant impact of the proposed Project had been identified in Commerce, then feasible measures to mitigate the impacts in Commerce would have been imposed on the Project. Because the Draft EIS/EIR found no significant impacts in Commerce, no specific mitigation measures applicable only in Commerce have been identified.

The Draft EIS/EIR incorporates all feasible mitigation measures to address the significant environmental impacts of the proposed Project. The Draft EIS/EIR incorporates all feasible mitigation measures that reduce impacts on air quality, transportation, noise, and environmental justice from proposed construction and operational activities that are capable of being accomplished in a successful manner within a reasonable period of time, taking into consideration economic, environmental, legal, social, and technological factors (CEQA Guidelines Section 15364). Accordingly, the analysis presented in the document meets the requirements of NEPA and CEQA.

Please see response to comment CC-4. In addition to the mitigation measures proposed by the ARB through the Railyard Emission Reduction Program, **Mitigation Measure AQ-8**, Heavy Duty Trucks, which requires container trucks that call at the Middle Harbor container terminal to comply with the Port's CTP tariff, would reduce localized air quality impacts from Project trucks that travel in the City of Commerce. Additionally, many other Project mitigation measures would directly reduce the impact of Project emissions that may occur in the City from the POLB and offshore waters. Conversion of the national line haul locomotive fleet to adopted EPA Tiers 3 and 4 non-road standards also will substantially reduce emissions from Project trains that traverse through the City in future years.

CC-9. This comment suggests that the Draft EIS/EIR fails to address cumulative and growth inducing impacts outside the Port area and requests recirculation of the Draft EIS/EIR. The Draft EIS/EIR incorporates programmatic, project-specific, and cumulative analyses for all environmental issue areas that would potentially be impacted by the proposed Project. The Draft EIS/EIR has appropriately evaluated the Project's environmental effects and identified mitigation measures and reasonable alternatives to avoid significant environmental impacts. Accordingly, the USACE and the Port believe that the analysis presented in the document meets the requirements of NEPA and CEQA and therefore, recirculation is not warranted.



Office of the
City Attorney

August 12, 2008

Richard Cameron
Director of Environmental Planning
Port of Long Beach
925 S. Harbor Plaza
Long Beach, CA 90802

Subject: CEQA Research; Our File No: 08-0567

Dear Mr. Cameron:

The City of Riverside appreciates this opportunity to review the Draft EIR/EIS (the "DEIR") for the Middle Harbor Redevelopment Project (the "Project"). At this point in the process, Riverside submits the following comments:

CR-1

- The data and calculations underlying rail trips were not included in the DEIR Appendix J, the rail analysis, provides nothing more than 8 small, cryptic tables. There are no explanations, assumptions, or other data to support those numbers. There is no way to verify the timeliness, accuracy, applicability, or even the existence of the data. Those data must be included and analyzed in the DEIR discussions and analysis, or at the very least, in the appendix. Otherwise, those cursory and unexplained numbers are not substantial evidence and cannot support an environmental analysis or decision.

- The DEIR rail discussion is internally flawed. For example, page 16 of the Traffic Study states that the baseline number of rail trips is 138 per year, but there will be 2,098 per year at capacity, "a 94 percent increase." That is actually a 1,520 percent increase. There is no information in the DEIR to explain or verify those figures. The rail trip impact discussion is factually and analytically inadequate, and must be revised.

CR-2

- The DEIR refers to "on-dock" and other rail facilities, but they are never defined. Without knowing what an on-dock facility is, compared to the other types mentioned in the DEIR, one cannot effectively evaluate the rail discussions and analyses.

CR-3



AUG 14 2008

- CR-4 • The DEIR does not specify whether the rail trips are one-way or round-trip. If the trips are round-trip, as with the Port of Los Angeles China Shipping Terminal Project RDEIR, then the rail impacts are actually double the reported values.
- CR-5 • The China Shipping Terminal Project at the adjacent Port of Los Angeles will also generate rail traffic. That cumulative analysis was not performed, but must be.
- CR-6 • In section 3.6, the DEIR admits that increased rail traffic will cause adverse traffic impacts, particularly at “at-grade crossings.” Yet, the RDEIR claims those impacts are not feasible to mitigate. That is incorrect. “Grade separations” are common, accepted, and effective mitigation of at-grade rail impacts by vertically separating the rail and vehicular traffic. There is no explanation given to support the conclusion that grade separations are infeasible.
- CR-7 • The project-derived rail freight will eventually travel north and east. There are limited rail lines leading east; in fact, there are only two – the Union Pacific and the Burlington Northern Santa Fe. As a result, the increase in rail traffic flowing east can easily be estimated, and so can the impacts from those increases. The Port need not control the rails to know where the freight is going, and how much freight is moving. The baseline and with-Project number of trains can be estimated also. Given that there will be impacts from the increase in rail traffic, the Port must analyze those impacts and mitigate them.
- CR-8 • Riverside is particularly impacted by rail traffic. As explained in the attached documents (which are all incorporated in these comments by reference as if set forth in full), Riverside has 26 at-grade main-line rail crossings within the City limits. Riverside is currently burdened with up to 128 trains per day carrying approximately 75% of the containers from the Ports of Los Angeles and Long Beach. According to the DEIR, the project will add 1,960 trains per year. Even presuming that only half of those trips flow east, the Project will increase train traffic in Riverside by 3 more trains per day. That is a significant impact, which becomes even more significant in an already-impacted City. There are also 37 passenger trains competing for rail access through Riverside, further complicating the delays.
- CR-9 • The DEIR is incorrect that there is remaining rail capacity, therefore no impacts. Repeated rail-scheduling conflicts result in serious delays in Riverside, and elsewhere. Adding trains will only exacerbate those conflicts.
- CR-10 • For example, idling vehicles stopped at at-grade crossings contribute 45 tons of air pollutants annually. By 2020, idling vehicles stopped at at-grade crossings will generate 208 tons of air pollutants annually; a staggering 450 percent increase in just 12 years. The Riverside County Department of Health indicates that City

Richard Cameron
August 12, 2008
Page 3

of Riverside children, 5 to 14 years of age, suffer more asthma-related hospitalizations than any other group. CR-10

- Riverside residents are forced to wait an average of three and up to six hours a day per crossing for trains to pass. CR-11
- Police, fire and EMT officials reported 491 delays at Riverside's at-grade crossings between 2002 and 2007. Responder delays averaged 3 minutes and were as long as 21 minutes. CR-12
- During the one-year period from 8/5/2007 to 8/5/2008, Riverside experienced 161 rail-delayed fire trucks and ambulances, for a total of 418 minutes, and an average of 2.6 minutes per delay. Each of those minutes can represent life or death. Heart attack survival rates can drop from 7% to 10% for each minute of delay. Brain damage can occur in 3 to 4 minutes. During that same year, rail delays affected 527 police vehicles, for a total of 1,644 minutes, 3.1 minutes per delay. Again, those minutes can mean life or death.
- The stopped trains and stopped traffic cause local air quality impacts and waste fuel. Disturbed traffic flow can create more dangerous driving conditions. More rail traffic also causes more rail/traffic and rail/pedestrian impacts, and additional noise. CR-13
- Fortunately, grade separations can mitigate the additional rail impacts. Riverside has an active program for grade separations. The Port can readily mitigate the additional rail burden through Riverside by fair-share contributions to grade separations. This does not require the railroads to mitigate. The Port need not control the rails or railroads at all to mitigate this way. CR-14

In closing, Riverside again thanks the Port for the opportunity to comment on the DEIR, and looks forward to working together with the Port to improve and protect the environment. If you have any questions, please do not hesitate to contact me at your convenience.

Very truly yours,



Anthony L. Beaumon
Deputy City Attorney

Attachments

c: Michael J. Beck, Assistant City Manager
Siobhan Foster, Public Works Director

RESOLUTION NO. 21456

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A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERSIDE, CALIFORNIA, ORDERING, CALLING, PROVIDING FOR AND GIVING NOTICE OF A SPECIAL MUNICIPAL ELECTION TO BE HELD IN SAID CITY ON THE 6TH DAY OF NOVEMBER 2007, FOR THE PURPOSE OF SUBMITTING TO THE QUALIFIED ELECTORS OF THE CITY OF RIVERSIDE, CERTAIN AMENDMENTS TO THE CHARTER OF THE CITY OF RIVERSIDE, AND GIVING NOTICE AND ORDERING THAT SAID SPECIAL MUNICIPAL ELECTION IS CONSOLIDATED WITH ALL OTHER ELECTIONS BEING HELD IN THE SAME TERRITORY ON THE SAME DATE.

WHEREAS, the City of Riverside has 27 public highway-rail grade crossings which must be mitigated in order to preserve public safety for the citizens of the City of Riverside; and

WHEREAS, two main freight lines, the Union Pacific (UP) and the Burlington Northern Santa Fe (BNSF), bisect the City of Riverside; and

WHEREAS, approximately 35 freight trains and 12 passenger trains pass through the City on the UP line each day as of June 2007; and

WHEREAS, approximately 52 freight trains and 25 passenger trains pass through the City on the BNSF line each day as of June 2007; and

WHEREAS, the most recent grade crossing separation needs list prepared by the Riverside County Transportation Commission contains the 61 most impacted public highway-rail grade crossings in Riverside County and 27 of those 61 crossings are within the City of Riverside, thereby making the City of Riverside the most impacted City in Riverside County as well as the entire State of California; and

WHEREAS, blockages of these grade crossings creates significant traffic hazards that endanger City residents, and routinely prevent emergency response vehicles from arriving at their destinations in a timely manner; and

WHEREAS, from January 1 through December 31, 2005, trains on the UP line delayed ambulance and fire emergency vehicle responses 78 times. These emergency vehicles were delayed over 227 minutes for an average delay of nearly 3 minutes; and

1 WHEREAS, from January 1 through December 31, 2005, trains on the BNSF line
2 delayed ambulance and fire emergency vehicle responses 61 times. These emergency vehicles
3 were delayed over 146.5 minutes for an average delay of nearly 2.89 minutes; and

4 WHEREAS, from January 1 through December 31, 2006, trains on the UP line delayed
5 ambulance and fire emergency vehicle responses 47 times. These emergency vehicles were
6 delayed by 145 minutes for an average delay of 3.5 minutes, up over one-half minute from 2005;
7 and

8 WHEREAS, from January 1 through December 31, 2006, trains on the BNSF line
9 delayed ambulance and fire emergency vehicle responses 60 times. These emergency vehicles
10 were delayed by 178 minutes for an average delay of 2.96 minutes, an increase over 2005; and

11 WHEREAS, from January 1 through May 21, 2007, trains on the UP line delayed
12 ambulance and fire emergency vehicles responses 25 times. These emergency vehicles were
13 delayed by 79 minutes for an average of 3.16 minutes; and

14 WHEREAS, from January 1 through May 21, 2007, trains on the BNSF line delayed
15 ambulance and fire emergency vehicle responses 57 times. These emergency vehicles were
16 delayed by 177 minutes for an average of 3.1 minutes, an increase once again over the prior year;
17 and

18 WHEREAS, over the past three years, there have been over 9 instances in which a train
19 has stopped on the UP line blocking major thoroughfares in excess of 10 minutes, some in excess
20 of one hour; and

21 WHEREAS, for example, on May 19, 2006, a UP train blocked four grade crossings
22 within the City for a period of 2 hours, including both Magnolia and Riverside Avenues. When
23 approached by Riverside Police Officers, railroad personnel stated that the train was waiting for
24 a new train engineer to be transported to the site and take over operation on the train. On May
25 26, 2006, a UP train again blocked four grade crossings within the City, including the crossings
26 at Magnolia and Riverside Avenues. This blockage lasted for 2 hours and 40 minutes, and
27 because it occurred between the hours of 3:00 and 5:40 p.m., it had a major impact on traffic in
28 the area. When Riverside Police Officers contacted the UP dispatch center to inquire as to the

1 status of the train, UP was unable to provide a reason for why the train had stopped. On June 2,
2 2006, a UP train blocked three grade crossings within the City, including the crossing at
3 Magnolia Avenue. The crossings were blocked in total for 1 hour 45 minutes. Initially, the
4 crossings were blocked for approximately 50 minutes between the hours of 9:40 and 10:30 a.m.
5 when a train stopped on the tracks at the grade intersection. Approximately 10 minutes after the
6 train cleared the grade crossings, a second train stopped and blocked the grade crossings for a
7 period of 25 minutes. Immediately after the second train cleared the grade crossings, a third train
8 stopped and blocked the crossings for approximately 20 more minutes. When Riverside Police
9 Officers contacted the UP regarding the blocked grade crossings, the UP dispatch center stated
10 that it had no record of any stopped trains at the stated location. Most recently, on May 15,
11 2007, a UP train blocked several grade crossings within the City including the crossing at
12 Magnolia Avenue for more than 20 minutes. When City officials contacted UP regarding the
13 blocked grade crossings, the UP dispatch center stated it had no record of any trains stopped at
14 the stated location; and

15 WHEREAS, from December 1, 2006 through April 23, 2007, there were 205 incidents
16 where a responding Riverside Police unit was delayed by a train by the BNSF line, and 99
17 incidents where the responding police unit was delayed by a train on the UP line; and

18 WHEREAS, such delays can be a matter of life or death. According to the guidelines of
19 the American Heart Association, most adults with sudden (witnessed) non-traumatic cardiac
20 arrest are found to be in ventricular fibrillation (VF). For these victims, the time from collapse to
21 defibrillation is the single greatest determinant of survival. The window of opportunity is small.
22 Survival from cardiac arrest caused by VF declines approximately seven to ten percent for each
23 minute without defibrillation. Most causes of cardiopulmonary arrest in infants or children are
24 related to airway or ventilation rather than sudden cardiac arrest. In these victims, rescue support
25 (especially rescue breathing) is essential. Cardiac arrest (clinical death) can develop within 3 – 4
26 minutes if responders are unable to rapidly initiate ventilatory support. When breathing and/or
27 circulation stops, the brain starts to die in 4 – 6 minutes without oxygen. Brain death is usually
28 irreversible after ten minutes; and

1 WHEREAS, the most important elements in limiting fire spread are the quick arrival of
2 fire personnel and equipment to attack and extinguish the fire. Any delay in fire attack allows
3 the fire to grow in intensity and results in additional fire damage. Delays cause firefighters to
4 fight larger, more intense fires. Fire growth occurs exponentially, in that a fire doubles itself
5 every minute of free burning. The National Fire Protection Association indicates that "two
6 minutes can make the difference between no fire and one that is uncontrollable"; and

7 WHEREAS, the most crucial time for a traffic accident victim is the first minutes
8 following the accident when life-saving actions can be administered; and

9 WHEREAS, based upon the factual information set forth above, blocked grade crossings
10 severely limit the ability of emergency response vehicles to access their destinations thereby
11 significantly impairing the ability of police, ambulance and fire personnel to provide timely and
12 critical public safety services; and

13 WHEREAS, no other city in the State of California is as severely impacted with respect
14 to the impacts on the provision of critical public safety services due to train or other vehicle
15 blockages on public highway-rail grade crossings as the City of Riverside; and

16 WHEREAS, the City of Riverside has a critical and substantial interest in the free flow of
17 rail and other vehicular traffic through the City so as to limit these negative impacts; and

18 WHEREAS, the City of Riverside is a Charter City which derives its corporate powers
19 directly from the Constitution subject to the limitations of its Charter; and

20 WHEREAS, Article XI, Section 5(a) of the California Constitution authorizes a charter
21 city to exercise plenary authority over "municipal affairs"; and

22 WHEREAS, the effective provision of police, ambulance and fire safety services, as well
23 as the effective improvement and operation of municipal streets, is a "municipal affair"; and

24 WHEREAS, Article XI, Section 7 of the California Constitution authorizes the City of
25 Riverside to make and enforce within its limits, all local, police, sanitary and other ordinances
26 and regulations not in conflict with general laws; and

27 WHEREAS, in exercise of its police power, the City of Riverside has broad discretion in
28 determining what is reasonable in endeavoring to protect the public health, safety, and general

1 welfare of the community; and

2 WHEREAS, the facts set forth herein establish that the City of Riverside is unlike any
3 other city in the State of California, that the City of Riverside is severely and negatively impaired
4 in its ability to provide critical public safety services to its residents and that this action is critical
5 to protecting the public health and safety of its residents; and

6 WHEREAS, Article XI, Section 3, of the Constitution of the State of California,
7 Elections Code section 9255 and Government Code section 34458 further authorize the City
8 Council, on its own motion, to submit to the qualified electors of the City any ballot measure by
9 ordinance or resolution proposing amendments to the City Charter at any time; and

10 WHEREAS, certain special districts will conduct an election on November 6, 2007.

11 NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Riverside, as
12 follows:

13 Section 1: The City Council, pursuant to its right and authority under California law,
14 hereby orders that the following question be submitted to the qualified electors of the City of
15 Riverside at a special election on November 6, 2007:

16 *Shall the Charter of the City of Riverside be amended to add Section 1406 such*
17 *that:*

18 *No person or entity shall cause or permit any railway train or railway cars or*
19 *similar vehicle on rails or other vehicle to stop or stand or to be operated in such*
20 *a manner as to block any public highway-rail grade crossings and delay the*
21 *response of an authorized emergency vehicle except under bona fide emergency*
22 *circumstances which require the operator to stop or be subject to an*
23 *administrative fine or penalty in the amount of One Hundred Thousand Dollars*
(\$100,000.00) and further be subject to an administrative fine or penalty of Ten
Thousand Dollars (\$10,000.00) for each subsequent minute for which they cause
or permit the violation to remain.

24
25 Section 2: It is the intent of the City Council, in proposing this Charter Amendment,
26 to use its plenary authority over "municipal affairs" pursuant to Article XI, Section 5(a) of the
27 California Constitution, as well as its police power, as provided in Article XI, Section 7 of the
28 California Constitution, to protect the health, safety and general welfare of the community by

1 providing for the effective and timely provision of police, ambulance and fire safety services, as
2 well as the effective operation of municipal streets. It is not the intent of the City Council to
3 regulate interstate commerce, railroad operations or to impair the regulatory powers of applicable
4 state or federal agencies, and the proposed ballot language shall not be construed as so doing.

5 Section 3: That only the qualified electors of the City of Riverside are entitled to vote
6 at said election on this proposal to amend the City Charter and that if a majority of the qualified
7 electors voting on the Charter proposal votes in favor of the proposal, said proposal shall be
8 deemed approved.

9 Section 4: The City Clerk is authorized, instructed and directed to take all action
10 necessary to place the measure described herein on the special municipal election ballot for the
11 special municipal election on November 6, 2007.

12 Section 5: The City Clerk is directed to transmit a copy of the measure to the City
13 Attorney. The City Attorney shall prepare an impartial analysis of the measure pursuant to
14 Elections Code section 9280, showing the effect of the measure on the existing law and the
15 operation of the measure. The analysis shall be printed preceding the arguments for and against
16 the measure.

17 Section 6: That in accordance with the provisions of the Charter of the City of
18 Riverside and the Constitution and Election Laws of the State of California, a special municipal
19 election to be held and the same is hereby called and ordered to be held in the City of Riverside
20 on November 6, 2007, for the purpose of submitting to the qualified electors of the City of
21 Riverside such amendments to the City Charter as may be proposed by the City Council.

22 Section 7: That the polls for said election shall be open at 7:00 a.m. of the day of said
23 election and shall remain open continuously from said time until 8:00 p.m. of the same day,
24 when the polls shall be closed, except as provided in Section 14401 of the Elections Code of the
25 State of California.

26 Section 8: That the City Council consents to the consolidation of the special
27 municipal election hereby called with all other elections being held in the same territory on
28 November 6, 2007, and said elections, where possible, shall be held in all respects as if there

1 were only one election within the City of Riverside and only one form of ballot shall be used in
2 the precincts, and polling places and officers of election for said elections shall be the same as
3 provided for the statewide general election.

4 Section 9: That for the purpose of holding said special municipal election, there shall
5 be and hereby are established consolidated voting precincts, consisting of a consolidation of the
6 regular election precincts in the City of Riverside established for the holding of state and county
7 elections as said regular election precincts exist on the date of this resolution.

8 Section 10: That the form and contents of the ballot to be used at said election shall be
9 as provided by law.

10 Section 11: That in accordance with Section 10002 of the Elections Code, the Board
11 of Supervisors of Riverside County is hereby requested to consent to the Registrar of Voters
12 rendering election services to the City of Riverside as may be requested by the City Clerk of said
13 city, the County of Riverside to be reimbursed in full, for such services as are performed.

14 Section 12: That the elections services of the City of Riverside request the Registrar of
15 Voters, or such other official as may be appropriate, to perform, and that such officer is hereby
16 authorized and directed to perform if the said Board of Supervisors consents, include: the
17 preparation, printing and mailing of sample ballots and polling place cards; the establishment or
18 appointment of precincts, polling places, and election officers, and making such publications as
19 are requested by law in connection therewith; the furnishing of ballots, voting booths and other
20 necessary supplies or materials for polling places; the canvassing of the returns of election and
21 the furnishing of the results of such canvassing to the City Clerk of the City of Riverside; and the
22 performance of such other election services as may be requested by said City Clerk.

23 Section 13: That the City Clerk shall have charge of all City elections pursuant to
24 Riverside City Charter Section 703(f).

25 Section 14: That the City Clerk is hereby designated the "Elections Official" for the
26 purposes of this election pursuant to Elections Code section 320(b).

27 Section 15: That based upon the foregoing authority, the City Clerk shall have charge
28 of this election and shall make all determinations necessary to conducting this election

1 I, Colleen J. Nicol, City Clerk of the City of Riverside, California, hereby certify that the
2 foregoing resolution was duly and regularly adopted at a meeting of the City Council of said City
3 at its meeting held on the 10th day of July, 2007, by the following vote, to wit:

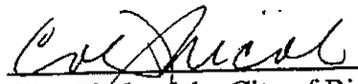
4 Ayes: Councilmembers Betro, Gage, Schiavone, Adkison, Hart, and Adams

5 Noes: Councilmember Melendrez

6 Absent: None

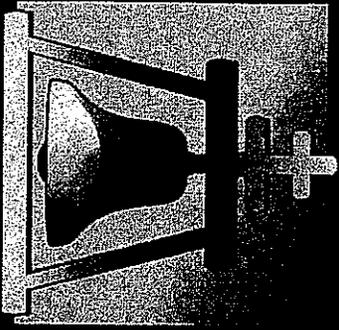
7 Abstain: None

8
9 IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of
10 the City of Riverside, California, this 10th day of July, 2007.

11
12 
13 _____
14 City Clerk of the City of Riverside

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26 [07-1889.1]

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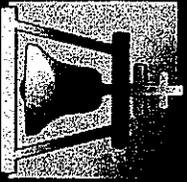


CITY OF
RIVERSIDE

Public Safety Impacts of Train Blockages

Governmental Affairs Committee

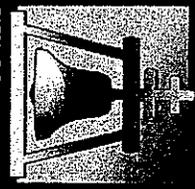
June 25, 2007



CITY OF
RIVERSIDE

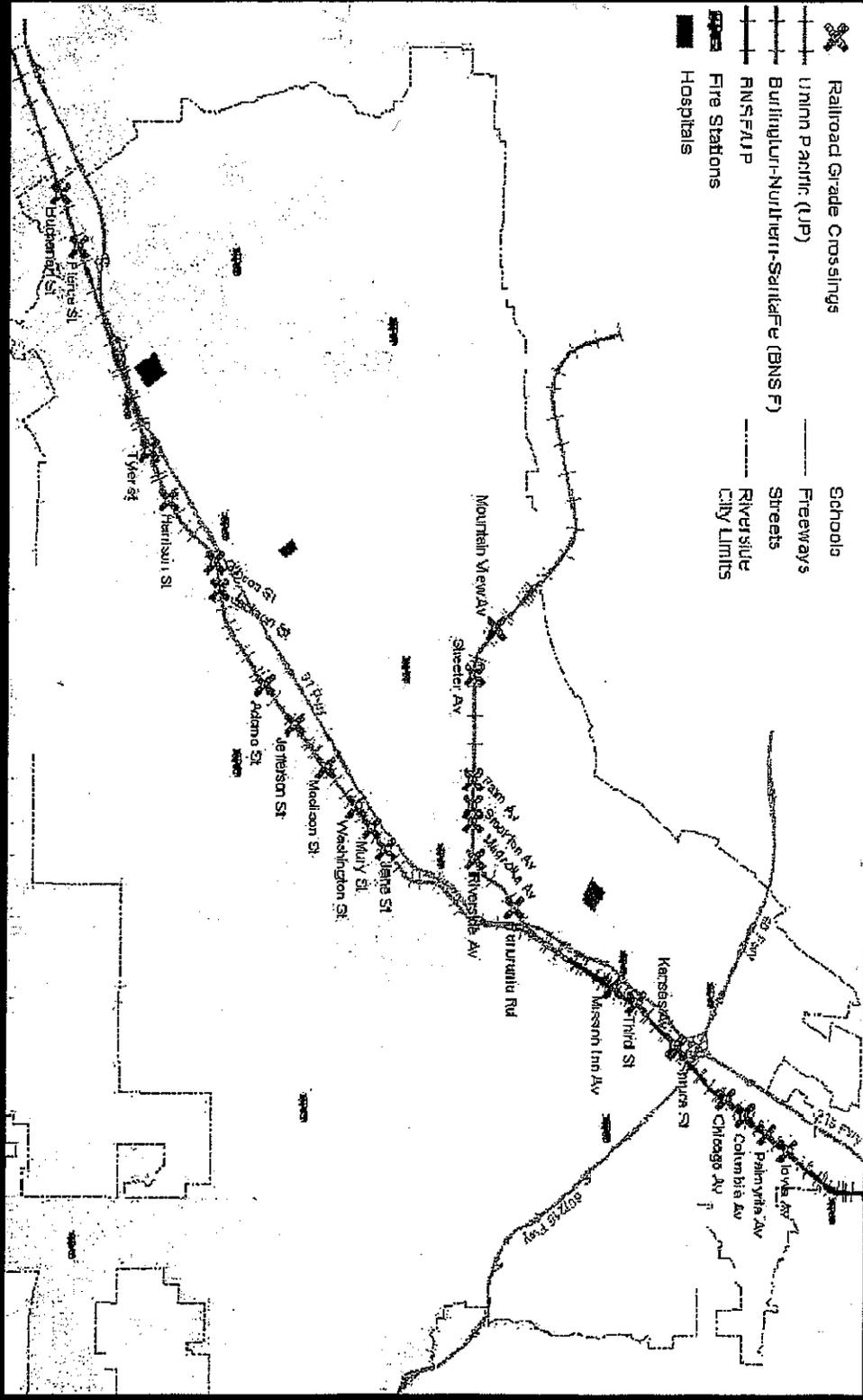
Public Safety Impacts of Train Blockages

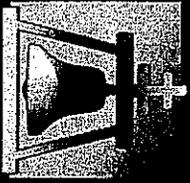
- ◆ 27 at-grade railroad crossings in the City of Riverside requiring mitigation
 - Union Pacific (UP)
 - Burlington Northern Santa Fe (BNSF)
- ◆ Two main freight lines bisect the City of Riverside
 - Union Pacific (UP)
 - Burlington Northern Santa Fe (BNSF)



CITY OF RIVERSIDE

Primary Rail Routes

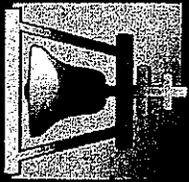




CITY OF
RIVERSIDE

Typical Daily Train Traffic

- ◆ Freight traffic includes:
 - 35 freight trains on the UP line
 - 52 freight trains on the BNSF line
- ◆ Passenger traffic includes:
 - 12 passenger trains on the UP line
 - 25 passenger trains on the BNSF line

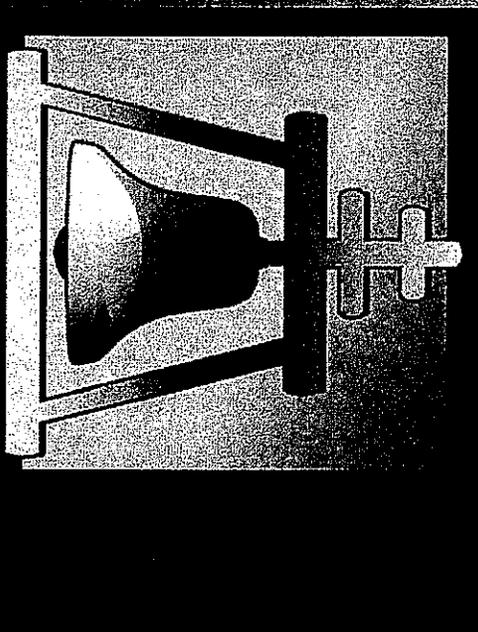


CITY OF
RIVERSIDE

Emergency Vehicle Related Delays

- ◆ To date, 2007 delays include:
 - 82 delayed responding AMR and fire vehicles
 - A total of 256 minutes of delay
- ◆ Dec 1, 2006 to April 24, 2007
 - 270 Police vehicle delays
 - A total of 1,327 minutes (22.12 hours) of delay

CITY OF
RIVERSIDE





THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

September 26, 2006

The Honorable Daniel K. Inouye
Co-Chairman
Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

Dear Senator Inouye: ~~SENATOR,~~ SENATOR,

I am pleased to submit a report by the Federal Railroad Administration (FRA) on the *Impact of Blocked Highway/Rail Grade Crossings on Emergency Response Services*, in response to Section 9004 of Public Law 109-59. The report examines the causes, solutions, and examples of projects that reduce the impact of blocked crossings.

The study was conducted in consultation with State and local government officials, including transportation planners and emergency responders. These groups and others provided significant input into the report, particularly with respect to real-world approaches to resolving blocked crossing problems.

Identical letters have been sent to the Chairman of the Senate Committee on Commerce, Science, and Transportation, and the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure.

Sincerely yours,

A handwritten signature in cursive script that reads "Maria Cino".

Maria Cino
Acting Secretary

Enclosure



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

September 26, 2006

The Honorable Don Young
Chairman
Committee on Transportation and
Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Young: ~~CHAIRMAN,~~

I am pleased to submit a report by the Federal Railroad Administration (FRA) on the *Impact of Blocked Highway/Rail Grade Crossings on Emergency Response Services*, in response to Section 9004 of Public Law 109-59. The report examines the causes, solutions and examples of projects that reduce the impact of blocked crossings.

The study was conducted in consultation with State and local government officials, including transportation planners and emergency responders. These groups and others provided significant input into the report, particularly with respect to real-world approaches to resolving blocked crossing problems.

An identical letter has been sent to the Ranking Member of the House Committee on Transportation and Infrastructure, and Chairman and Co-Chairman of the Senate Committee on Commerce, Science, and Transportation.

Sincerely yours,

A handwritten signature in black ink, reading 'Maria Cino', is written over the typed name.

Maria Cino
Acting Secretary

Enclosure



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

September 26, 2006

The Honorable James L. Oberstar
Ranking Member
Committee on Transportation and
Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Congressman Oberstar: ~~CONGRESSMAN,~~

I am pleased to submit a report by the Federal Railroad Administration (FRA) on the *Impact of Blocked Highway/Rail Grade Crossings on Emergency Response Services*, in response to Section 9004 of Public Law 109-59. The report examines the causes, solutions and examples of projects that reduce the impact of blocked crossings.

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Sincerely yours,

A handwritten signature in black ink that reads 'Maria Cino'.

Maria Cino
Acting Secretary

Enclosure

**Impact of Blocked Highway/Rail Grade Crossings
On Emergency Response Services**

Federal Railroad Administration

August 2006

**Report on the Impact of Blocked Highway-Railroad Grade Crossings on Emergency
Response Services**

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I. Executive Summary

As directed by Congress in the Safe, Accountable, Flexible, Efficient Transportation Equity Act; a Legacy for Users of 2005 (SAFETEA-LU), the Federal Railroad Administration (FRA) has prepared a report regarding the impacts of blocked highway-railroad grade crossings on emergency response providers.¹ In this report, FRA has identified the principal causes of blocked grade crossings.

While every minute can be precious in an emergency, crossings blocked for extended periods of time are a much greater problem than simply having to wait while a train passes through a crossing. A variety of railroad operational issues, described in this report, can lead to trains stopping in a position that blocks a crossing. Given the growth in both rail and highway traffic, it is likely that the problem of blocked crossings will increase in the future.

Railroads and communities around the country, working together, have crafted a number of solutions to the problem. These remedies range from grade separations, which solve the problem completely, to cooperative agreements with the railroads to notify emergency response personnel when a crossing is or may be blocked. Grade separations are expensive and generally are undertaken to address traffic problems caused by blocked crossings, although the advantages for emergency response are a factor in justifying such investments. Monitoring railroad operations, either with radars and cameras at crossings or through contact with the railroad, is much cheaper. When dispatchers are aware that a crossing is or will be blocked by a train, they can route emergency responders to alternative routes. Additionally, railroads have altered their operations in ways that reduce blockages, although often these changes increase railroad costs.

Communities are the best judges of the severity of the problem of blocked crossings. Working with the railroads, they can identify the most cost-effective solution. The existence of relatively inexpensive remedies should allow most communities to take the necessary steps to mitigate the problem.

Railroads must play a key role. They should actively work with communities to identify problems and propose possible remedies. Although railroads have only limited staffs available to work on community issues, this report found numerous examples of active railroad and community cooperation that resulted in projects or procedures to reduce the impact of blocked crossings.

II. Introduction

Section 9004 of SAFETEA-LU, "Report Regarding Impact on Public Safety of Train Travel in Communities without Grade Separation," requires the Secretary of the U.S.

¹ For the purpose of this report, highway-railroad grade crossing refers to any vehicular crossing of railroad tracks, including state and federal highways, county roads and city streets as well as private grade crossings.

Department of Transportation (DOT) to conduct a study of the impacts of blocked highway-railroad grade crossings on emergency response providers - ambulance, fire, and police services. The Federal Railroad Administration (FRA) has conducted this study for the Secretary, gathering information from State and local government officials, emergency responders, and the railroads.

This report describes the sources of the blocked highway-railroad grade crossing problem and reports on possible solutions. The report presents a number of case studies of communities that have experienced blocked grade crossings and solutions that have either been implemented or are in the process of being developed.

In the preparation of this report, FRA has received assistance from a number of entities, including our DOT partners, the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA): a variety of state and local governments and several railroads. We thank them all for their assistance.

III. Methodology

There is no uniform national data collected on blocked crossings or on emergency responder delays. While some individual communities collect information on these subjects, there is no way to extrapolate these experiences into a national picture of delays. Therefore, the approach chosen was to contact those who had knowledge or experience in the area and build on that to create a report that explored the issue on the basis of those who actually dealt with it.

First, FRA sought to better understand the problem as seen by the emergency response community. Working with NHTSA, FRA sent a joint letter to state emergency response directors, soliciting input on their perception of the problem. This led to additional contacts in the emergency medical services (EMS) community, including mention of the study on various EMS-related websites. As a result, FRA received a large number of responses from police, fire, and rescue personnel throughout the country. Their experiences and concerns led to a better appreciation of what they faced and where those problems were most severe.

Additionally, the FRA's regional grade crossing managers, who deal daily with grade crossing safety concerns, were asked to provide any experiences and contacts they might have with regard to emergency response issues.² They provided valuable information on specific crossing concerns in a number of areas as well as identifying locations we might use for case studies.

State DOTs were contacted both to learn of problems and solutions as well as to get their views. They provided valuable contacts and information on the issue, including how state rail programs were working to eliminate or avoid such problems.

² FRA has regional grade crossing managers in each of its 8 regions. See Appendix II for their names and contact information.

Finally, FRA contacted the Class I railroads to learn of their view of the issue, and, in particular, how they were addressing blocked crossings. They provided much valuable information on their operations and on solutions they had identified.

Using the contacts developed, FRA followed up to learn more about what was the cause of blocked crossings and what solutions might be appropriate. The results of these efforts are summarized in the case studies in Appendix I.

The FRA then identified solutions proposed or implemented in various communities. Each community is best situated to evaluate how severely it views the situation and what efforts it is prepared to make, in cooperation with the railroads, to mitigate the problem. This report gives an idea of the wide range of solutions to be considered.

IV. Scope of the Problem

There are over 241,000 highway-railroad grade crossings in the U.S., 146,000 public and the rest private.³ Highway-railroad crossings are blocked when trains travel over or stop on track crossed by a highway. Trains may block crossings for only a limited time for a short passenger train traveling at a fairly high speed, or for hours after a grade crossing accident or a mechanical problem with a train. Blocked crossings are a problem for all highway users, but they can be a particularly serious problem for emergency responders. Emergency responders (emergency medical services, fire and police) need to reach their destinations as quickly as possible. An ambulance racing to a heart attack victim or an automobile accident may be delayed only a few minutes by a passing train, but even a few minutes is a very long time in an emergency. A fire engine forced to take another route because of a stopped train may arrive at a fire too late to prevent significant damage or even deaths or injuries. Delayed police response can lessen the chance to apprehend a criminal or prevent a more serious crime.

The problem is not simply trains moving through a grade crossing. Many areas reported problems with trains that stopped while blocking a crossing, sometimes for hours. There are a number of reasons for trains to block crossings and these factors also determine the length of time the crossing is blocked.

While there are no aggregate statistics on delays at crossings, blocked crossings have become a more contentious issue in recent years. This may be partly due to the expectation that emergency response will be quicker and therefore delays are less acceptable. But there are several national trends that may be leading to greater problems with blocked crossings.

³ These numbers are approximate, based on reports by state DOTs to FRA and other sources. In some cases, a railroad line may be abandoned, but the crossing is still counted. In other cases, a highway crossing may be closed, but still counted. New crossings, both public and private, are added all the time, making it difficult to have an exact number.

A. Community Growth

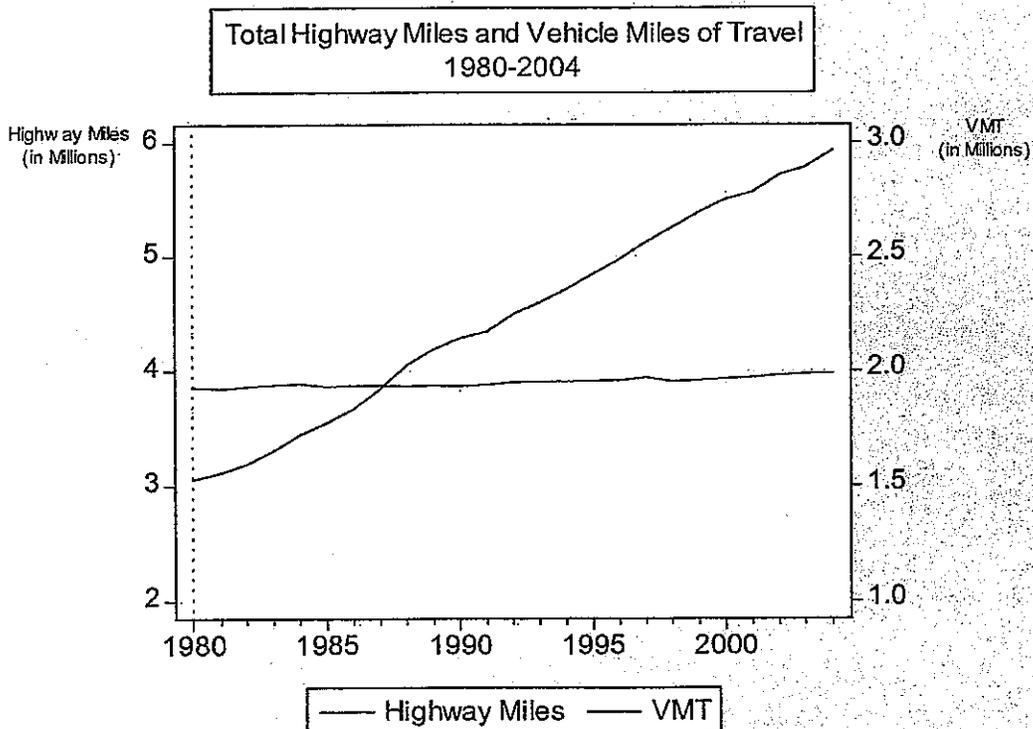
In many parts of the country, communities grew up around the railroad, which means the railroad often runs right through the middle of town. Grade separations in these towns are often resisted because of the density of development and the need to build ramps to any road bridge over the tracks. If these towns have emergency facilities only on one side of the railroad, the potential for blocked crossings will grow as the community grows, particularly if rail traffic is also growing.

As these towns spread out into suburbs, development leads to new roads and demands for additional grade crossings if there is no nearby grade-separated highway. This can result in new residential areas without direct grade separated access to emergency facilities.

B. Growth in Highway Traffic

Highway traffic has grown steadily. As Chart 1 indicates, the number of lane miles has grown much more slowly. This has led to increased traffic density on many of our roads and highways. With more highway traffic, blocked crossings inevitably lead to more delays for motorists. The ensuing congestion can further hamper emergency responders who are delayed by a train in a crossing. They must then make their way through the traffic resulting from blocked crossing.

Chart 1



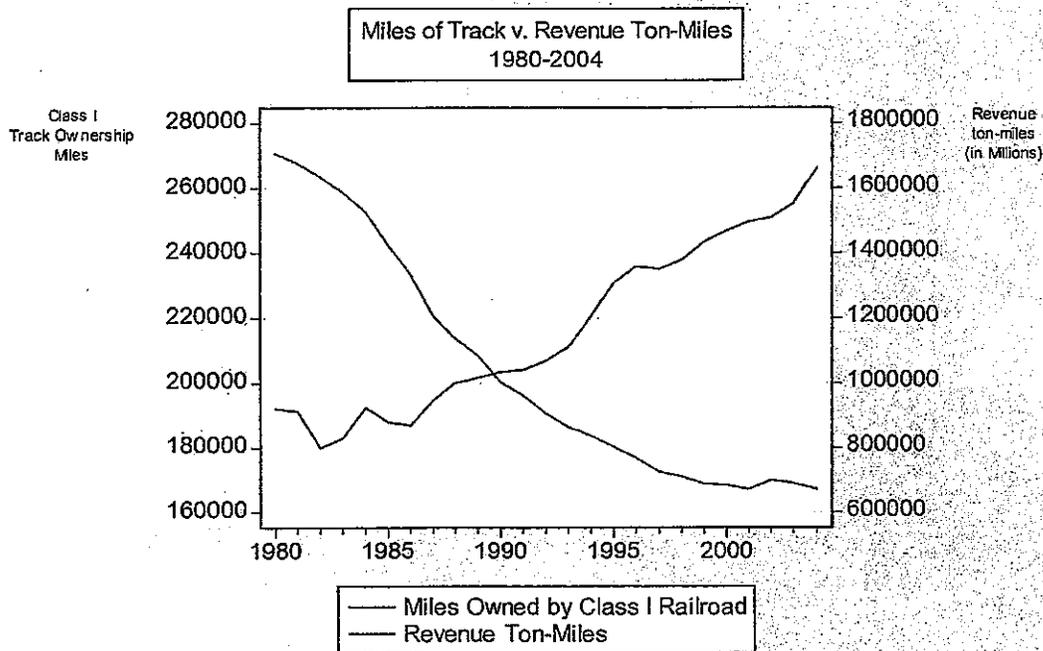
Source: Federal Highway Administration, Highway Statistics, 2004

C. Growth in Rail Traffic

Like highway traffic, rail traffic has continued to grow. In 1980, railroads in the United States originated 1.492 billion tons of freight traffic. By 2004, that figure grew to 1.844 billion tons.⁴ The growth in rail traffic reflects changes in rail regulation and the growth of demand for rail transportation. After years of decline, the rail industry was partially deregulated by the Staggers Act in 1980. The railroad industry then entered a period of consolidation and restructuring that led to a decrease in track miles, increased railroad merger activity, and significant productivity improvements

Between 1980 and 2004, despite traffic growth, railroad track miles decreased considerably (see Chart 2). The result is that density – cars or trains per day for each mile of highway or track - has steadily grown. Grade separations have alleviated conflicts in some areas, but more trains and more vehicles at most crossings inevitably lead to highway delays – delays that can also delay emergency response times.

Chart 2



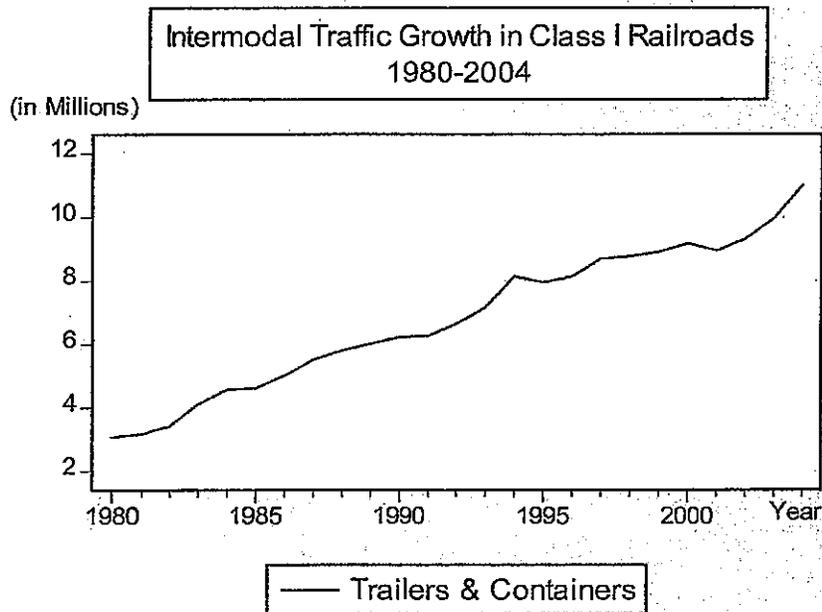
Source: Association of American Railroads, Railroad Facts, 2005 Edition, page 27, 45

The demand for rail services has meant more trains on those remaining miles. The increase in the number of trains on a line inevitably means more delays for highway users and emergency responders. Rail traffic growth has come primarily from two sources: intermodal freight and coal. The growth in intermodal freight traffic, particularly in

⁴ Association of American Railroads, Railroad Facts, 2005 Edition, page 28.

trains to and from the Ports of Los Angeles and Long Beach, has been phenomenal (see Chart 3). Coal traffic, the historic mainstay of the rail industry, has also been increasing rapidly. The relatively low price of coal for generating electricity, compared to natural gas and oil, has led many utilities to increase the use of coal where possible. Responding to legislation to reduce emissions, many utilities have switched to low-sulfur coal from the Powder River Basin in northeastern Wyoming and nearby areas. This coal is now being hauled to utilities in the south and east. These long hauls have increased traffic on a number of Midwestern rail lines.

Chart 3



Source: Association of American Railroads, Railroad Facts, 2005 Edition, page 26

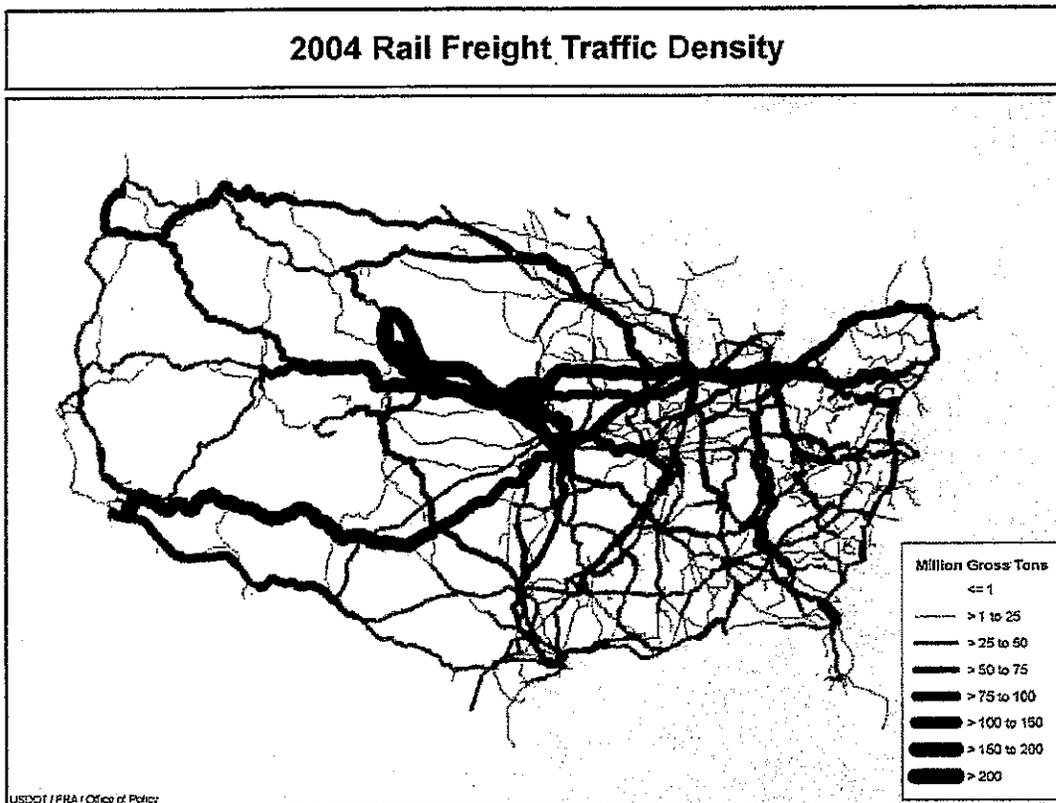
V. Causes of Blocked Crossings

A. Moving Trains

Many freight trains today are over one mile long. At twenty miles an hour, such a train would take 3 minutes to clear a crossing. If the crossing has gates, those gates would go down before the train arrived and would not rise until the train had passed, perhaps adding another minute or two. With growing rail traffic handled over fewer rail lines, blockages due to passing trains are becoming more frequent in certain areas. There are a number of rail corridors with over 100 trains a day, and some with over 150. If, as a rough estimate, a given crossing has four trains an hour, it is inevitable that at some point the gates lowered for a passing train will remain down as another train approaches from the opposite direction, so crossings of busy lines might see delays of 10 or more minutes per occurrence, depending on train speed.

Rail freight traffic density is shown in Map 1. Forecasts by the U.S. DOT and DRI-WEFA (see AASHTO Bottom Line Report, Table 6, Page 56) indicate that freight traffic overall is likely to increase 57% between 2000 and 2020 while rail traffic is forecast to grow by 44% in the same period, leading to even greater density.

Map 1



As of July, 2006, oil had reached a price of \$78 a barrel, an increase of about 300% from the \$25 a barrel it sold for in 2000. If oil prices remain at current (or higher) levels, coal traffic from the Powder River Basin and other areas will grow rapidly. Additionally, continued economic growth will likely generate rapid growth in intermodal traffic from the ports.

Increases in train traffic coupled with increases in highway traffic will lead to more congestion related to highway-railroad grade crossings. It may also lead to problems in providing emergency services unless steps are taken to mitigate these problems.

B. Stopped Trains

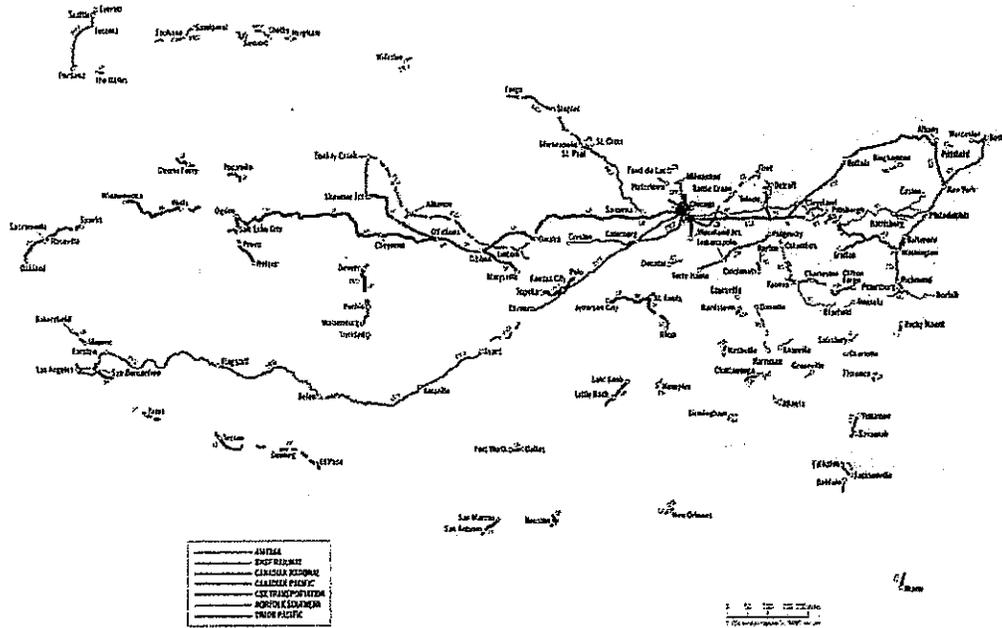
The problem of blocked crossings due to passing trains, and sometimes multiple trains, is a serious problem in some limited areas. In many communities, however, the problem is due to stopped, rather than moving trains. Stopped trains might block a crossing for 15 minutes to several hours. The impact of a stopped train on emergency response can, of course, be very serious in cases of true emergency, particularly if no grade separated alternative is available nearby. The number of instances of blocked crossings due to stopped trains is probably increasing due to growth in rail traffic. There are a number of reasons, discussed below, that the growth in rail traffic and related congestion on the railroads may be causing more crossings to be blocked for extended periods.

1. Trains Held in Sidings

Railroad main lines are generally either double or single track. On single-track rail lines, passing sidings are used to allow two trains proceeding in opposite directions to pass (known as a "meet") or to allow a faster train to overtake a slower train. On a single-track rail line, one train must always pull into a siding and then wait to allow an oncoming train to proceed or to allow a faster train to pass. Trains operating over a double-track rail line generally do not have to stop to allow oncoming trains to pass. Depending on the capability of the signaling system and the availability of crossover tracks between the two rail lines, on a double track rail line, faster trains can even overtake slower trains going in the same direction, if there is no oncoming train in the area.

As the Map 2 shows, most railroad mainlines in the U.S. are single track. As traffic grows, a single-track railroad can quickly become congested, resulting in trains stopped in sidings for sometimes hours.

Map 2



Source: Trains Magazine

Colored lines indicate double (or more) tracked rail lines

Consider a fairly common situation: a single track main line and passing sidings every few miles. In such cases, one train must pull into the passing siding and await an oncoming train. Depending on the spacing of sidings, the speed of the trains, and whether or not they are on schedule, the train pulling into the siding (typically a lower priority train) may have to wait for a considerable time before it is free to continue its journey. Trains, and consequently sidings, have been getting longer. Sidings are now almost always a mile or more in length. In many parts of the country, it is difficult to locate a siding more than a mile long in a place where it will not cross a road. Trying to locate a series of such sidings along a rail corridor without blocking a crossing is nearly impossible. At least one railroad interviewed for this study has stated that it has had difficulty locating sidings where they are needed in terms of railroad operations due to community opposition to extending a siding across a highway. Any vehicle using a grade crossing that crosses a rail line at a siding is probably going to face serious delays occasionally.

For example, on CSX's busy corridor between Chicago and Florida, sidings are being lengthened to 10,000 feet. The distance between sidings is being reduced from 30 to 15 miles. Entrance and exits speeds are being doubled to 30 mph. Improved signaling will allow meets and passes to take place more efficiently.⁵ These improvements, in addition to benefiting CSX's productivity, should have a positive impact on blocked crossings in the corridor, by reducing the time a train is stopped in a siding blocking a crossing.

To illustrate how long trains must sometimes remain in sidings in the course of normal operations, consider the situation just described, before improvements: sidings spaced 30 miles apart. A train arrives at the siding where a meet is to take place and pulls in. If the oncoming train is late, but has just passed the last siding between the trains, the stopped train would have to wait while the oncoming train covered the 30 miles between the sidings. That could easily mean the stopped train would stay on the siding for an hour or more, depending on the speed of the oncoming train. If that siding had a crossing, it would mean substantial delays for routine highway users but potentially critical delays for emergency response vehicles.

It also takes a considerable time for a stopped train to clear the siding and resume its journey after the oncoming train has passed. Among the factors that can determine the delays are powered or manual turnouts (switches) and the type of turnouts (higher or lower speed limits apply to different types of turnouts);⁶ the railroad signaling system; the grade, if any, that the train must ascend; and visibility. If a grade crossing has been located beyond the end of the crossing to avoid parked trains blocking the crossing, there could still be a blockage of 15 to 20 minutes while the train pulls out of the siding. If the turnouts are manual, the train crewmember must throw the switch to allow the parked train to pull out of the siding onto the mainline, wait while the train pulls through the turnout (manual switches typically have a 15 mph or less speed limit), then throw the switch to the through position. The train, after it clears the turnout must stop and wait while the crewmember walks the length of the train (maybe a mile or more) to climb into the locomotive. At this point, the train can resume its journey.

The problem is even worse in cases where a lower priority train pulls into a siding to allow an overtaking train going in the same direction to pass. In this case, depending on the signaling system, the train must wait until the overtaking train has proceeded through the next signal block so that the passed train has a clear signal to proceed.⁷

⁵ Railway Age, September 2005, page 16

⁶ These speed limits are determined by the angle that the turnout deviates from the tangent rail line. The sharper the angle, or the more quickly a train would be put in a new direction, the slower the speed limit

⁷ Signaled railroad lines are divided into blocks. Each block has a signal at the beginning of the block that tells the engineer to stop, proceed slowly such as to be able to stop at the next signal, or to proceed normally. Two trains are generally not permitted to occupy the same block, since there would be no signal to warn an overtaking train that there is another train in the block. Two trains may occupy the same block under certain conditions if there is no risk of collision. For example, a train may be allowed to proceed at a very low speed until it approaches a stopped train in the same block when congestion delays several trains at the same time. Block spacing depends on railroad policies, but in general a block cannot be smaller than the distance that would be required for a train to stop.

Visibility can also be an issue, requiring the train to enter a siding at a slow enough speed to stop if there is a problem. This is a factor if the signaling system is not able to indicate whether the siding (as opposed to the mainline) is clear.

2. Yard and Switching Activities

Railroads yards are used to sort cars from arriving trains into departing trains bound for the car's ultimate destination. Yards function in a manner somewhat similar to airline terminal "hubs." Yards also form "local" trains that pickup and deliver cars to area customers. These switching activities -- pulling a block of cars from one track, then pushing the cars onto another track -- can lead to blocked crossings. Increases in rail traffic and the growing length of individual trains have strained the capacity of rail yards to assemble and disassemble trains. Few rail yards have highway crossings, but since many yards are a mile or more long, they often have highway crossings just beyond the "throat" of the yard. (The throat is the beginning of the yard, where turnouts begin to provide access to the many sorting and storage tracks.) As trains are assembled from blocks of cars on individual tracks, the switching locomotives must pull strings of cars out of the yard to clear a turnout, then push the string onto a different track to connect with the next block of cars scheduled to be part of the train. Highway crossings just beyond the throats of rail yards can be blocked by the assembling of trains and the associated pulling into and out of the yard.

Arriving trains are usually routed into a "receiving yard." The road locomotives are uncoupled and switching locomotives disassemble the blocks of cars in the train and put them on tracks where they will await their next move, either directly to a customer in a local train or assembly into new trains. If more trains arrive in a given period than there is room in the receiving yard, the arriving trains may wait in sidings along the mainline before the yard or on the mainline itself. These waiting trains may block crossings if they must wait on segments of track with crossings. Often, delays resulting from yard congestion have caused trains to block these crossings for far more time than would result from a passing train.

Railroad switching -- where a train stops, backs up and drops off or picks up cars and pulls forward again -- can produce longer blockages than a passing train would cause. Usually, these moves are involved in serving customers directly, picking up or delivering cars. Such switching can also result if the track configuration requires partial disassembling of a train to accommodate limited track structure. (See Case Study C. i., Greenville, NC.)

3. Operational Problems

Highway-railroad grade crossings may be blocked by trains forced to stop for operational reasons. These include trains stopping for mechanical reasons, trains stopped because the crew has reached the hours of service limits and trains involved in grade crossing

accidents with highway vehicles⁸. In many of these cases, it may be several hours before the train can resume its journey.

Congestion on a railroad line often means delays for individual trains, as they wait in sidings for other trains to pass or are stopped on the mainline until room is found for them in a receiving yard. These delays can cause the train crew to reach its service limit under the hours of service rules. Railroad procedures generally call for the dispatcher to direct such crews to a siding where they can halt the train and await a relief crew. Dispatchers often attempt to place trains where they will not unduly impede highway traffic, but the key consideration is that they not block the railroad's mainline and that they are placed in a location where a relief crew, coming by van, can easily reach them by road. Local officials interviewed in this study noted at least some cases where crews have stopped trains blocking important crossings when they reached their hours of service limit, resulting in extended crossing blockages.

Trains, like highway vehicles, can experience mechanical problems that require the train to halt. For example, there are "hot box" detectors along many lines that sense when a rail car's wheel bearings have become too hot. Rather than continue on and experience a potentially catastrophic accident, it becomes necessary to stop the train and "set out" the car with an overheated bearing. This requires the train to stop at a point where there is a siding or other track, and leave the car there. Because of the need to find a satisfactory point to drop off the car, the train may stop and switch at a point where it blocks a crossing for a considerably longer time than would be the case if the train were just passing through.

Finally, train accidents, including grade crossing accidents, can lead to unplanned delays that can be extensive, if the train involved in the accident blocks crossings.

Railroads are aware that an emergency train stop can block crossings. Some railroads have a standing policy of notifying local police and emergency responders when a train blocks crossings in certain communities. Others have a policy of "breaking" a train when it would otherwise block a crossing for an extended period. "Breaking" a train refers to uncoupling a train and pulling the front part of the train forward until an interval is opened at the grade crossing between the front and back parts of the train.

C. Summary

It was impossible to quantify the various delays and types of problems nationally. Therefore, FRA identified communities that have reported problems and examined their experiences. Based on these discussions and discussions with the railroads, FRA found that crossings are blocked for a number of reasons. Trains passing through a grade crossing do cause delays and interfere with emergency response. Trains that stop while blocking a crossing are a more significant problem. FRA identified a number of causes

⁸ Federal Hours of Service rules govern the time train crews can remain on duty. If a train is delayed and the crew reaches its hours of service limits, the crew is required to halt the train.

for trains to stop in crossings, sometimes causing lengthy delays. Stopped trains appear to cause more concern to the emergency response community than passing trains. While crossings blocked by passing trains cause stressful delays, they are neither as dangerous nor as frustrating as being totally unable to reach the scene of an emergency due to a stopped train.

VI. Impacts on Emergency Response

Delays in emergency situations can have tragic consequences. Emergency responders can be delayed by many things: availability of units, highway traffic, dispatching delays or errors and weather. Delays due to highway-railroad crossings are no different in effect than delays due to other causes. In evaluating the impact of delays, we must consider the cost in terms of deterioration in expected outcome for ambulance patients, worsening of fire damage from delayed fire truck response, and reduced likelihood for apprehension of suspects from delayed police response. Additionally, delays prove very stressful to emergency responders and victims, which also is a cost to be considered. Unfortunately, it is very difficult to convert a delay in response into a quantifiable impact.

The FRA has reviewed anecdotal reports of problems resulting from delays in emergency response due to blocked highway-railroad crossings. However, it is not possible to estimate the costs or impacts of such delays nationally or locally without much more detailed information from communities than is available. The impacts on communities from delayed response due to blocked crossings, while sometimes severe, are less than the impacts of traffic delays and congestion caused by blocked crossings. Another way to look at it would be to say that in places where blocked crossings are seen as a problem – to traffic, to safety and to emergency response – emergency response delays may help to justify a grade separation or other major expenditure, but such delays are unlikely, by themselves, to justify major remediation measures except in special cases.

VII. Possible Remediation Activities

Finding solutions to blocked crossings requires first identifying the reasons for blockage. As described in this section, there are a large number of actions which might be taken to eliminate or ameliorate problems from blocked crossings. A community concerned with blocked crossings may want to consider several of these possible solutions. In addressing a blocked crossing issue, a community should always strive to work closely with the railroad, since in many cases a solution based on changes by the railroad may be the most cost-effective.

A. Community Responses

Although there are no Federal regulations regarding blocked crossings in general, FRA safety regulations do address standing (idling) trains that unnecessarily activate grade-crossing warning systems. These rules prohibit standing trains, locomotives, or other rail equipment from activating the warning systems at grade crossings unless the operations are part of normal train or switching movements. Some states and communities have

attempted to address blocked crossings through legal action. The issue of a State's authority to legislate or regulate blocked crossings is highly contentious and still being defined in the courts.

The railroads have on occasion mounted "preemption" defenses, citing FRA regulations and other Federal requirements (e.g., the former Federal Railroad Safety Act of 1970 (49 U.S.C. 20106) and the Interstate Commerce Commission Termination Act) that they feel take precedence over State laws. For example, to clear a crossing in compliance with a State provision, a railroad might have to adjust either the speed or the length of its train, both of which are governed by Federal regulations. Likewise, a railroad might not be able to complete required air-brake testing at certain locations where doing so would block a crossing in violation of a State provision. Where there is a conflict between the State law and Federal safety requirements, the courts will find the State law to be preempted and, thus, unenforceable.

A better approach, both for the community and freight transportation, is to establish a cooperative relationship between the parties. If the railroad and emergency responders (or the community) establish a good relationship, some relatively simple operational changes in railroad activities can do much to resolve blocked crossing problems. If both sides understand the position of the other, it is likely that a solution that at least partially resolves the problem can be reached. If the only answer is a major, long-term project (such as the Alameda Corridor East, see case studies), railroad-community cooperation is also essential. Working together, understanding each other's position and constraints, is the mechanism by which a solution that is mutually acceptable can best be achieved.

While many blocked crossings are the result of "legacy" infrastructure and development, some problems are the result of poor planning. State and local governments should consider the possible impact on emergency services from new highway-railroad crossings and new housing or commercial developments. For example, a major yard on the NS north-south line between Atlanta and Washington, DC/Harrisburg, PA is located in Linwood, NC. As traffic has grown, arriving trains often must wait on the mainline before there is room to proceed into the receiving yard. There is a road that crosses just beyond the beginning of the yard that provides access to a peninsula on a lake. The peninsula is undeveloped and is currently lightly used for recreational purposes (mostly hunting and fishing). The access road is frequently blocked for extended periods of time by stopped trains. There is no other access to the peninsula. A developer is proposing to build several hundred houses on the lakefront of the peninsula. North Carolina Department of Transportation (NCDOT) raised the issue of access to the county authorities, pointing out the safety issues. The developer and the governments have attempted to work out a solution to improve access but at this point it appears the issue of what, if any, access improvements will be built and who will pay for them will be settled in court. The ultimate outcome is unclear at this point, but thanks to the cooperation of the highway planning and rail sections of NCDOT, this issue was raised and will be resolved before the houses are constructed and hundreds of families are put at risk from being cut off from emergency services.

If grade crossing blockages cannot be reduced or ameliorated by any of the approaches that follow, communities can take steps to reduce impacts on their own. For example, communities may construct additional emergency response facilities or station emergency units on opposite sides of a railroad line, so the line need not block responders. In many larger cities, numerous response facilities greatly reduce the problem of blocked crossings because of the wide range of responder locations that can be accessed. However, in smaller communities, with few facilities, the cost of opening another fire or police station may be prohibitive. The locations that indicated to us that they had emergency response problems we found them to be mostly smaller towns and rural areas.

B. Communication

Improving communication between railroads and emergency responders can be an effective and relatively inexpensive solution. Communication systems, some of which do not require railroad participation, can alert EMS personnel to possible crossing closures from approaching trains and allow them to choose alternative routes, if necessary. This approach can be particularly effective if dispatchers are able to route emergency vehicles to open crossings or grade separated crossings before the vehicles have committed to a route that is blocked by a train.

Communication can include connecting the emergency response dispatchers by phone or radio to railroad dispatchers, as has been done in some cases. One approach that has been used is to have the railroad dispatcher inform the local EMS dispatcher or personnel when they will be blocking a crossing.

If the blockage may be lengthy or opening the crossing is critical because of some emergency, arrangements can be made to have the railroad establish a protocol to "break" a train so that it will not block a crossing. Federal Railroad Administration regulations require an air brake test before the train can be moved after it is recoupled, which means that the conductor must walk around the train to check the connections. With trains often more than a mile long, this can take significant time during which the crossing must be blocked. Breaking a train adds to railroad costs by delaying the train and must result in the crossing being blocked for up to an hour while the train is reassembled, but in certain areas it is an approach to be considered. At least one major railroad interviewed for this study has a policy of breaking trains when a blockage of more than 45 minutes is expected over most of the territory in which it operates.

A more sophisticated approach is the use of sensors near the highway-railroad grade crossing that detect an approaching train. The information on speed and location is then used by a central computer to estimate train speed and predict when a train will block a crossing. Different types of sensors are in use, including Doppler radar and magnetometers. Some systems also notify motorists of expected blockages through active signs. Examples of systems that predict train blockages of crossings include

Pomona, CA and Sugarland, TX. See Appendix I for more details. Pomona is described in A. 2 Alameda Corridor East and Sugarland is covered in D. 1. Houston.

C. Training

An important part of establishing cooperation and communication is an understanding of the requirements of both railroad and emergency response operations. One way to facilitate this understanding is through training courses such as those presented by Operation Lifesaver.⁹ These courses help acquaint emergency response personnel with railroad operations and clarify procedures for contacting railroad personnel in case of emergencies.

Most public grade crossings with flashing lights or gates have a number posted that emergency responders can use to contact the railroad in case there are problems with the crossing. While the primary function of these numbers is to alert railroad personnel of malfunctions in the crossing protective device or to warn of stalled vehicles on the crossing, contact with the railroad can allow the emergency responders to request that a stopped train be “broken” to allow passage of the emergency vehicles. Although it usually takes some time to “break” the train, this may be the best alternative in cases where there are no alternative access routes to the site of the emergency.

D. Railroad Operational Changes

Routine railroad operations may leave crossings blocked and create problems for emergency responders. Generally, railroads establish their operations so as to minimize their costs and provide service to their customers. Nonetheless, railroads and their dispatchers are often aware of crossings that are routinely blocked in the course of railroad operations. In some cases, railroads can alter their operations to minimize these impacts.

In some cases, long trains can regularly block crossings during the change of rail crews. Crew change points are places on the railroad where a crew that has completed its work assignment turns the train over to a replacement crew. This process takes some time during which the train remains stopped. In some cases, there is little alternative in terms of selecting points for crew change where there is less likelihood of blocking a crossing. However, if crew change points are a problem for emergency response and general traffic, communities should consult with the railroad about possible options. At least one railroad interviewed for this study indicated that it had moved crew change points to avoid blocking crossings.

⁹ Operation Lifesaver (OLI) is a non-profit public education program established to end collisions, deaths and injuries at places where roadways cross train tracks, and on railroad rights-of-way. Sponsored cooperatively by federal, state, and local government agencies, highway safety organizations, and the nation’s railroads, OLI provides free safety presentations to increase public safety around railroad tracks. State Coordinators can be found at http://www.oli.org/contact/contact_state.

Serving rail customers requires a number of rail moves to pick up and deliver cars at the customer's siding. This process can lead to regularly blocked crossings. If this is a problem, it is possible the process can be altered to minimize the length of blockages. For example, the railroad can avoid placing cars on a crossing, perhaps leaving them further up the track. Several railroads have reported that they have altered switching patterns at customer locations in an effort to reduce the time a crossing is blocked.

Longer trains may block crossings that were established when trains were generally shorter. Railroads have been increasing train length because longer trains have a lower operating cost per car than shorter trains. However, in cases where these longer trains regularly block crossings when stopped in sidings, it may be possible to negotiate with the railroad on limiting train length. At least one railroad has reduced train length in one area to minimize blocked crossings, although it raises the railroad's cost. On the other hand, shorter trains also mean more frequent trains, which can also cause community problems.

E. Public Investments

1. Grade Separations

The "gold standard" for eliminating possible delays in emergency response due to blocked crossings is grade separation. Building a highway overpass or underpass eliminates any delays from blocked crossings. Unfortunately, grade separations are expensive, typically costing several million dollars. Moreover, in many cases they are inappropriate, since the ramps can block homes and businesses located adjacent to the tracks. In some cases, the geography of the crossing can also make construction very difficult.

In many cases a proposal to provide a grade separation also involves closing some nearby crossings. The FRA advocates a "corridor approach" to grade crossing issues, looking at the risks of an entire corridor and often resulting in recommendations to provide a grade separation or two, closing some crossings and improving crossing protection at others. A corridor approach is also required for the implementation of a "quiet zone" within which train horns do not sound at crossings.¹⁰ Closing crossings is often contentious and may

¹⁰ "Quiet Zones" are permitted under FRA's Final Train Horn Rule, which became effective on June 24, 2005. The rule implemented a 1994 law mandating the use of the locomotive horn (or "whistle") at all public highway-rail grade crossings with certain exceptions. The rule pre-empted applicable state laws and related railroad operating rules requiring locomotive horns be sounded, and it also superseded the previously issued Interim Final Rule. Under the rule, communities have the choice to consider silencing train horns at highway-rail grade crossings based on meeting safety needs. The Final Rule provides for six types of quiet zones, ensures the involvement of state agencies and railroads in the quiet zone development process, gives communities credit for pre-existing safety warning devices at grade crossings and addresses other issues including pedestrian crossings within a quiet zone.

The Final Rule on the Use of Locomotive Horns at Highway-Rail Grade Crossings is available at the U.S. Department of Transportation Docket Management System web site at <http://dms.dot.gov/>

engender political opposition to a proposal that involves a grade separation and the closing of crossings many residents may see as more convenient.

Grade separations are generally funded by the States' DOT and local communities. Railroads are generally not legally required to contribute. Railroads maintain the crossings and so enjoy a reduction in costs when crossings are eliminated. They also perceive a reduction in liability and risk from crossing accidents. However, these gains are minor in terms of the cost of a grade separation, so railroads are usually only a limited partner in separation projects.

SAFETEA-LU reauthorized the Federal highway program in 2005. While it made several changes, it did continue to provide funding for highway-railway crossing safety. This program, section 1401 of SAFETEA-LU (also known as "the section 130 program") provides \$220 million a year for crossing safety. These funds are divided among the States to address problems at thousands of crossings. Because there so many projects competing for limited funding, States have difficulty supporting multi-million dollar grade separations.

Federal Highway Trust funds can generally be used to provide partial funding of grade separations. Depending on the status of the road or highway, grade separations can be funded from accounts such as the National Highway System and the Surface Transportation Program, although the demand for these funds for "regular" highway construction tends to leave little available for grade separations.

2. Rail Relocations

Where grade crossing issues affect an entire corridor rather than a single crossing, relocating the rail line is often proposed as a solution. Railroad lines may be relocated either vertically or horizontally - that is to say a rail line may be moved up or down to separate it vertically from surface streets, or the line may be moved horizontally to a new right-of-way. Relocation is usually extremely expensive. However, it can produce significant benefits in terms of reducing negative community impacts and improving safety. There have been very few rail relocation projects in recent years. Among the projects that have been completed are the Lafayette Railroad Relocation project in Lafayette, IN, which eliminated 41 grade crossings by relocating the rail line out of downtown and the Union Pacific's construction of a 5.4 mile double-track bypass around Hastings, NE in 1994. Brownsville, TX recently completed a project begun in 1973 to relocate in-city rail yards and deactivate 79 of the city's 93 grade crossings. The project, which cost \$52 million, provided smoother rail operations and took the majority of traffic from the Port of Brownsville out of the downtown business district. Another recent rail relocation project is the "vertical relocation" (the construction of a railroad trench) of the Union Pacific Railroad in Reno, NV. (See Appendix I, A. 1..)

Rail relocations generally require the construction of new rail lines, which must be approved by Surface Transportation Board (STB). Approval by STB also involves completing the necessary environmental review, which can mean a full Environmental Impact Analysis if the relocation will entail extensive new construction. Usually, the right-of-way for the new line must be acquired by eminent domain from existing landowners, which can be a contentious and expensive process. If the rail line is to be removed from a downtown area, for example, the line might have to be relocated far enough from town to be in an undeveloped area, requiring the acquisition and construction of many miles of new railroad.

Another approach to rail relocations involves the agreement of two railroads that operate parallel lines to improve and use one line while abandoning the other (or limiting it to local traffic) have the advantage of reducing the amount of new right-of-way that must be acquired and constructed. The original Alameda Corridor project (Appendix I, A. 2) is an example as is the proposed "Bridging the Valley Project" in the Spokane, WA area. (See Appendix I., E. 2.)

F. Private Investments

Railroad infrastructure investments to enhance capacity may have the additional benefit of resolving crossing problems. For example, if a crossing is frequently blocked by trains parked on a siding, converting the line to double track may greatly reduce the problem. As BNSF and UP continue to convert their major transcontinental routes between Los Angeles and the Midwest from single to double track, delays due to trains awaiting oncoming trains should decline, benefiting communities such as Eloy, AZ (see Appendix). The case study on Hammond, IN (Appendix) describes how a railroad's investment in remote controlled turnouts ameliorated a serious crossing blockage problem.

Communities may be interested in working with railroads to expedite infrastructure improvements that provide public benefits as well as benefits to the railroads. The Kansas City Flyovers are an example of such a public investment in railroad infrastructure. "Flyovers" refer to separating two railroad lines by over- or under- passes, instead of having the lines cross each other at grade. The Sheffield Flyover, a 3-mile \$74 million project opened in 2000, and the Argentine Connection, a 2-mile \$60 million flyover opened in 2004 improve the flow of rail traffic through the city and provide significant public benefits. The Sheffield Project helped reduce delays of as many as 250 trains a day by eliminating at-grade intersections of several railroads. Similarly, the Argentine Project reduced delays for 80 trains through the Kansas City Terminal area. Each project was financed through special bonding authority, to be paid off through railroad user fees. The railroads supported these projects because they made major improvements in rail flows, while the public benefited from the elimination of significant congestion on area roads and highways that resulted when trains backed up at the rail-rail crossings.

Another successful public-private project to provide improved rail infrastructure is the Norfolk Southern Corporation's Shellpot Bridge rebuilding in Wilmington, DE. The bridge's poor condition caused the previous owner, Conrail, to take the bridge, and consequently the line serving the east side of Wilmington, out of service. Freight then had to move on other lines through the city and rail service to industries on Wilmington's east side was degraded. The parties realized that rebuilding the bridge and reopening the line would improve efficiency and capacity for north/south freight traffic, lessening freight on a passenger route, and providing economic benefits to Wilmington and Delaware. Norfolk Southern had limited capital to finance the \$13 million project; however, the state used a combination of grants and loans to rehabilitate the bridge, with the loans to be repaid through a per-car user fee.

G. Technology

The railroad industry is currently exploring a number of technological advances that may serve to mitigate blocked crossing problems. Two examples are some form of positive train control and electronically controlled pneumatic brakes.

Railroads are developing positive train control (PTC) systems that can improve the safety of train operations while also providing timely information concerning the position, velocity and direction of movement of trains. The Global Positioning System and radio data link systems will help the railroads plan train movements and potentially avoid undesirable situations such as blocked crossings. Over time, information from these systems may be available for use in Intelligent Transportation Systems (ITS) applications that provide warning of potential blockages and assist in traffic control on the roads. Each of the four largest freight railroads is developing such systems, and major pilot projects are underway or planned. The Burlington Northern Santa Fe Railway (BNSF) has submitted an initial Product Safety Plan for review by FRA and states that it is committed to deploying this technology across its system over the coming years.

Electronically controlled pneumatic brakes (ECP) may potentially reduce the time it takes to break a train and then recouple and resume operations. If this technology safely permits a train to proceed after recoupling without the currently required power brake test, the time a train blocks a crossing after being rejoined would be substantially reduced, making breaking a train at a crossing much more feasible. In 2005, FRA, in cooperation with railroads, rail labor, shippers, and car owners undertook an assessment of the benefits of ECP brakes. That study will soon be released. The ECP brakes will reduce stopping distance and derailments, while permitting longer trains. Improved railroad operations would be expected to reduce the time a crossing is blocked.¹¹

¹¹ FRA may consider waivers or changes in the current Power Brake rule if experience with ECP brakes satisfactorily demonstrates the safety of such an approach.

Conclusion

It is impossible to quantify the delays emergency responders experience at blocked grade crossings. The extent of the problem can be gauged from contacts with emergency responders, states, railroads and FRA safety personnel who work in the grade crossing area. This study has identified the many different situations that can lead to blocked crossings and outlined a number of possible solutions.

All these approaches have advantages and disadvantages and no one solution works in all cases. Communities must consider the alternatives and work with the railroad to determine the most effective solution and to minimize cost. If possible, the best solutions involve addressing all the crossing issues in a corridor at the same time. That way issues such as noise, traffic congestion, economic development and safety can be considered together. While a comprehensive approach must entail more effort and probably more expense than a more piecemeal approach, the opportunities to address the sum of the problems offers the potential to build consensus on a worthwhile solution to all railroad related problems.

In almost all cases, the key to solving the problem is to establish a close working arrangement between the community and the railroad. If both sides understand each other's concerns and limitations, a reasonable solution most likely can be found.

Appendix I. Case Studies

The following cases illustrate some of the problems and/or solutions that have been discussed above. They do not represent a complete list of the communities with blocked highway-railroad crossing problems nor a list of all communities that have developed solutions.

A. Comprehensive Solutions: These cases studies represent efforts to resolve highway-railroad crossing problems (including, but not limited to, emergency response crossings) by initiating comprehensive, corridor wide programs that provide multiple grade separations and/or use a number of the solutions described above.

1. Reno, NV

When the Union Pacific Railroad (UP) acquired the Southern Pacific in 1996, one of the conditions ordered by the Surface Transportation Board was that the UP cooperate with Reno in addressing the grade crossing issues on the rail line that passed through downtown Reno. The rail corridor passing through Reno is a critical freight route from the Port of Oakland to inland destinations. The number of trains traveling through Reno was expected to increase from approximately 15 per day to as many as 34 per day as a result of the merger.

The cost of building a new line around the city was prohibitive, so a "rail trench" was built, completely separating the railroad from streets in downtown Reno. The completed project eliminated 10 highway-railroad crossings along a 2.1-mile route by taking train traffic 33 feet below ground. Without the project, vehicle delays were projected to more than double from 188 hours to 473 hours per day.

The project was partially funded by UP with the City of Reno contributing \$50 million provided by a loan through the U.S. Department of Transportation's Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance program. The TIFIA helps state and local governments construct transportation projects using flexible and innovative financing approaches. The program allowed the City of Reno to pledge different revenue streams to repay the loan and refinance the project through regular financial markets.

2. Alameda Corridor, CA

Perhaps the best example of a comprehensive solution to grade crossing blockage problems is the Alameda Corridor. Growing container traffic through the Ports of Los Angeles and Long Beach was causing major congestion in the area between the ports and rail yards near downtown Los Angeles. At the time (1981), three railroads: the Union Pacific, the Atchison, Topeka and Santa Fe (now Burlington Northern Santa Fe (BNSF)), and the Southern Pacific, served the port with three different rail lines. Trains from the ports blocked numerous grade crossings, often for long periods, because the trains moved

very slowly. Trucks carrying containers from the ports to rail yards and other customers also added to the congestion.

The solution was the development of a 20-mile long grade-separated rail corridor. Linking the ports of Long Beach and Los Angeles to the transcontinental rail network near downtown Los Angeles, the Alameda Corridor 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. The project's centerpiece is the Mid-Corridor Trench, which carries freight trains from both railroads (now UP and BNSF) that serve the ports in an open trench that is 10 miles long, 33 feet deep and 50 feet wide between State Route 91 in Carson and 25th Street in Los Angeles. The project consolidated four separate low-speed rail lines to the ports, eliminating conflicts at more than 200 at-grade crossings, providing a high-speed freight expressway, and minimizing the impact on communities.

The project produced a wide range of benefits, including:

- More efficient freight rail movements
- Reduced traffic congestion by eliminating at-grade crossings
- Multiple community beautification projects
- Decreased train emissions
- Slashed delays at highway-railroad crossings
- Cut noise pollution from trains
- Reduced emissions from idling automobiles and trucks

The \$2.4 billion Alameda Corridor was funded through a unique blend of public and private sources. Revenues from user fees paid by the railroads will be used to retire debts. Railroads initially paid \$15.00 for each loaded 20-foot equivalent unit (TEU) container; \$4.00 for each empty container, and \$8 for other types of loaded rail cars such as tankers and coal carriers. Over a 30-year period, fees will increase between 1.5 percent and 3 percent per year, depending on inflation. Effective January 1, 2006, fees are \$16.75, \$4.47 and \$8.93 respectively.

Planning began in 1981, construction in 1997 and operations in 2002. The project extends through or borders the cities of Vernon, Huntington Park, South Gate, Lynwood, Compton, Carson, Los Angeles, and the County of Los Angeles.

For additional details on the project see the Alameda Corridor Transportation Authority website.¹²

The Alameda corridor used rail relocation, new rail infrastructure and grade separations to solve quite a few crossing problems.

¹²The Alameda Corridor Transportation Authority website is at http://www.acta.org/projects_completed_alameda.htm

3. Alameda Corridor East, CA

The growth of imports through the Ports of Los Angeles and Long Beach that led to the Alameda Corridor project (above), as well as increased commuter rail service, have led to sharp increases in train traffic in many areas of the Los Angeles Basin beyond the Alameda Corridor area. In particular, after trains pass through the Alameda Corridor and continue to the east, grade crossing problems occurred to the east of downtown Los Angeles. One result of the increased train traffic was the creation of the Alameda Corridor-East Construction Authority by the San Gabriel Valley Council of Governments – a consortium of the 31 cities of the San Gabriel Valley. Train traffic along the corridor is expected to increase from 69 trains a day in 2003 to 161 in 2025. Meanwhile, vehicular traffic is expected to grow 40% and vehicular delay at crossings will grow by 300%.

The goal of the \$950 million ACE project is to mitigate the effects of the increased train traffic along a 35-mile freight rail corridor through the San Gabriel Valley from East Los Angeles to Pomona. It includes transportation safety improvement projects at 39 grade crossings located throughout the San Gabriel Valley. The ACE project includes grade separations at 20 of the most congested crossings, safety improvements at another 42 crossings and the Intelligent Roadway/Rail Interface System (IR/RIS), a communication system to alert motorists and emergency responders to blocked crossings. The project, when completed, is estimated to eliminate 150 accidents a year. Other benefits include reduced congestion, improvements in air quality and enhanced attractiveness to industry.

The grade separations will also improve emergency response, as will the IR/RIS system, which will allow emergency responders to select the best route to an incident. As part of this study, the FRA staff met with officials from the City of San Gabriel to determine how blocked crossings had affected emergency response. In San Gabriel, fire and police stations are located south of the railroad line, which splits the town. Stopped trains have caused serious delays in emergency response in the past, forcing neighboring emergency services to respond to calls in San Gabriel, with unacceptable delays, according to local officials interviewed for this report. The ACE Project, by providing a grade separation in San Gabriel, should reduce the emergency response problem.

B. Grade Separation

1. Belen, NM

Belen, NM is located on the west bank of the Rio Grande in Valencia County. The very busy BNSF east-west lines between Chicago, IL and Los Angeles, CA run through the heart of the city. The Belen rail yard is a stopping point for inspections, repairs, refueling, and crew changes. New Mexico Highway 314 also runs through the middle of Belen parallel to the BNSF rail line and is the city's Main Street. Highway 47 and Interstate 25 cross the east and west sides of the city.

In response to a surge in the demand for freight transportation, the BNSF plans to complete its second mainline track from Los Angeles to Chicago, through Belen. Currently, an average of 110 trains pass through Belen every day (1 train every 15 minutes). When the new mainline track is completed, this will increase train traffic to 160 trains per day. At a public hearing, the FRA Grade Crossing Manager for the region stated that as a result of the additional train traffic, affected grade crossings could be closed for 70 percent of the time.¹³

The New Mexico Department of Transportation (NM DOT) is building a train station in Belen for its new RailRunner Express, a commuter rail service between Belen and Bernalillo, New Mexico. The train station will draw added highway vehicle traffic to the area surrounding the rail line, resulting in an increase highway vehicle-train accident risk and the amount of time it takes for highway traffic to clear the grade crossing after each closure. The RailRunner will run on dedicated track parallel to the BNSF double track. Both projects will add to the number of times per day grade crossings are closed. Belen's emergency response providers would be affected by these projects.

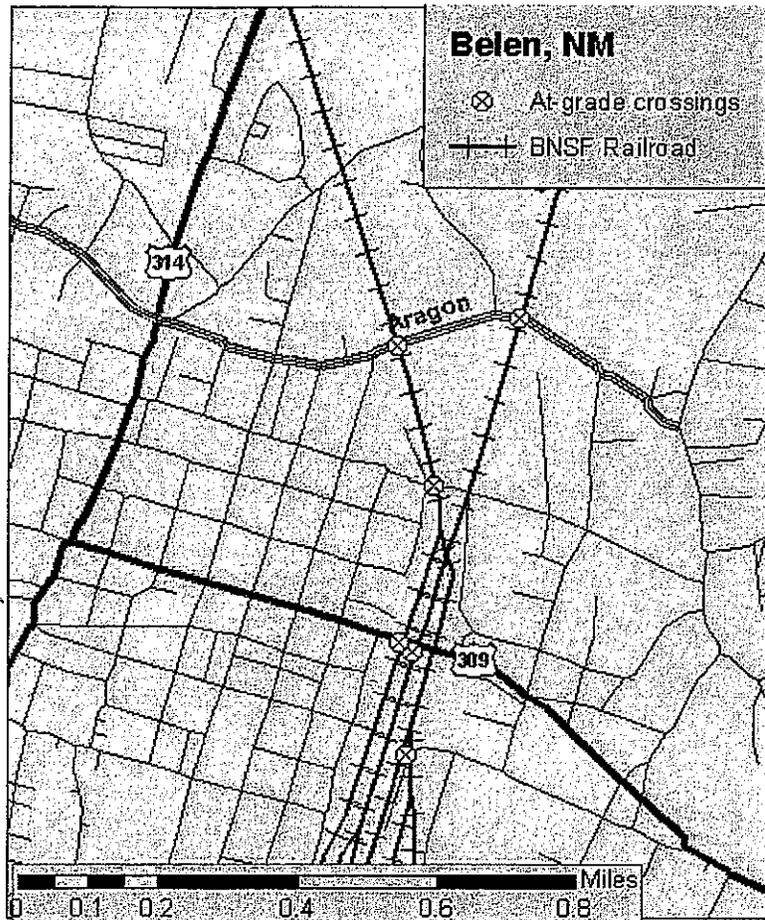
The BNSF and NM DOT have worked together to improve safety and reduce highway delay along this rail line. Initially, NM DOT notified BNSF it would have to upgrade the signal equipment at the affected grade crossings. But BNSF offered to contribute \$2 million towards a grade separation at one location in exchange for an agreement with the city to close four adjacent grade crossings. NM DOT agreed and added \$3 million in Federal Section 130 (Rail Safety) and Section 152 (Hazardous Elimination) funds, bringing the total grade separation funds available to \$5 million. Then, the Belen Planning and Zoning Commission gained public support for the grade crossing separation and closures by hosting a series of public hearings where NM DOT, BNSF, FRA, and the general public presented their views.

Some project details still need to be addressed. If successfully resolved, the city of Belen will have a total of three grade-separated crossings evenly spaced throughout the city and a Quiet Zone by default since no at grade crossings will remain. This will allow all vehicles, including emergency response vehicles, access to all points in the city within a reasonable amount of time. The BNSF will have fewer grade crossing signal systems to maintain, as railroads are required by Federal law to maintain all grade-crossing signaling equipment.

¹³ Ms. Carolyn Cook, Federal Railroad Administration Grade Crossing Manager at the Belen Planning and Zoning Commission Meeting, December 12, 2005.

This project is an excellent example of the state, community and railroad working together to address a potentially critical problem as railroad traffic grows to very high levels.

Map 1A



Source: FRA Office of Policy and Program Development

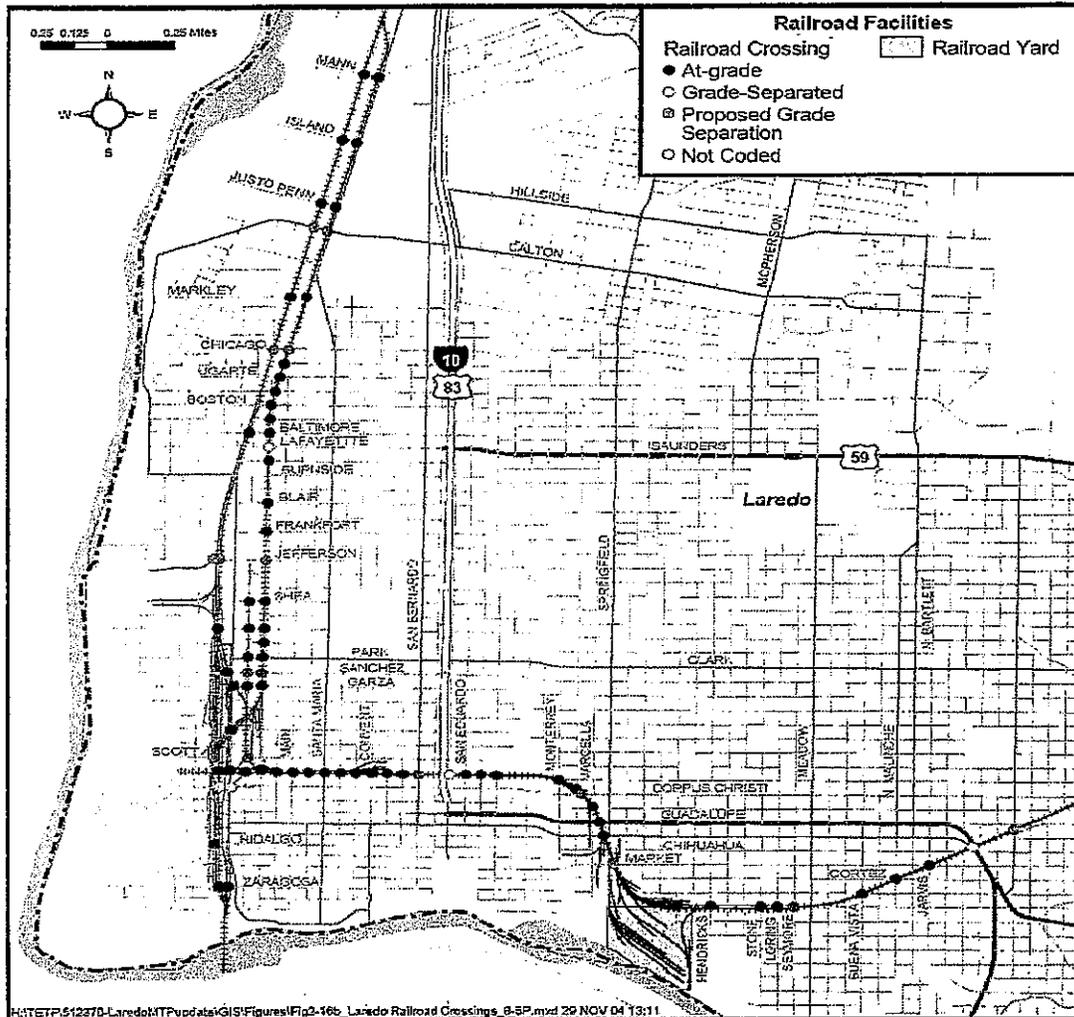
2. Laredo, TX

The city of Laredo, located in the south of Texas, is considered to be the main gateway of trade between the United States and Mexico. It is the busiest highway-railroad crossing on the U.S./Mexico border. Freight reaches Laredo from the south through the Kansas City Southern's (KCS) Transportacion Ferroviaria Mexicana (TFM) railroad subsidiary in Mexico, from the north via the Union Pacific Railroad (UP) and east by the Texas-Mexican Railroad, also owned by KCS. Highway transportation is provided mainly by

I-35, which travels north to San Antonio and handles a large amount of truck traffic. Increased freight movement has led to significant impacts on local transportation infrastructure.

All US/Mexico traffic at Laredo uses the single-track international railroad bridge in downtown Laredo, which connects TFM with Texas-Mexican/KCS and UP. The bridge is owned by KCS but UP operates over the bridge via a usage agreement. The Texas-Mexican Railroad has an east-west direction and travels to Corpus Christi then to Houston and the Midwest. The UP connects north to its mainline in San Antonio. The railroads in downtown Laredo run parallel to the Rio Grande, the border with Mexico, resulting in a long and thin strip of urban land between the railroads and the border. Each company owns a rail yard where it sorts and assembles rail cars. The UP rail yard is located about a half mile north of the international bridge and is used primarily for import and export operations. The Texas-Mexican rail yard is located to the east in central Laredo, and is used to assemble trains going out to east Texas and the Midwest or Mexico. The two railroads combined have 81 grade crossings in Laredo, plus five grade separations. Map 2A (pg. 7) shows the location of the railroads and Laredo street system.

Map 2A



HRITETP\512378-LaredoMTP\data\GIS\Figures\Fig2-16b Laredo Railroad Crossings_8-5P.mxd 29 NOV 04 13:11

Source: Wilbur Smith Associates, 2005

The city of Laredo has a number of major activity centers, those that attract or generate large numbers of vehicle trips, within the land strip between the border and the railroads (the area in the map to the left of the railroads). The only way to access these centers are at-grade highway-railroad crossings. This presents a problem because the large number of people going into and out of the area between the border and the railroads means a higher likelihood of emergency response calls. There are two hospitals in the downtown area, located north and east of the railroads, on the other side of the strip between the railroads and the border. In case of an emergency, the ambulance must cross the tracks to reach a hospital after a call in the strip. Due to crossing blockage, emergency response may be delayed. Fire stations are well distributed throughout the city and there are stations on every side of the rail lines. However, the police department has its main offices south of the railroads in central Laredo. This means that a police car must detour

to use one of the three overpasses available if trains block highway-railroad grade crossings.

The proposed solution to this problem is the construction of 16 overpasses that would provide access to all areas at any time. This tactic is expensive and complex and will take a long time to complete. For this reason, an alternative, short-term approach is being considered that makes use of technology developed at the Texas Transportation Institute (TTI). Doppler radars, video cameras and wireless technology will be used to inform first responders about blocked crossings and the best alternative routes (see Houston in the Communications section of the Appendix).

3. Chattanooga, TN

Chattanooga (population 156,000) is located in southeastern Tennessee in Hamilton County. It is on a bend in the Tennessee River between Lookout and Signal Mountains and at the junction of Interstates 75, 24 and 59. Four railroads move traffic through Chattanooga. The Norfolk Southern Railroad (NS) runs two lines through the city; from north to south and from east to west, the CSX railroad enters the city from the west and departs to the south, with a branch to the east. The Chattanooga Belt Railroad runs from east to west through the city, while the Chattanooga and Chickamauga Railroad runs south out of the city.

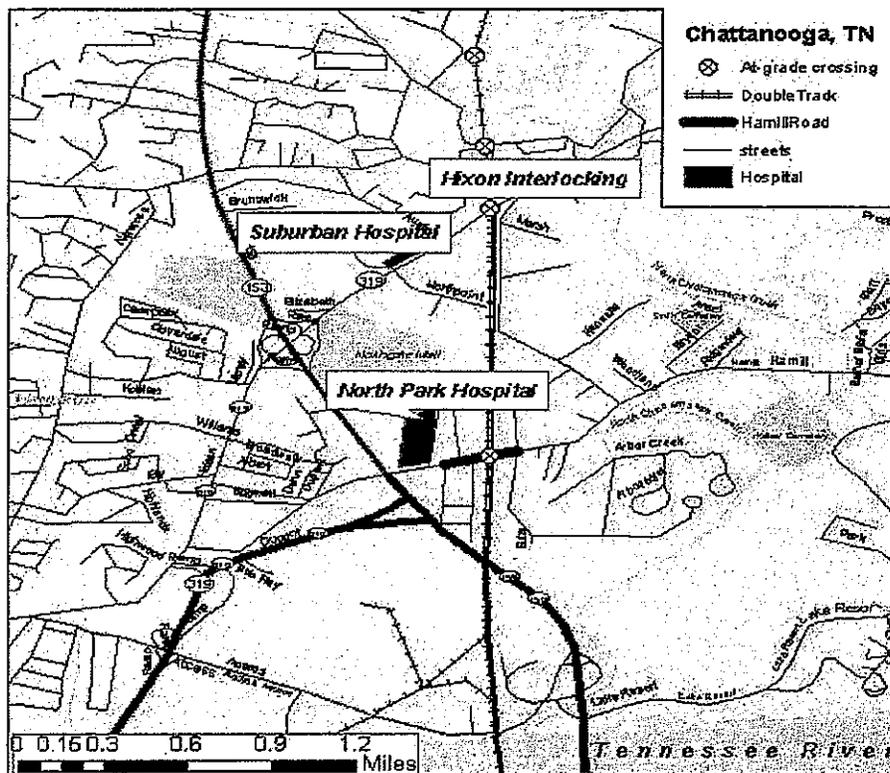
The Hamill Road Crossing is near the northern edge of Chattanooga on NS track. Between 36 and 44 trains and over 19,000 highway vehicles pass over the highway-railroad crossing each day. Auto traffic at this crossing will most likely increase due to considerable commercial and real estate development in the area.

The Hamill Road crossing is on a double tracked rail line. One mile north, the double tracks converge to single track at the Hixon Interlocking. Northbound trains sometimes have to slow down at the Hamill Road crossing to allow oncoming southbound trains to pass through the interlocking. Some southbound trains have to slow down at the crossing to drop off crews or for switching activity at Norfolk Southern DeButts Rail Yard, which is 1.4 miles to the south and just over the Tennessee River Bridge. Slow north- and south-bound trains can occupy the crossing one right after another. As a result, the Hamill Road crossing is frequently blocked from 30-55 minutes at a time. This can cause auto traffic to back up until it blocks Highway 153, one-quarter mile away, which is a designated evacuation route for a Tennessee Valley Authority nuclear plant and serves as a major traffic artery for school buses, fire trucks, and ambulances. When Highway 153 is blocked by traffic, the alternative route to cross the Tennessee River to the south can take an additional 10-15 minutes in travel time.

The city police and fire departments report the Hamill Road crossing has caused serious delays for emergency vehicles. The hospital and fire station are on the west side of the railroad tracks and about 5,000 people live to the east. The entrance to the North Park Hospital, an acute care facility, is on Hamill Road, one-quarter of a mile southwest of the crossing. Emergency vehicles and patients are delayed when the crossing is blocked.

Approaching from the east, emergency vehicles can detour about a mile to the north where there is a grade separated crossing, but that results in a delay of several minutes and then contending with the backup on the other side crossing to reach the Hospital. City officials and the Norfolk Southern Railroad have received numerous complaints from the public concerning this crossing and are working together to develop a solution. Right now, the city of Chattanooga is widening Hamill Road from two to four lanes up to the crossing so that traffic does not back up onto Highway 153. The Hamilton County Rail Authority plans to conduct a feasibility study to evaluate a highway rail grade separation.

Map 3A



Source: FRA Office of Policy and Program Development

C. Public/Private Investments

1. Greenville, NC

The city of Greenville is located in eastern North Carolina; the city and surrounding metropolitan area have a total population of around 142,500. Greenville is intersected by the railroad lines of Norfolk Southern (NS) running east-west and CSX Corporation going north-south (see Map 4A, pg. 15). Railroad operations block local roads, causing delays in the vehicle flow between southeast residential neighborhoods and destinations in the northwest of the city. Local streets are blocked during the movement of freight

trains coming southbound on the CSX line onto the NS eastern route. The problem arises because there is no track directly connecting the southbound track to the eastbound track at the intersection. Trains must proceed beyond the intersection into the nearby switching yard (see Map 5A, pg. 16). At the yard, the locomotives must “run around” the train so they will be at the other end of the train, which will be the front as the train now heads east. The train will now be pulled northbound onto the eastbound NS line, since there is a direct track connection in that direction as seen on Map 5A. In order to “turn” the train, that is, prepare it to be operated in the opposite direction, it must be broken into shorter segments at the yard, because the yard is not long enough to hold the entire train and thus allow the locomotives to “run around” the train on one of the yard tracks. After the locomotives are on the north side of the train segments, they recouple the segments and proceed north and east to the customer. This switching back and forth blocks the roads at either end of the yard for substantial periods of time. The North Carolina Department of Transportation (NCDOT) reports that blockages can last up to 3 hours two times a day, often at peak travel times on roads with volumes ranging from 16,000 to 30,000 vehicles per day. This means commuters, school busses, and emergency vehicles cannot pass through the rail corridors.

Figure 1. - CSX-NS railroad intersection



Source: Federal Railroad Administration, Office of Policy

In Figure 1, the CSX track runs from the bottom left (south) and the NS line runs across the figure horizontally. Currently, CSX trains proceed past this crossing to a yard, where the locomotives are moved to the opposite end of the train, the new front of the train, and the train then uses the connecting track shown in Figure 4 to proceed eastward (left in this picture). A direct connecting track running to the left in Figure 1 between the CSX line and the NS line would eliminate blocked crossings caused by the need to move locomotives to the opposite end of the train.

Figure 2. – CSX rail yard and Howell Street



Source: *Federal Railroad Administration, Office of Policy*

Figure 2 illustrates the proximity of Howell Street to the north end of the CSX rail yard and how trains will likely block the crossing.

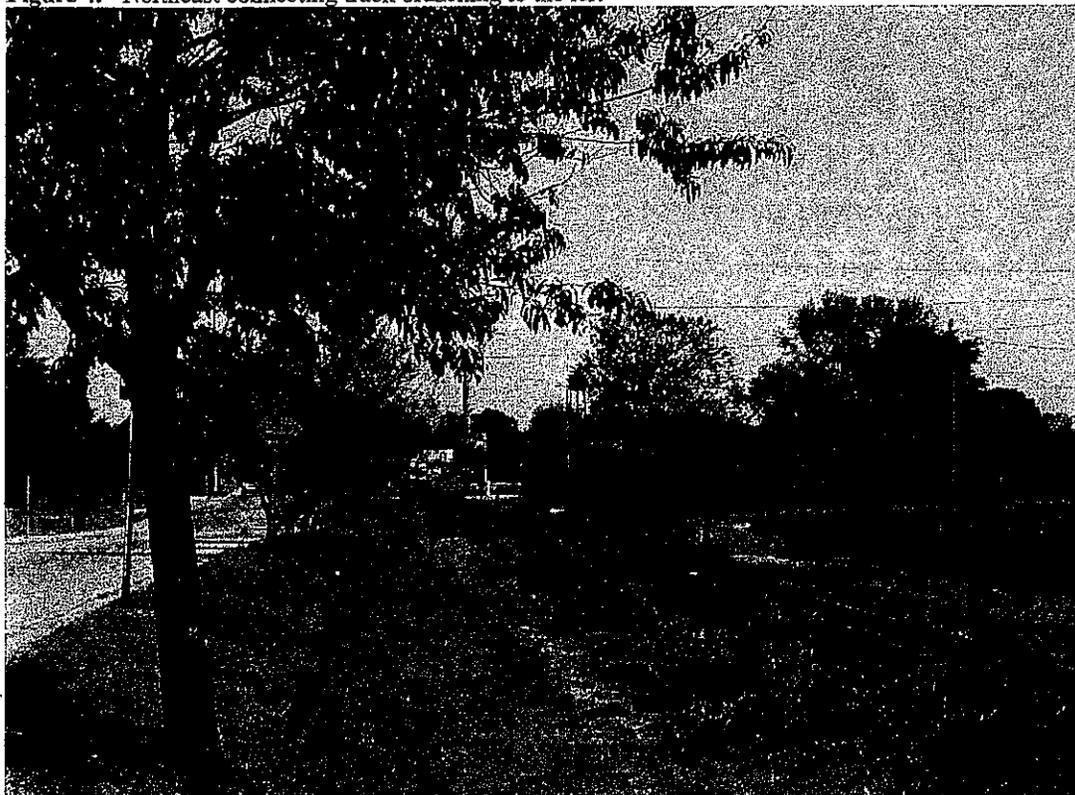
Figure 3.- At Grade Crossing of Arlington Boulevard & CSX railroad



Source: Federal Railroad Administration, Office of Policy

Figure 3 above shows the at-grade crossing of Arlington Boulevard and the CSX Transportation rail line. Arlington Boulevard is at the southern limit of the yard. This artery serves as access road for a high school, located next to the yard. To the left of the picture is a residential area and people travel to the right to get to school, work and, if needed, medical services.

Figure 4. - Northeast connecting track branching to the left



Source: *Federal Railroad Administration, Office of Policy*

Figure 4 faces north and shows the CSX line and the track heading off to the right that connects directly with the NS line to the east. The intersection of the two lines can be seen in the center of the picture. (Figure 1 was taken on the other side of the crossing in the center, looking south.)

A 2006 study prepared for NCDOT by Ralph Whitehead Associates concludes that these negative railroad impacts can be mitigated by two projects. One is the construction of a south-to-east connecting track at the intersection of NS-CSX lines and the other is relocating CSX rail yard from downtown Greenville to a site north of US 264. The construction of the southeast connecting track would prevent trains from blocking Arlington Blvd and Howell St as direct south to east travel would now be possible. Relocation of the switching yard would move rail car sorting operations out of the city and limit the remaining impact on the CSX line to a smooth movement of freight through the urban area. Table 1 shows the costs and benefits of the two projects. Total construction costs for the two projects amount to \$2.9 million. These projects also result in fuel and labor savings for the railroad companies estimated to total \$467,298 per year.

Table 1. - Costs and Benefits Estimates

Total Construction Costs	Rail yard	\$2,144,340
	South to East connector	\$822,090
Benefits Per Year	Labor Savings	\$467,298
	Fuel Savings	\$158,080

Source: *Ralph Whitehead Associates, Inc.*

This project is still in its preliminary stage and stakeholders will need to coordinate and agree on many details. Some of the matters to be resolved include agreements between the railroads on granting each other operating rights on their tracks and whose trains should proceed first over jointly used tracks. The City of Greenville also needs to consider the plans that Eastern Carolina University has for a number of properties surrounding the study area that could potentially be affected by the project. ¹⁴

¹⁴ References:

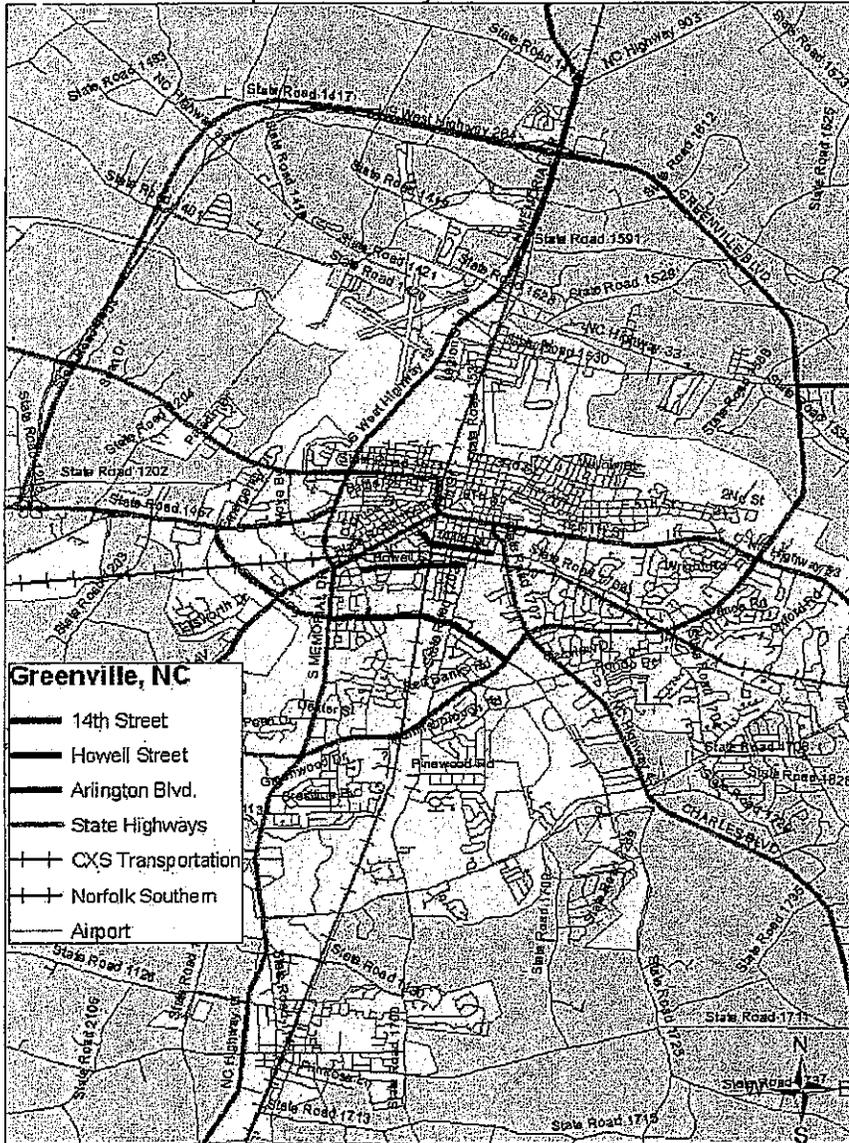
Dehler, B.D. (2006). *Greenville Traffic Separation Study -Phase I (DRAFT)*. Ralph Whitehead Associates, Inc.

Greenville-Pitt County Convention & Visitors Bureau. April 28th, 2006.
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<http://factfinder.census.gov/home/saff/main.html>

Map 4A

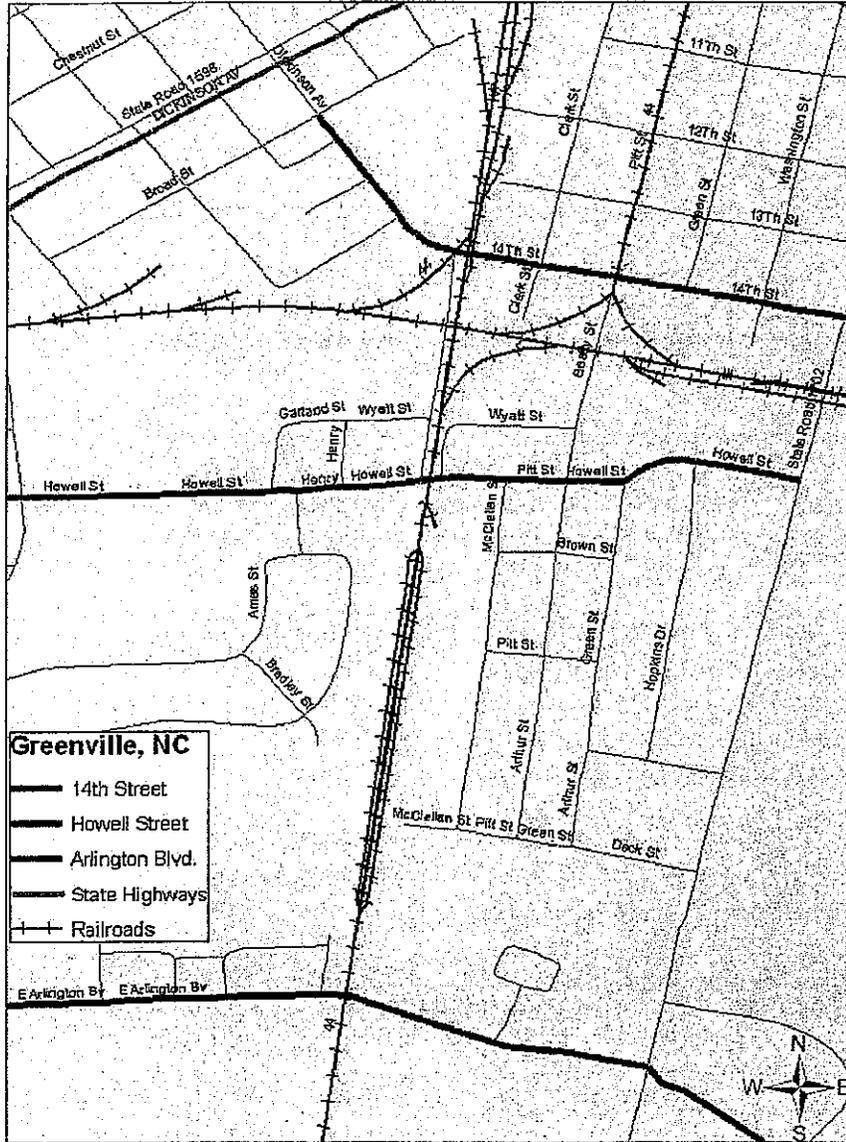
Transportation System of Greenville, NC



Source: Federal Railroad Administration, Office of Policy

Map 5A

Downtown Railroads in Greenville, NC



2. Fayetteville, NC

Fayetteville is the sixth largest city in North Carolina and the county seat of Cumberland County. Located along the Cape Fear River, this city of 60 square miles has a population over 120,000.¹⁵ Three railroads - CSX, the Norfolk Southern (NS), and the Aberdeen and Rockfish - traverse the city, resulting in 183 private and public at-grade highway-railroad grade crossings. Train volumes at each crossing vary from 3 to 39 trains per day.¹⁶

The CSX and NS rail lines enter the city from the northwest, north, and northeast corners of the city, crisscross each other along one of Fayetteville's central thoroughfares, where they also traverse the Aberdeen and Rockfish Railroad, which runs east to west. The CSX and NS rail lines continue out of the city towards the southwest, south, and southwest.

The dense web of Fayetteville's roads and railroads increases the probability of grade crossing accidents and auto traffic delay, especially in the central city, where all three rail lines intersect and conduct switching activity, often stopping at the grade crossing for more than 30 minutes at a time. When a grade crossing is blocked for such a long interval, it has a significant effect on auto traffic delay and, potentially, emergency response, especially during the morning and evening rush hours. This delay can affect the public services provided by hospitals, schools, fire and rescue stations.

The NCDOT has completed a Traffic Separation Plan for Fayetteville designed to improve highway-railroad grade crossing safety and to mitigate grade crossing traffic delay. The plan evaluated 52 grade crossings for potential closures, roadway improvements, signal upgrades and grade crossing separations. In North Carolina, the railroads and the state pay all the costs of closing grade crossings and any associated mitigation projects, although the state pays for grade separations.

The state, the city CSX and NS are planning two rail realignment projects, financed in part by Federal funds. The first realignment involves constructing a connection track between two CSX lines entering Fayetteville from the north. One track is the heavily used CSX "A" line and the other serves the Fort Bragg military base and is essential to the movement of military equipment. The second realignment will connect the NS main track to the Milan Yard. As a result, some railroad track and several grade crossings will be removed. These two new track improvements will allow all three of the city's railroads to reroute traffic from downtown Fayetteville to the Milan rail yard on the city's outskirts and hence eliminate the current midtown pushing and pulling of trains as they conduct switching activities.

These cooperative efforts among the state, city, and the two Class 1 railroads will result in less traffic delay for all vehicles including emergency responders, less chance of rail-

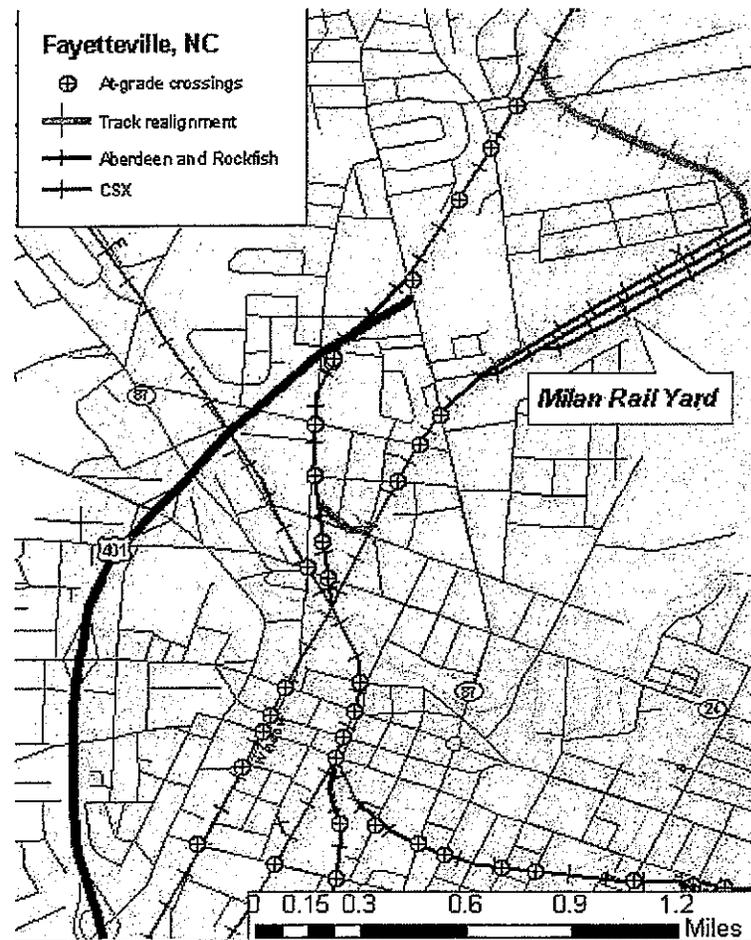
¹⁵ US Department of Census, American Fact Finder, 2006.

¹⁶ Federal Railroad Administration; National Grade Crossing Inventory Database, 2006. This includes 117 public and 64 private at-grade crossings.

highway vehicle accidents, and improved movement of freight in and around the city of Fayetteville.

These projects demonstrate a comprehensive approach to crossing issues in Fayetteville. By adding rail connections, relocating rail lines, closing grade crossings and providing safety upgrades at remaining crossings, Fayetteville should see reduced traffic delays and improved safety. These projects also illustrate a cooperative effort involving several railroads, the state and the city. Funding also will come from a wide variety of sources, ranging from the railroads to the federal government.

Map 6A



Source: FRA Office of Policy and Program Development

D. Communications and Monitoring

1. Houston, TX

The Houston area may have more grade crossings than any other city of comparable size in the United States, because of its role as a major railroad and industrial center, and its location in a flat, low lying area. Railroads in many cities follow river bottoms, often in valleys well below the surrounding land, which has led to grade separations when highway bridges are built connecting hills on either side of the river. In Houston, highway bridges across non-navigable waterways do not need to be elevated above the adjacent railroad tracks because the terrain is so flat. Moreover, underpasses, for either highways or railroads, are subject to flooding. As a result, Houston has had serious grade crossing issues.

Faced with delays at grade crossings, two rail monitoring systems have been implemented in the Houston area. Within the City of Houston, a series of 18 cameras were placed at critical grade crossings in 2005. This is part of TransLink, the intelligent transportation system (ITS) research program of the Texas Transportation Institute (TTI). The web site <http://traffic.houstontranstar.org/cctv/railroad/> provides video from these cameras. Emergency responders as well as citizens can use these videos to see if a grade crossing is blocked. The usefulness of the system depends on the emergency responder or the dispatcher taking the time to check the cameras. If they have access to the internet, that can be done quickly. If the crossings on the route to the scene of an incident are rarely blocked, responders often do not take the time to check.

In nearby Sugar Land, Texas, a more elaborate system was installed in 2002. In cooperation with Texas DOT, TTI developed the Sugar Land rail monitoring implementation project. Funding for the program also came from the U.S. DOT ITS Priority Corridor Program. The system monitors all the crossings on a 6.4 mile rail corridor. TTI developed a train detection/projection system for the corridor and a graphic display (available on line at <http://traffic.houstontranstar.org/rail/>). The system indicates real time train status and arrival time projections at the various crossings. Kiosks displaying this information are provided at two fire stations and at the police/fire communications center. The train detection is based on a Doppler radar system at each crossing connected by cellular wireless communications equipment to the central system.

The Sugar Land system, unlike the monitoring system in Houston, was designed particularly for the need of the emergency response community. It has prevented at least one very serious incident when a truck carrying sodium hydroxide, an extremely hazardous chemical, stalled on a crossing. Police dispatchers spotted the stalled truck and saw that a train was approaching at 44 miles per hour. The dispatcher immediately alerted the railroad and police units to the situation. Dispatchers continued to monitor the train's location and speed as it drew closer to the disabled truck. Alerted to the problem, the train crew was able to safely stop the train before a collision occurred. A collision that resulted in a spill would have required a full evacuation of the area.

TII, a part of Texas A&M University, has also installed a similar system in College Station, TX. The College Station community is split by a rail line carrying 20-24 trains a day. Train speeds vary from 10 to 45 miles per hour and the gates at crossings may be down from 1 to 10 minutes. Using a system of sensors mounted on poles located off the railroad right of way, this system uses solar power to operate the radar and wireless communication system. College Station does have fire stations on both sides of the track, providing some flexibility in dispatching. The system includes a display kiosk that is located in the fire house on the route used by emergency personnel to reach the fire stations bays where the emergency vehicles are positioned. Responders can check crossing status as they go to their vehicles. A system with both cameras and radars was preferred, since the Doppler radars do not detect stopped trains that may be blocking a crossing. Emergency responders have been rerouted about 15-18 times a year.

With the research completed, a system such as that at Sugar Land can be relatively inexpensive, depending on the length of the corridor, the number of radars and or cameras used and local conditions. The components are "off the shelf." While experience indicates the system is reliable, it is essential to determine who is responsible for maintenance.

2. Albany, OR

Albany, Oregon, is located in Linn County in the central Willamette Valley in Oregon, bordering Interstate Five. Albany has a population of approximately 43,000. Queen Avenue is a centrally located main East-West route through Albany. One main line track and three yard tracks cross over Queen Avenue at this location. One block away, the west side of the crossing connects at an intersection to the main highway (Hwy. 99). The crossing is equipped with gates and cantilever flashing lights.

The Queen Avenue crossing is on the Union Pacific Railroad (UP) north-south mainline between California and the Pacific Northwest. It is at the south entrance to the UP yard, currently leased to the Willamette & Pacific Railroad. The yard, once used by a single freight railroad, currently serves one Class I railroad (UP), two short line railroads (the Willamette & Pacific Railroad and the Albany & Eastern Railroad) and Amtrak. There are six Amtrak trains, approximately 25 through-freight train movements and 125 switching movements over the crossing each day. The average daily auto traffic count is just over 16,000.

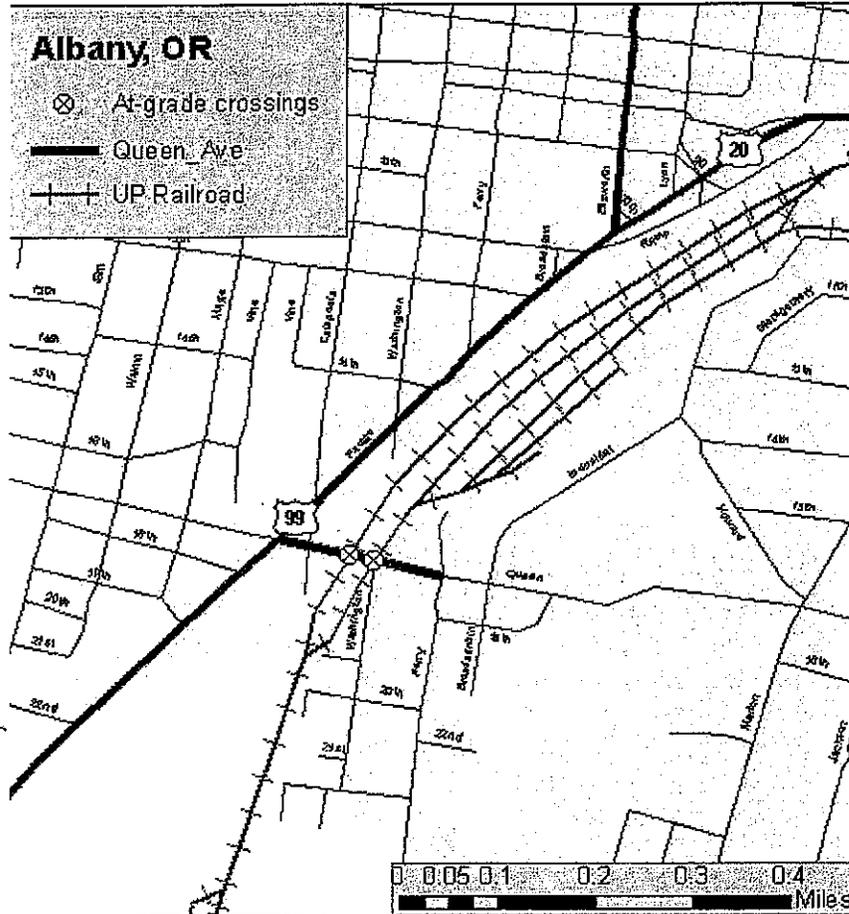
In 1980, the Public Utility Commission of Oregon (PUC) granted the Southern Pacific Railroad (the UP's predecessor) a variance to the blockage rules the Commission had established stipulating the amount of time a railroad could block a crossing. The PUC variance extends the amount of time the railroad can block the crossing from 10 to 20 minutes at a time. This increase in blockage time can only be applied to road trains, not switching movements, and cannot be used during designated rush hours (between 6:00am to 9:00am and 4:00pm to 6:00pm). The railroad must use outlying sidings for set outs and pick-ups. Because a 20 minute grade crossing blockage will cause significant delay for all highway vehicles, including emergency vehicles, the railroad is required to give at

least 1-hour advanced notice to the city of Albany before blocking the Queen Avenue crossing. Oregon also requires the railroads to coordinate road closures and re-openings with the public authority during blockages.

The Oregon State Department of Transportation Rail Division receives at least one blockage complaint per day on this crossing, but often more, due to railroad operations at this crossing. Traffic queues grow quickly. When the railroad completes its move and clears the crossing for a minute or two, traffic will have typically backed up onto the highway and to the east approximately one-quarter of a mile. When the railroad resumes switching over the crossing, traffic that was previously queued may once again be stopped. Railroad operations affect traffic flow and create mobility issues from the east to west side of Albany. Upon approaching Queen Avenue from either direction, should the crossing be occupied, there is some opportunity for motorists to choose an alternate route, which makes this crossing an excellent candidate for intelligent signaling. However, Queen Avenue is only one part of a larger congestion problem in Albany, so that frequent blockages at this crossing during rush hour can cause significant delays throughout the area.

Currently, ODOT, the railroads, and local governments are reviewing a number of options to alleviate the motor vehicle congestion issues in the Albany region. Unfortunately, there is no room for any type of yard expansion. While any complete solution will take time and likely be expensive, a warning/communication system such as used in Sugar Land might provide an interim step to reducing the problem.

Map 7A



Source: FRA Office of Policy and Program Development

E. Rail Relocation

1. Hidalgo County, TX

Hidalgo County, TX (population 658,248) is a fast growing rural area located on Rio Grande River at the southern most part of Texas near Brownsville. Its population grew 19.1 percent from 2000 to 2005, compared to 9.6 percent for the state of Texas, and 5.3 percent for the entire US for the same time period.¹⁷ Most of the county residents live and work near the railroad-highway configuration described in this section.

Hidalgo County's rail lines and highway network provide intermodal freight transportation between the United States, Texas and Mexico. While intermodal transportation is key to the area's current economic prosperity, long traffic delays at

¹⁷ US Census Bureau, Population Finder, www.census.gov.

highway-rail grade crossings have become a costly and dangerous problem for all transportation users, including emergency vehicles.

This is especially so along a stretch of rail track owned by Rio Valley Switching Company (RVSR) short line railroad that extends 65 miles from the Union Pacific Railroad's (UP) Harlingen Rail Yard westward through Hidalgo County, into the small interchange yard in the City of Mission, before connecting with the Border Pacific Railroad (BOP). RVSR track runs parallel to US Business 83. Warehouses and transloading facilities along US Business 83 use team tracks (rail sidings that are accessible to trucks) to transfer freight from truck to railcars on the RVSR track.

The RVSR traffic includes agricultural products, paper, and other manufactured goods that have been trucked across the Mexican border over three international bridges. All RVSR traffic is interchanged with UP at the Harlingen Rail Yard, but RVSR does not have access to the Harlingen Yard to switch or sort cars. Instead, RVSR brings entire trains of unsorted cars to Mission Yard, where cars are blocked in groups for local customers. The Mission Yard has no yard lead track and very little storage capacity. Hence, rail operations at this yard often block adjacent grade crossings on major thoroughfares, including US 83, for over 30 minutes at a time. The condition of the rail track in this area is so poor that the maximum train speed is limited to 10 miles per hour.¹⁸ Since many of the trains handled by the RVSR are 100 cars long, through trains can block a crossing for 5 minutes at a time.

Local government entities approached RVSR to discuss relocating its rail line away from Business 83 when they first began operations in 1993, after purchasing the line from UP. But RVSR and their customers argued that the combined costs of relocating the rail line and the warehouse facilities in the immediate area made this proposition financially impractical.

Train traffic volumes on the RVSR line have grown from 2,700 carloads in 1993 to 11,000 carloads in 2003. Growth is attributed to the railroad's ability to provide specialized customer service. Because Hidalgo County is so far from any major urban area, there is little direct competition from the trucking industry.¹⁹

While the railroad acknowledges serious operating constraints, RVSR hopes to nearly double its 2003 traffic volume to 20,000 carloads by 2010. To accomplish this, RVSR would like to build an intermodal terminal. Local business development groups support this type of investment to encourage growth. Toyota recently decided against development in Hidalgo County for lack of intermodal access.

Hidalgo County Metropolitan Planning Organization (HC MPO) has commissioned the Hidalgo County Rail Study to evaluate a series of at-grade roadway enhancements, adjustments to railway sidings, grade separations, and railroad track improvements as

¹⁸ Hidalgo County Rail Study, Hidalgo County Metropolitan Planning Association, February 28, 2005, p. 12.

¹⁹ *Id.* at 12.

short and mid-term solutions. The roadway enhancements would improve safety and traffic flow. The adjustments to railway sidings would facilitate switching and sorting operations in the Mission Yard. Grade crossing separations would eliminate all highway-rail problems at the separated crossing and could alleviate traffic congestion at adjacent crossings if traffic is successfully redirected. The railroad track improvements would allow trains to travel at higher speeds to reduce the amount of time crossings are blocked for each through train.

In the long term, the Rail Study recommends relocating railroad track and building an intermodal yard. The HC MPO Rail Study proposes using multiple sources to fund these projects. The study states that the track siding improvements and track upgrades may qualify for the Short Line and Regional Railroad Rehabilitation Tax Credit Program.²⁰ But since the total value for this tax credit program is capped, it is likely that the funding for the siding improvements would have to come from a combination of funds from RVSR, online shippers at affected sidings, and local municipalities. Shared funding would be justified by the shared benefits of the improved sidings including improved rail service and reduced grade crossing delay.

The grade separations may be eligible for funding under the Federal Highway Administration's Surface Transportation Program (STP) apportionment for Texas, although the projects must compete with many other eligible highway projects in Texas. Funds from this program may be used to provide up to 80 percent of the funding, with the remaining 20 percent provided by state or local entities. Within the State of Texas, the Unified Transportation Program (UTP) provides the 20 percent matching funds for their Grade Separation Program.²¹

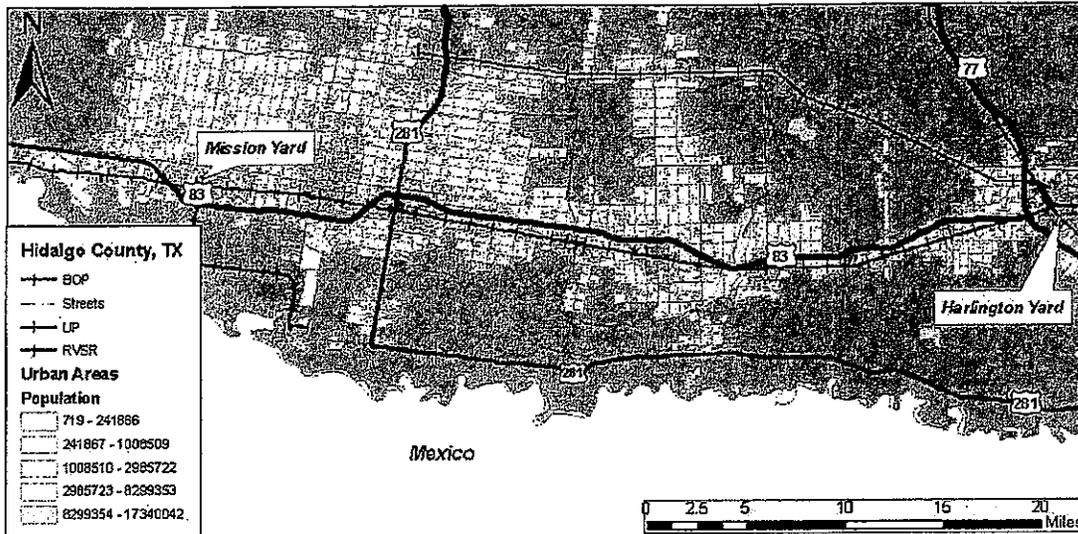
The rail relocation and intermodal facility are costly investments and require further study. HC MPO Rail Study identifies these projects as good candidates for a Railroad Rehabilitation and Improvement Financing (RRIF) loan from FRA.²²

²⁰ The Short Line and Regional Railroad Rehabilitation Tax Credit (26 USC 45G) provides a tax credit of 50 cents on the dollar for every dollar invested in track rehabilitation or maintenance, not to exceed \$3,500 per mile. The credit is available every year but expires at the end of 2007.

²¹ Hildalgo County Rail Study, Hildalgo County Metropolitan Planning Association, February 28, 2005, 1p. 39.

²² The Railroad Rehabilitation & Improvement Financing (RRIF) Program, administered by FRA, provides direct loans and loan guarantees up to railroad-related projects. For more information, see the FRA website: <http://www.fra.dot.gov/us/content/177>

Map 8A



Source: FRA Office of Policy and Program Development

2. Spokane, WA

The “Bridging the Valley” program is a community-initiated project to explore creation of one common railroad corridor over which BNSF and UP would operate between Spokane, WA and Athol, ID. This 42 mile two-railroad corridor presently has 72 grade crossings with over 70 trains a day. The UP and BNSF lines are roughly parallel, a mile or two apart. Growth in train traffic is forecast to increase annually by 3.4 percent over the next 20 years.

The project would move UP’s operations onto a triple track railroad along the BNSF corridor, although local rail service to customers on the UP would be retained. The project would eliminate approximately 51 at-grade crossings through closure and the relocation of the UP line. The remaining 21 crossings either are or would be grade separated. The total cost was estimated at \$252 million in 2001 dollars.

While not primarily a response to emergency response issues, reduced traffic congestion and crossing delays should benefit emergency response in the areas while also improving crossing safety and reducing emissions in a serious non-attainment areas. Although total funding for the project has not been secured, work has begun on some parts of the project.

F. Grade Separation, Line and Yard Relocation

El Paso, TX

The city of El Paso is located in far west Texas at the tip that meets New Mexico and Mexico. In 2005, the area had a total population of 721,598. The El Paso region is at a strategic location in the midpoint of the Southern California-East Texas route and at the border with Mexico (Map 9A, pg. 31). The community has a high level of passenger and freight movement. The region is served by two railroad companies: Union Pacific (UP) and Burlington Northern Santa Fe (BNSF). UP has two routes serving the region, the Sunset Route which travels from southern California to East Texas and Louisiana and the Tucumcari line which connect El Paso with Kansas City and the Midwest. BNSF has one line traveling north to its main route in Albuquerque, New Mexico. UP and BNSF lines are connected with Ferromex (FXE) in Mexico by two bridges over the Rio Grande river. The El Paso metropolitan area has 141 at-grade crossings. The high number of highway-railroad crossings creates safety and congestion problems.

Zaragoza Road

One problem crossing is the Zaragoza Rd crossing, an important arterial highway. Zaragoza Road is in the east side of the city and travels north-south, serving residential, commercial and industrial areas along its corridor. This road is crossed at-grade by the double track of the UP Sunset Route. Map 10A (pg. 32) shows the location of this road in the study area and the direction it follows from the north limit near IH-10 to the south at the Ysleta International port of entry. Congestion in this arterial is forecast to increase in the mid-term as adjacent vacant land is developed. New residential neighborhoods and retail facilities are being developed to the north of I-10. Also, railroad traffic on the Sunset line has increased due to intermodal freight moving from the Ports of Long Beach and Los Angeles (see previous discussion of Alameda Corridor and Alameda Corridor East) to Texas and the Midwest. In 2003, Moffat and Nichols Engineers reported that there were 40 trains traveling over the Sunset line but the freight traffic has probably grown since then. Of those 40 trains, 25 percent divert to the Tucumcari line to the Midwest, the rest continue to travel east on the Sunset Route to Dallas, Houston and the south

Figure 1F. - Sunset Route and Zaragoza Rd. in El Paso, Texas



Source: El Paso Metropolitan Planning Organization, 2006

The picture above shows the Sunset Route Zaragoza Road at-grade crossing. The El Paso MPO considers that this crossing presents a problem for effective emergency response. The railroad is between a major entertainment center and the regional command center of that area. An officer from the El Paso Police Department reported an incident when he was struggling to contain a brawl at the Speaking Rock Casino and, as the incident involved multiple individuals, he requested support from the police central command. At the moment when the other police cars were on their way to the nightclub to help their colleague, a train blocked the Zaragoza Road crossing which prevented the needed support to reach the scene immediately. Once at the blocked crossing, it would take longer to do a U-turn and go through the nearest separated grade crossing, thus, police cars decided to wait. The blockade lasted only for a few minutes and reinforcements eventually arrived at the incident location without serious consequences to the first officer on the scene. However, these types of incidents have the possibility of tragic results because they require immediate response. Medical services face the same type of problems in this area as most hospitals and providers are adjacent to I-10. Residents near Zaragoza Road must travel north to arrive to the closest hospital and face the same problem as the police department did in the example.

The El Paso Metropolitan Planning Organization's long-term transportation plan projects an overpass construction in this location by 2015 but no funds have been allocated. This project seems to be the best solution because the source of the problem is the amount of both railroad and automobile traffic passing through this crossing. The crossing is a six-lane divided road and a double track railroad. The total cost for this project is \$9,312,360 and no cost-benefit analysis has been carried out. Unquantified benefits include reductions in emissions, delay and accidents, as well as the intangible benefit of improved emergency response.

Doniphan Road

The Burlington Northern-Santa Fe line connecting El Paso to the BNSF main east-west line in central New Mexico passes through the west side of El Paso from the yard in downtown El Paso. This line handles about four through trains a day and two local switching trains. The rail yard is also connected to Ferromex (FXE) through two international bridges in downtown El Paso. Currently two trains are exchanged daily.

Figure 2F. – BNSF railway in El Paso, Texas



Source: El Paso Metropolitan Planning Organization, 2006.

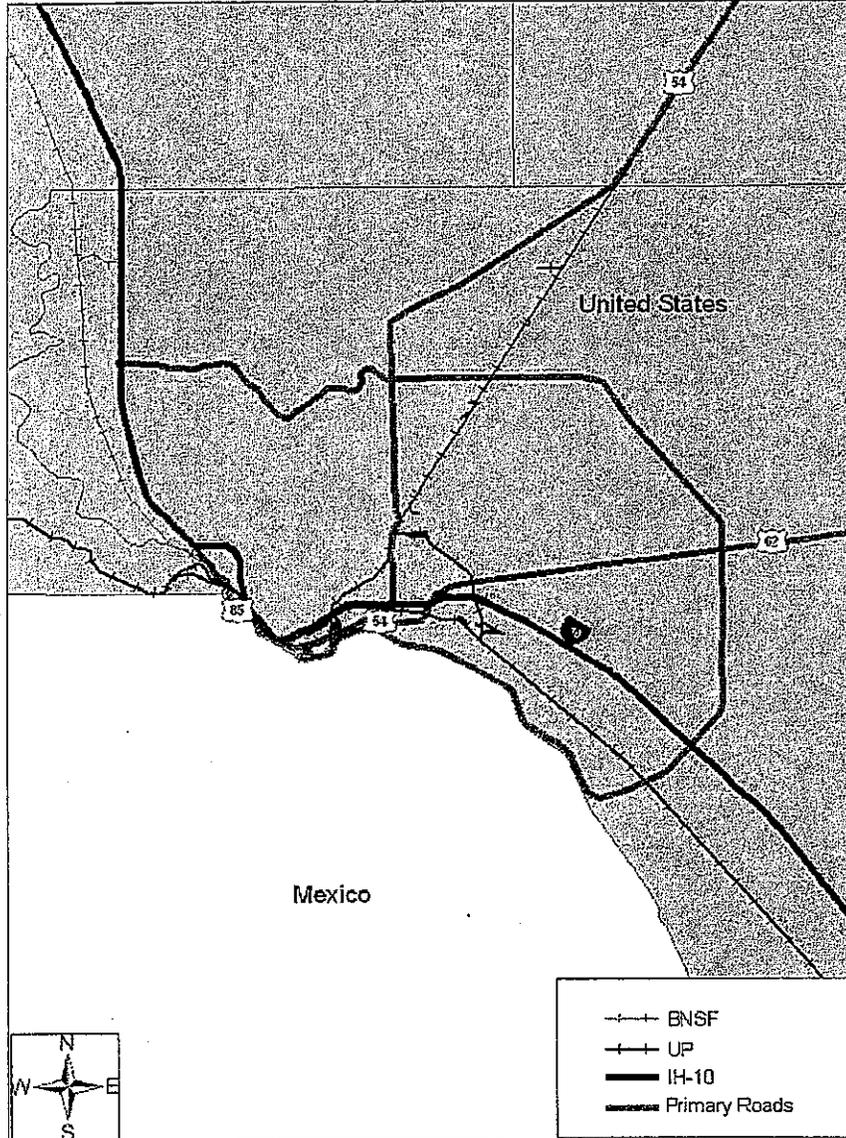
Doniphan Road runs parallel to the BNSF rail line. Local streets intersecting Doniphan also intersect the railroad. This causes problems as cross traffic may be stopped by traffic lights at Doniphan Road and then again at the grade crossing. Emergency responders are delayed when trains are in the crossings, especially those trains conducting switching operations. Blocked crossings are an issue because the zone to the west of the railroad is

mainly residential and rural and first responder facilities are located more toward the center of town to the east. Figure 2F shows the BNSF railroad and the intersection of Doniphan Rd and Sunland Park Dr. The railroad separates emergency responders located to the left in this picture from residential areas to the right. Map 10A shows the layout of the zone and location of the police department. As can be seen, responders may be forced to take alternative longer routes that increase the time of response substantially.

Moffatt & Nichols Engineers carried out a study in 2003 on the overall railroad infrastructure in El Paso and recommended the construction of a new port of entry, rail yard and a fly-over crossing. The new port and rail yard is suggested to be located west of El Paso in Santa Teresa, New Mexico and would include a fly-over at the railroad-railroad crossing between BNSF and UP railroads. The railroad-to-railroad separated crossing is necessary so easy and fast operations are possible for both BNSF and UP. The project is at a very early stage and needs coordination between all the stakeholders, including the federal government, three railroads, two states, local authorities, and the Mexican government.

Map 9A

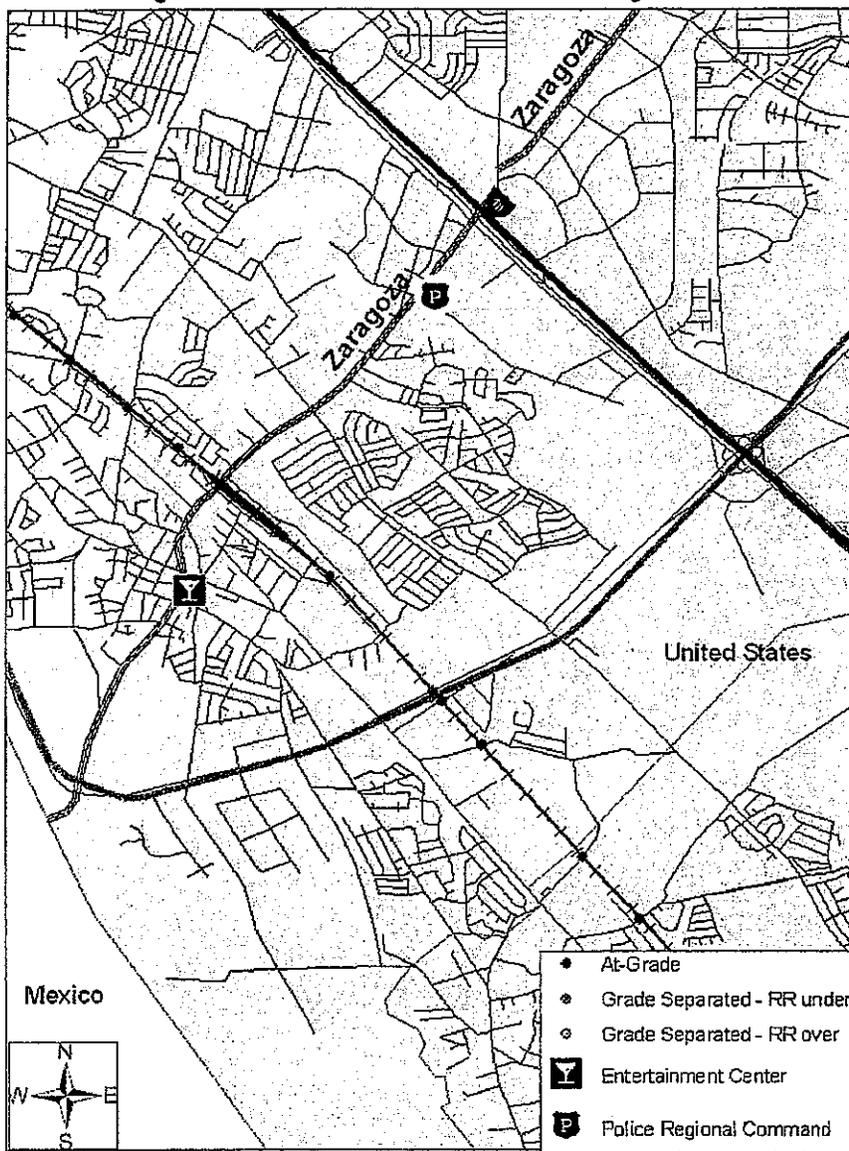
Surface Transportation System in El Paso, Texas.



Source: Federal Railroad Administration

Map 10A

Zaragoza Road and Sunset Route Crossing in El Paso Texas



G. Private Investments in Railroad Infrastructure

In these cases, private investments by the railroad have or will ameliorate delays due to blocked crossings.

1. Hammond, IN

One contributor to crossing delays is the need to throw manual turnouts (switches). A crew member (usually the conductor) must get off the train, move the switch to the desired direction, and wait as the train pulls through. After the train has cleared the turnout, the crew member must walk back to the locomotive before the train can proceed. These delays can be avoided if remote controlled turnouts are installed. These powered turnouts, remotely controlled by dispatchers or tower operators, can be changed before the train arrives and, if needed, returned to the original position after the train passes without requiring the train to stop. While the railroad obviously gains a benefit from speeding its operation, such improvements can be expensive, costing perhaps as much as \$500,000 each and requiring more maintenance than manual turnouts. However, in some cases, powered turnouts can provide substantial benefits in terms of reducing the length of time that crossings are blocked.

Hammond, IN experienced serious delays at crossings due to trains stopping while switches were thrown. By automating the Osborn Interlocking in 2000, Norfolk Southern and the Indiana Harbor Belt Railroad were able to dramatically improve NS train operations through Hammond. Completion of the Hohman Interlocking in 2001 continued the marked improvement in movement of NS trains through Hammond. These trains also are now able to travel at higher speeds, further reducing delays. NS continues to work with Hammond and nearby cities, the "Four Cities Consortium," to address any blocked crossing issues that occur, although now these are generally concerned with a specific train, rather than the day-to-day problems that formerly existed in the area.

2. Eloy Fire District, AZ

The Union Pacific Sunset Route runs through the middle of Eloy, where there are three at-grade crossings, all of which may be blocked at the same time. The Eloy Fire District also includes Toltec, which has a single crossing. This crossing may be blocked for up to 20 minutes by stopped trains.

The Sunset Route is a single line railroad with sidings. Currently, due to growth in intermodal traffic originating at the ports of Los Angeles and Long Beach, the line is very congested. While UP is in the process of double tracking the line, it may be several years before this portion of the line is double tracked. The delays at Eloy may be due to trains stopped at sidings waiting for oncoming trains to pass. Double tracking should reduce the delay times, although a grade separation would be preferred solution. In New Mexico, through which the Sunset Route also passes, most of the railroad route has been double tracked. As a result, discussions with the railroad indicate few problems on the

double tracked section in New Mexico. As the Union Pacific continues to upgrade its infrastructure, especially that of the former Southern Pacific, the length of time crossings are blocked on the Sunset Route are likely to decline, despite increased traffic on the line.

Appendix 2

FEDERAL RAILROAD ADMINISTRATION
Regional Managers for Highway-Rail Crossing Safety
and Trespass Prevention Programs
 (Updated—August 22, 2006)

Region I	Mr. Randall L. Dickason	(O) (518) 899-5372
CT NY	Federal Railroad Administration	(F) (518) 899-5372
ME NY	P.O. Box 2144	
MA RI	Ballston Spa, New York 12020	
NH VT		
Region II	Mr. Donald P. Thomas	(O) (610) 521-3212
DE PA	Federal Railroad Administration	(F) (610) 521-3225
MD VA	Baldwin Tower, Suite 660	
OH WV	1510 Chester Pike	
	Grum Lynne, Pennsylvania 19026	
Region III	Mr. Thomas Drake	(O) (404) 562-3824
AL MS	Federal Railroad Administration	(F) (404) 562-3830
FL NC	61 Forsythe Street, SW, Suite 16110	
GA SC	Atlanta, Georgia 30303-3104	
KY TN		
Region IV	Ms. Tammy Wagner	(O) (312) 353-6203
IL MN	Federal Railroad Administration	ext 49
IN WI	200 West Adams, Suite 318	
MI	Chicago, Illinois 60606	(F) (312) 886-9634
Region V	Ms. Carolyn Cook	(O) (512) 282-3412
AR OK	Federal Railroad Administration	(F) (512) 282-3412
LA TX	P.O. Box 1522168	
NM	Austin, Texas 78715-2168	
Region VI	Mr. Bruce D. Howe	(O) (816) 407-9651
CO MO	Federal Railroad Administration	(F) (816) 792-2381
IA NE	P.O. Box 758	
KS	Liberty, Missouri 64069-0758	
Region VII	Mr. Charles M. Engood	(O) (559) 641-7649
AZ NV	Federal Railroad Administration	(F) (559) 641-7649
CA UT	P.O. Box 453	
	Oakhurst, California 93644	
Region VIII	Ms. Chris Adams	(O) (360) 694-1797
AK OR	Federal Railroad Administration	(F) (360) 694-1797
ID SD	500 East Broadway, Suite 240	
MT WA	Vancouver, Washington 98660	
ND WY		

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City of Riverside, August 12, 2008

CR-1. Commenter incorrectly states that the Draft EIS/EIR does not include data and calculations for rail trips.

The rail data are based on the TEUs projected terminal throughput and the percentage of total throughput that would be transported via rail. The TEU-per-acre estimates are based on the approximate size of the container yard projected for each year noted (2010, 2015, 2020, and 2030). Rail cars are combined into trains with an assumed length of 25 rail cars. Details and assumptions are provided in Draft EIS/EIR Table 1.6-1 and Appendix B (Table 2-1). The worksheets contained as Appendix J of Appendix B provide the calculations, but the assumptions are best explained in Draft EIS/EIR Table 1.6-1. This table outlines the calculations for determining the amount of cargo, and the resulting train and truck traffic, including acreage provided for on-dock rail. Also, this table is used as the reference for the impact calculations.

Please see responses to comments SCAQMD-7, SCAQMD-40, RCTC-2, RCTC-3, RCTC-4, RCTC-9, CR-2, CR-3, CR-5, CR-8, CR-9, CR-11, and CC-3.

CR-2. Commenter notes that the traffic study incorrectly states that rail trips are expected to increase 94 percent; according to the listed trip numbers (138 trips in 2005 and 2,098 trips in 2025), rail trips will increase 1,520 percent. The Draft EIS/EIR does not explain or verify rail trip data.

The reference to the 94 percent increase will be deleted, but the data and results remain the same. Rail data are based on the projected terminal TEU throughput and the percentage of total throughput that would be transported via rail. Please see assumptions that are included in Draft EIS/EIR Table 1.6-1 and Appendix B (Table 2-1).

Please also see response to comment CR-1, which explains that Draft EIS/EIR (Table 1.6-1) and Appendix B (Table 2-1) offer a detailed summary of the rail data and corresponding assumptions.

CR-3. Commenter states that the Draft EIS/EIR does not define “on-dock” rail facilities and how it differs from other types of rail facilities mentioned.

Section 1.6.2 of the Draft EIS/EIR highlights the difference between on-dock and near-dock rail facilities: “A near-dock intermodal yard is one that is located in or near the Port but outside any of the container terminals.” An “on-dock” rail facility, as the name connotes, is located at the container terminal. An “off-dock” rail facility is located farther inland, such as at Carson or downtown Los Angeles.

CR-4. Commenter states that the Draft EIS/EIR does not state whether rail trips are one-way or round-trip, and that if they are round-trip, then the rail impacts are actually double the reported values. The listed rail trip figures in the Draft EIS/EIR are for one-way rail trips.

CR-5. Commenter states that the Draft EIS/EIR must perform a cumulative rail analysis that includes rail traffic from the China Shipping Terminal Project at the POLA.

The cumulative projects list in Table 2.1-1 of the Draft EIS/EIR already includes the China Shipping Terminal Project, also known as the Berths 97-109 Container Terminal Project. As stated in the Draft EIS/EIR Section 3.5, the travel demand model used in this analysis is based on the SCAG Regional Travel Demand Forecasting Model. The model was adjusted to include additional projects in and near the Ports, including the Berths 97-109 Container Terminal Project. Table 2.1-1 in the Draft EIS/EIR lists all of the projects included in the cumulative analysis (Berths 97-109 is project #14). The China Shipping project is projected to add three trains per day.

A quantitative cumulative analysis was undertaken to confirm that there would be no cumulative impacts using the field survey prepared by POLA in connection with its China Shipping analysis and applying the City of Riverside's long-term train counts of 24-hour periods, which are discussed in response to comment RCTC-2.⁸ The cumulative impacts would result from additional trains added from the TraPac, China Shipping, and Middle Harbor projects. The first two projects did not include specific estimates of number of trains, but provided detailed estimates of TEUs. For TraPac, the estimated additional rail freight is 2304 TEUs per day, which translates to four additional trains per day. For China Shipping, the estimated additional rail freight is 128,741 TEUs per month, with 35 percent expected to be on-dock rail. Those projections translate to three additional trains per day. Therefore, the cumulative impact is based on 12 trains/day (four from TraPac, three from China Shipping, and five from Middle Harbor). For most hours of the day, there would only be one additional train, but even at four additional trains in the peak hour, the average delay would be 24 seconds per vehicle.

Refer to response to comment RCTC-2 for additional information.

CR-6. Commenter incorrectly states that Section 3.6 of the Draft EIS/EIR admits that increased rail traffic will cause adverse traffic impacts, particularly at "at-grade crossings," and does not explain why grade separations are infeasible mitigations for increased rail traffic at at-grade intersections.

Commenter is mistaken in two ways: First, Section 3.6 concerns vessel transportation, not ground transportation, which is found in Section 3.5. Second, and more importantly, Section 3.5.2.3 concludes that the Project would NOT have a significant effect on rail services or vehicular delays at the at-grade crossings, either in the Port vicinity or in the Alameda Corridor because the only two local grade crossings have planned improvements and will be eliminated in the near future.

For at-grade crossings in Riverside County, the response to comment RCTC-2 and RCTC-4 provide a complete analysis of train impacts. The overall finding is that there are delay impacts from trains, but these impacts are approximately five to six seconds of delay/vehicle per train. Since this is below the threshold of significance (55 seconds of delay/vehicle), the impacts are not significant and no mitigation is required.

Additional grade separations are neither feasible nor warranted as a Project mitigation measure. The minimal traffic delays at the at-grade crossings generated by the Project would not warrant grade separations because the costs are too high for the benefit received.

Although the Project impacts to the Riverside County at-grade crossings are not significant, the response to comment RCTC-2 provides more information about the Port's support of the Proposition 1B Trade Corridor Improvements Fund (TCIF) for grade separations. The County and City of Riverside are receiving more than \$150 million of TCIF funding for grade separation projects. This regional approach is supported by SCAG and all impacted counties as the best means for dealing with regional goods movement activities.

Please also see the response to comments RCTC-2, RCTC-3, RCTC-9, CR-5, CR-8, CR-11, CR-12, and CC-3 responses.

CR-7. Commenter notes that the Port must analyze the effects of increased rail traffic from the Project, and that the Port does not need to have control of the rails to know the amounts and destination of rail freight.

⁸ The City of Riverside provided the POLA with copies of long-term train counts of 24-hour periods in connection with POLA's consideration of Phases II and III of the Berth 97-109 (China Shipping) Container Terminal Improvements Project. POLB obtained those Riverside counts from POLA in connection with the consideration of the proposed Project, and these counts are available by contacting POLB staff.

The Draft EIS/EIR has estimated the baseline and with-Project number of trains. The Project will generate 5.37 additional trains per day more than the 2005 CEQA Baseline. Of these, 75 percent (four trains) will likely travel east, with one traveling on the UP line through San Bernardino and the other three traveling through Riverside. This increase will result in a five to six second vehicle delay in Riverside, which is less than significant. Additional details are included in response to comment RCTC-2. The overall finding is that the delay impacts from Project-generated trains are not significant.

Please also see responses to comments SCAQMD-7, RCTC-2, RCTC-3, RCTC-4, RCTC-9, CR-8, CR-9, CR-11, and CR-12.

CR-8.

Commenter states that rail traffic from the Ports especially affects the City of Riverside because 75 percent of the containers from the Ports pass through the city, and erroneously concludes that the increased rail traffic from the Project (three more trains a day) will affect the City of Riverside even more.

First, Commenter incorrectly states that 75 percent of the containers from the Ports pass through the city by rail. This is impossible because only 40 to 45 percent of all containers travel by rail.

Commenter's suggestion that an increase in the City's rail traffic of three trains a day from the Project would disproportionately burden the residents of the City does not distinguish between existing conditions in the City and the impacts of this Project. The purpose of the Draft EIS/EIR is to identify and evaluate the environmental impacts that could potentially be caused by the Project, both individually and cumulatively. CEQA does not require that the document mitigate existing baseline conditions. These existing conditions, which are the result of regional development, are being addressed through those regional programs mentioned in response to comment RCTC-2.

The supplemental information provided by the City in its comment letter, particularly the 2006 Federal Railroad Administration (FRA) report entitled *Impact of Blocked Highway/Rail Grade Crossings on Emergency Response Services*, confirms that many of the impacts concerning the city are the result of regional development. The FRA report acknowledges (in Section IV.A) that in many parts of the country, communities grew up around the railroad, which means the railroad often runs right through the middle of town. The report further acknowledges that, as the towns spread out into the suburbs, development leads to new roads and demands for additional grade crossings if there is no nearby grade-separated highway. Investigation by the Port confirms that circumstances in the City of Riverside conform to this typical pattern. Aerial photographs show that the railroad rights-of-way extend through the City of Riverside, with development around the rights-of-way and numerous grade crossings. Areas along the railroad rights-of-way and in the areas surrounding the railroad rights-of-way have been developed with industrial, commercial, and residential uses, and various roadway infrastructure features have been developed.

SCAG documents show that the City of Riverside, Riverside County, and the Inland Empire have been the fastest growing areas in the state. The EIRs for Riverside General Plans, including the City of Riverside's General Plan, show that land use development in the City of Riverside and the nearby jurisdictions has resulted in numerous environmental impacts, such as traffic congestion on local roadways, freeway congestion, air emissions, and noise. As discussed in the Draft EIS/EIR, roadway congestion, in combination with passing trains, contributes to at-grade rail crossing delay impacts.

However, the assertion by the City that Project-related rail traffic would cause significant environmental impacts in the City of Riverside is inconsistent with the conclusions of the Final EIR for the City's General Plan (City of Riverside 2007). In that EIR, the City acknowledged that traffic delays at the at-grade rail crossings would occur under the Plan. However, the City did not identify those delays as potentially significant environmental impacts. In a letter dated September 7, 2007, the Friends of Riverside Hills commented on the Draft EIR, urging that

the EIR consider impacts of the City's growth upon the at-grade crossings and include a study of the present and projected delays at the City's grade crossings. The City responded to the Friends of Riverside Hills, stating the following (City of Riverside 2007):

In 2003, the City completed the Railroad Grade Separation Report that will help the City prioritize the grade separation projects. The City has identified a total of 28 grade separation projects, listed below. Of the 28 grade separation projects, one project is fully funded, and four are partially funded;

The report will help the City prioritize future grade separations in a comprehensive manner, similar to but on a smaller scale than the Alameda Corridor project;

[T]he General Plan includes Policy CCM-12.3 which calls for the City to "Aggressively pursue grade-separated rail crossings to alleviate traffic congestion and associated air quality and noise impacts."

Thus, because the City has already studied the impacts of railroad crossings in its 2003 Railroad Grade Separation Report, which was specifically referenced in the Draft PEIR, and has already identified a priority list of grade separation projects, no further analysis is required in the Draft EIR.

Although the City's response acknowledged the role of "expected growth" of the City in contributing to at-grade rail crossing delays, the City did not revise its EIR to provide the requested detailed traffic impact delay analysis at the at-grade crossings. Instead, the City in reliance on the above-quoted statements, declined to make any change to its conclusion that at-grade rail crossings in the City would not be significantly impacted or require mitigation.

Data are available to assess the impact of at-grade rail crossing delays, including the 24-hour counts from the City of Riverside Train Blocking Delay Study and POLA's rail analysis. An analysis of the data finds that the Project will not result in a significant impact by itself or cumulatively.

Please see response to comments SCAQMD-7, RCTC-2, RCTC-3, RCTC-4, RCTC-9, CR-5, CR-11, CR-12, and CC-3.

CR-9. Commenter states the Draft EIS/EIR incorrectly claims that remaining rail capacity exists. However, the statement in the Draft EIS/EIR is correct. Capacity and operations are different concepts. Scheduling delays can occur with as few as two trains, if they both are needed on the track at the same time. While increasing the number of trains will increase the potential for scheduling conflicts, there is still available capacity (i.e., more trains can be added based on a volume to capacity ratio basis). The Project trips do not have a set departure time, unlike passenger rail trips. Since the Project rail trip departure times are flexible, the Project impact on scheduling is anticipated to be less than significant.

If the existing rail corridors continue to be the primary routes for freight traffic for all operations of the Ports, there could be insufficient rail capacity to accommodate all projected cargo throughput. However, for this Project analysis, a reasonable balance between truck and train traffic was considered, meaning that rail capacity on the Class I Railroads was considered. According to the MCGMAP (refer to RCTC-2 response for a detailed explanation), the railroad capacity in 2025 is 174 daily trains. Existing daily trains range from 110 to 140. Therefore, the addition of three daily trains will not exceed the mainline capacity.

CR-10. Thank you for your comment. Please see responses to comments RCTC-2, RCTC-3, and RCTC-7.

CR-11. Commenter states that Riverside residents wait an average of three hours per day per crossing for trains to pass. The City of Riverside did not provide any source for these statistics, but the comment is clearly overstated. As written, the implication is that a typical Riverside resident spends three to six hours per day waiting for trains. Rather, it is assumed

that the City meant “the average total delay at crossings in the City of Riverside is three to six vehicle-hours per crossing.” Data provided by RCTC in its comment letter (Technical Review of Draft EIS/EIR for Middle Harbor Redevelopment Project prepared by Kimley-Horn and Associates, Inc.) suggest that the average delay per crossing is 13.2 to 43.9 vehicle-hours of delay per day, per crossing in the City of Riverside. Even assuming these higher values are accurate, the point of the City’s comment is not clear. As noted in response to comments CR-8 and RCTC-2 through RCTC-4, total daily delay is not a significance criterion. Even if it were, the Project will add 1.9 to 12.0 daily vehicle-hours of delay to the at-grade crossings in Riverside County (per RCTC). Assuming an average of 10,000 vehicles/day at these crossings (consistent with typical values), the additional delay will be 0.7 to 4.2 seconds/vehicle. The Port’s methodology (described in response to comment RCTC-4) is more comprehensive and conservative. With that methodology, the estimated delays are approximately five to six seconds/vehicle. These values are all well below the threshold value of 55 seconds/vehicle, so none of these impacts are significant.

Please see response to comment RCTC-2.

CR-12. Commenter states that train traffic has delayed fire trucks, police vehicles, and ambulances in Riverside.

Please see response to comments CR-11 and RCTC-2 through RCTC-4. While existing trains do result in delays at at-grade crossings, the Draft EIS/EIR considers only whether impacts from the proposed Project will be significant. The City has 14 fire stations on either side of the main rail corridors strategically placed throughout the City. Pursuant to a discussion with City of Riverside Fire Department on February 26, 2009, the City has an established emergency response goal of five minutes. The City also has a protocol for dealing with rail traffic. If an emergency vehicle experiences a delay at a rail crossing, the Captain is required to call dispatch if he anticipates the train delay to result in an overall response time of more than five minutes so that a station on the other side of the rail line can be dispatched. Therefore, Project generated trains will generate less than a significant impact to emergency response.

CR-13. Thank you for your comment. Please see responses to comments RCTC-2, RCTC-3, and RCTC-7

CR-14. Commenter asserts the Port can mitigate the rail burdens in Riverside by offering fair-share contributions to grade separation projects. Many of the problems described by the commenter are being addressed by a partnership of regional and state organizations. Various southern California counties (including the County of Riverside) comprise the Southern California National Freight Gateway, referred to as the Trade Corridor Improvement Fund (TCIF). During the past two years, the following southern California agencies have worked closely together to develop of list of Tier I and Tier II projects to address various goods movement issues throughout all of the respective counties:

- POLA;
- Riverside County Transportation Agency (to which the City of Riverside belongs);
- POLB;
- San Bernardino Associated Governments;
- Alameda Corridor Transportation Authority;
- Orange County Transportation Authority;
- Alameda Corridor East Construction Authority;
- Los Angeles County METRO;
- Ventura County Transportation Commission;

- Southern California Rail Authority; and
- SCAG.

These agencies have submitted numerous applications to the California Transportation Commission for the TCIF funding of individual projects in each county, including grade separation projects. Furthermore, as indicated on page 20 of the FRA report that the City of Riverside provided, grade separations generally are funded by Caltrans and local communities. (FRA p. 20.) The FRA report also calls for communities to work with the railroad (in their communities) to determine the most effective methods for addressing at-grade crossing traffic congestion and to minimize costs for grade separations.

Commenter attempts to draw a nexus between Port and/or Project-related truck and rail traffic and allegedly significant environmental impacts in Riverside County, including significant at-grade rail crossing delay impacts. However, as noted in responses to comments CR-8 and CR-11, the at-grade rail crossing delays are well below the significance threshold.

Please see response to comments RCTC-2 and CBD-65.