

**COMMUNITY OUTREACH AND EDUCATION PROGRAM  
SOUTHERN CALIFORNIA ENVIRONMENTAL HEALTH  
SCIENCES CENTER  
KECK SCHOOL OF MEDICINE, USC**

**NATURAL RESOURCES DEFENSE COUNCIL**

**PACIFIC INSTITUTE**

**EAST YARD COMMUNITIES FOR ENVIRONMENTAL  
JUSTICE**

**CENTER FOR COMMUNITY ACTION AND ENVIRONMENTAL  
JUSTICE**

**SAN PEDRO & PENINSULA HOMEOWNERS COALITION**

**WEST OAKLAND ENVIRONMENTAL INDICATORS PROJECT**

**ENVIRONMENTAL HEALTH COALITION**

**COALITION FOR A SAFE ENVIRONMENT**

***Via U.S. Mail and E-Mail***

February 28, 2006

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Sunne Wright McPeak, Secretary  
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Robert Sawyer, Ph.D.  
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Catherine Witherspoon  
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California Labor and Workforce  
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Kim Belshé, Secretary  
California Health and Human Services  
Agency  
1600 Ninth Street, Room 460,  
Sacramento, CA 95814

**Re: Need for the State of California to Evaluate 1) Community Health and Safety Impacts; 2) Contribution to Greenhouse Gas Emissions; and 3) External Costs Associated with Health Care That Will Result from the State's Promotion of Expanded International Trade and Goods Movement; Need to Analyze the Costs of Mitigation and Develop Control Plans and Funding Strategies to Address These Impacts in the Goods Movement Action Plan**

Dear Secretaries McPeak and Lloyd, Secretary Bradshaw, Secretary Belshe, ARB Chair Sawyer and ARB Executive Director Witherspoon:

On behalf of the undersigned organizations and individuals who are all members of the state's Goods Movement Action Plan's Integrating Work Group, we provide comments on the need for the State of California to fully evaluate community health and safety impacts – beyond air pollution – that will result from its promotion of expanded international trade and goods movement. We also provide comments on external costs of these impacts and the potential costs of mitigation, which should not be the burden of the individual impacted communities or residents. Finally, we provide comments on the need for the state to develop control plans to reduce the health and economic impacts of these impacts. Please note that we are sending via mail CDs containing full articles with the most relevant research findings; the files are too large to send by email.

The need for such an evaluation of Community Health and Safety Impacts is made clear by reading Appendix A of the California Air Resources Board's Emission Reduction Plan (ERP) for Ports and International Goods Movement, which states: *"The Phase I [Goods Movement Action Plan] Report provided a general discussion of the extent of environmental and community impacts of goods movement based on preliminary reports and CARB estimates of port emissions in the South Coast Air Basin (SoCAB). One goal of this report is to provide a more detailed assessment of these environmental impacts, including health impacts, to properly identify potential mitigation strategies. This health impact assessment focuses on the health and attendant economic impacts of air pollution resulting from port-related goods movement throughout the state. Other environmental impacts discussed in Phase I, such as noise and light pollution, traffic-safety concerns, or blight are not within the scope of this analysis [emphasis added]."*

Since the Air Resources Board has concluded that noise and other community impacts are outside its scope of analysis, at least for its emission reduction plan, we respectfully request that the state immediately appoint an agency or commission to conduct this important evaluation and issue a report. The report would evaluate the full range of external costs – health, community and economic impacts, as well as mitigation costs and funding strategies and develop control plans to reduce the impacts.

As background, it is important to understand what we mean by “external costs” of promoting goods movement. We believe Professor David Forkenbrock, director of both the Transportation Research Center and the Public Policy Center at the University of Iowa, sums it up well:

*“Though important to the economy, freight transportation creates certain adverse impacts. These impacts are referred to as external costs because they are not borne by those who generate these costs. Placing an appropriate dollar value on external costs is vital to internalizing them; that is, requiring those who generate these costs to compensate society in an amount equal to the external costs. Internalizing external costs makes it possible to return to society an amount equal to the costs one imposes; it also gives a clear signal of the actual full cost of an activity, so that consumption decisions can be made on the basis of this cost.”<sup>1</sup>*

We have addressed this letter to the California Secretaries of CalEPA and BTH, who are overseeing development of the Goods Movement Action Plan (GMAP), as well as to ARB leadership, at whose doorstep the requirement to address community noise impacts may land. In addition, we address these comments to the Secretary of the California Labor and Workforce Development Agency, under which is CalOSHA, because there are likely to be serious impacts on workers’ health that result from a tripling of trade and goods movement in California, and these impacts must be addressed through appropriate noise controls and hearing conservation programs. The California Economic Strategy Panel is also part of this agency and would likely need to be involved. Finally, we address these comments to the Secretary of Health and Human Services Agency to look at broader health implications of the potential tripling of trade and goods movement through the state, including the state burden of increasing the number of drayage truck drivers and warehouse workers, many of whom do not have health insurance coverage.

Before continuing, we again reiterate our viewpoint that the governor’s environmental protection goals – including abatement of community impacts –

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<sup>1</sup> Forkenbrock D. External costs of intercity freight truck transportation. Transportation Research Part A 33 (1999) 505-526.

must be finalized *before* a specific plan for goods movement infrastructure expansion is put in place.

Below please find our overall recommendations, with a list of impacts to be addressed. Each impact area is described further below in our letter.

***Overall Recommendations:***

- I. We respectfully request that the State Cabinet Secretaries appoint a commission or agency to conduct a full evaluation of the community health and safety impacts and external costs (non-air pollution) of the state's promotion of international trade and goods movement expansion. (See detailed topics in Section IV below). This would also include reviewing tapes and transcripts of Goods Movement meetings to detail the concerns that have been raised by IWG members and members of the impacted communities.
- II. The report (perhaps entitled "Community and Other Impacts of Ports and Goods Movement Impact Reduction Plan") should evaluate health and safety impacts of promoting goods movement expansion (i.e., developing infrastructure to encourage and accommodate a tripling of international trade), evaluate the external costs associated with these impacts, evaluate mitigation or abatement costs, and discuss funding strategies that do not put the mitigation burden on impacted communities. This analysis would include a full review of the current literature on noise health impacts and psychosocial impacts, in the manner as the ARB's Emission Reduction Plan does. It may require having the State take noise/sound level measurements to document problems. The analysis should cover port and rail facilities, such as marine terminals, yards and ICTF's, as well as communities through which freight trains pass. It should include other community impacts that have health outcomes, such as injuries and fatalities (highway and rail).
- III. The commission or agency should turn to expert consultants in public health for advice on evaluating noise and other health impacts and to engineering consultants for effective control methods. We suggest that state agencies review the literature and methodologies for calculating external costs to California taxpayers of tripling trade and goods movement in the state and consult public policy expert consultants for advice. With regard to workers, we suggest that CalOSHA be charged with evaluating the impacts of increased international trade and goods movement on the overall health and safety of California's workforce and with developing a Worker Health and Safety Ports and Goods Movement Plan as a section of the larger Community Impacts Plan.

**IV.** The report should evaluate at least the following impacts and their social costs (externalities), described in greater detail on pages 6-19.

- 1. Noise and vibration**
- 2. Heavy duty truck and rail accidents**
- 3. Pavement deterioration by big-rig trucks**
- 4. Congestion from induced traffic (new or expanded freeways)**
- 5. Freight trains “bumping” commuter rail trains, delaying commuters**
- 6. Worker safety issues (port, truck, rail)**
- 7. Hazardous materials incidents and derailments**
- 8. Costs of grade crossings**
- 9. Stadium lighting**
- 10. Contributions of ships, yard equipment, rail and truck transport of freight to greenhouse gas emissions**
- 11. External costs of increased health care adding a burden to state’s taxpayers**

**V.** We also request that a series of electronic maps be posted to the CalEPA/ARB/BTH Web sites containing:

- Noise contour maps constructed using GIS, to detail the current and anticipated increase in sound levels resulting from the tripling of trade (Port, freeway, rail, warehouse noise). Many European cities have such noise contour maps.
- Intersections where cities are considering constructing “quiet zones” under Federal Railroad Administration rules.
- A set of electronic maps showing the highways/freeways and other infrastructure expected to be expanded to accommodate increased cargo from the Ports, with notations on the current number of trucks and the anticipated number of trucks in 5/10/20 years.

**VI.** We request that the State of California conduct research on innovative technologies to reduce noise and vibration levels from goods movement activities, including pavement noise, truck and rail noise and that the findings be included in the impact reduction plan.

**VII.** The impacts, mitigation costs, and funding strategies should be described in the Goods Movement Action Plan Phase II and the full “Community and Other Impacts of Ports and Goods Movement Impact Reduction Plan”) report should be attached as an Appendix to the Goods Movement Action Plan, following the ARB’s Emission Reduction Plan.

## **COMMENTS**

## **Part I. Evaluation of External Costs**

Numerous evaluations have been conducted on the external costs of freight transportation. For example:

- 1) An American professor has looked at accidents, noise, greenhouse gases and air pollution from trucks and rail.<sup>2 3</sup>
- 2) Belgian researchers have investigated effects on health, vegetation, greenhouses gases, “wear and tear on roads” and accidents.<sup>4</sup>
- 3) Lawrence Berkeley Laboratory researchers in Berkeley, CA have looked at energy use and carbon emissions from freight transport.<sup>5</sup>

## **Part II. Description of the Community and Other Impacts and Why the Goods Movement Action Plan Must Address Each of Them**

### **1. NOISE (AND ACCOMPANYING VIBRATION)**

Concerns about noise and vibration have come up at every IWG meeting and every meeting of the Community Impacts & Environmental/Public Health working groups. Although residents describe current impacts as serious (without even considering future freight capacity expansion), the response from the Cabinet secretaries has been that noise issues are to be handled at the local level, through noise ordinances or noise elements in city or county general plans. At a time when the Administration is promoting expanded international trade and goods movement as an economic strategy for California, these community impacts can neither be ignored nor dealt with solely at the local level through city or county general plans, or solely through an individual case-by-case CEQA analysis. They must be recognized at the state level as a statewide issue and a strategy must be developed to reduce their impacts, in the same manner as a state strategy is being developed to deal with air pollution impacts.

#### **a. Studies on the Impacts of Noise Show that Noise Exposure Causes Health and Psychosocial Impacts**

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<sup>2</sup> Forkenbrock, 1999.

<sup>3</sup> Forkenbrock D. Comparison of external costs of rail and truck freight transportation. *Transportation Research Part A* 35 (2001) 321-337.

<sup>4</sup> Beuthe M. et al. External costs of the Belgian interurban freight traffic: a network analysis of their internalization. *Transportation Research Part D* 7 (2002) 285-301

<sup>5</sup> Schipper L. Energy use and carbon emissions from freight in 10 industrialized countries: an analysis of trends from 1973 to 1992. *Transportation Research Part D*. Vol. 2, No. 1, pp. 57-76, 1997

Community and occupational health studies show that noise levels from goods movement activities can impact health and quality of life. For example, workers in the rail industry are at risk of noise-induced hearing loss; excessive noise disturbs restorative sleep; elevated noise levels affect children's mental health and classroom behavior, especially if children have an "early biological risk" (such as having been born prematurely); and chronic noise exposure may contribute to the progression of cardiovascular disease.

Several months ago, we sent a CD to the ARB with studies relating to air pollution health impacts, as well as noise and other impacts. As attachments to this letter, we include selected references that demonstrate the impacts of noise, including community and worker impacts. Portions of abstracts from several selected studies are reprinted below to illustrate the causes for concern:

**a1.** "Noise exposures of rail workers at a North American chemical facility," by P. Landon et al. *Am J Ind Med.* 2005 Apr;47(4):364-9.

ABSTRACT. "This study found that peak impact sound levels exceeded 140 dB in 17 of 18 samples (94%) with a mean peak sound level of 143.9 dB. Maximum continuous sound levels were greater than 115 dBA in 4 of 18 samples (22%) with a mean maximum sound level of 113.1 dBA. *The study concludes that rail workers are at risk of noise induced hearing loss from high impact noise exposures*". [Emphasis added]

**a2.** "Disturbed Sleep Patterns and Limitation of Noise" by B. Griefahn et al. *Noise and Health*, Volume 6, Number 22, Jan - Mar 2004, pp. 27-33(7).

ABSTRACT. "Due to the undisputable restorative function of sleep, noise-induced sleep disturbances are regarded as the most deleterious effects of noise. They comprise alterations during bedtimes such as awakenings, sleep stage changes, body movements and after-effects such as subjectively felt decrease of sleep quality, impairment of mood and performance. The extents of these reactions depend on the information content of noise, on its acoustical parameters and are modified by individual influences and by situational conditions. *Intermittent noise that is produced by air traffic, rail traffic and by road traffic during the night is particularly disturbing and needs to be reduced.* Suitable limits are suggested." [Emphasis added]

**a3.** "Ambient neighbourhood noise and children's mental health" by P. Lercher et al. *Occup Environ Med.* 2002 Jun;59(6):380-6.

"OBJECTIVES: To investigate the relation between typical ambient noise levels (highway, rail, road) and multiple mental health indices of

school children considering psychosocial and biological risk factors as potential moderators. **CONCLUSIONS:** Exposure to ambient noise was associated with small decrements in children's mental health and poorer classroom behaviour. The correlation between mental health and ambient noise is larger in children with early biological risk”.

**a4.** “Noise burden and the risk of myocardial infarction” by SN Willich et al. *Eur Heart J.* 2006 Feb;27(3):276-82. Epub 2005 Nov 24.

“AIMS: Chronic noise exposure is associated with adverse pathophysiological effects and may contribute to the progression of cardiovascular disease. We, therefore, determined the risk of noise for the incidence of myocardial infarction. **METHODS AND RESULTS:** In a case-control study, 4115 patients (3054 men, 56+/-9 years; 1061 women, 58+/-9 years) consecutively admitted to all 32 major hospitals in Berlin with confirmed diagnosis of acute myocardial infarction were enrolled from 1998 to 2001 in the Noise and Risk of Myocardial Infarction (NaRoMI) study. Controls were matched for gender, age, and hospital. In standardized interviews, information was obtained on environmental and work noise annoyance. The sound levels of environmental and work noise were assessed using traffic noise maps as proxy and international standards for workplaces, respectively. In multivariate logistic regression models, the adjusted odds ratios of noise variables were determined. ... Environmental sound levels were associated with increased risk in men and women (odds ratios 1.46, 1.02-2.09, P=0.040 and 3.36, 1.40-8.06, P=0.007) ... **CONCLUSION:** Chronic noise burden is associated with the risk of myocardial infarction. The risk increase appears more closely associated with sound levels than with subjective annoyance”.

**a5.** “Neighbourhood inequalities in physical inactivity: the role of neighbourhood attractiveness, proximity to local facilities and safety in the Netherlands” by FJ van Lenthe et al. *Soc Sci Med.* 2005 Feb;60(4):763-75.

In a study in the Netherlands, residents who lived in neighborhoods with the most traffic-related noise pollution seldom walked or cycled to shops or work. This study is relevant to residents in noise and traffic-related goods movement communities, especially at a time when obesity is becoming such a serious problem. (Odds ratio 0.80, 95% confidence interval 0.66–0.97).<sup>6</sup>

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<sup>6</sup> van Lenthe FJ et al. Neighbourhood inequalities in physical inactivity: the role of neighbourhood attractiveness, proximity to local facilities and safety in the Netherlands. *Soc Sci Med.* 2005 Feb;60(4):763-75.

**b. Government Agencies Acknowledge that Transportation Noise is a Problem and They Require Regional Transportation Plans to Address Transport Noise Issues**

Studies indicate that: “Community resistance to noise begins somewhere between 55 and 65 dB DNL, with the higher level being the current definition for noise-affected populations applied by both the FAA and the Department of Housing and Urban Development and the lower level suggested by the EPA”. *See*: [http://books.nap.edu/html/greener\\_skies/ch4.html](http://books.nap.edu/html/greener_skies/ch4.html) Regional Transportation Plans created throughout the state of California are required to address noise issues, and Appendix A has excerpts from the SCAG 2004 Draft RTP PEIR, Section 3.5 on Noise, showing that the noise levels near port, railroad, freight and road operations often exceed the levels cited above.

It is also appropriate for the Goods Movement Action Plan to address noise impacts and their abatement, especially in light of the fact that the Federal Highway Administration and the Federal Railway Administration both address noise issues as part of their mandates (*See* “Noise Abatement and Control: An Overview of Federal Standards and Regulations, A CRS Report for Congress” at: <http://ncseonline.org/NLE/CRSreports/Risk/rsk-52.cfm?&CFID=10640900&CFTOKEN=91619829>

**c. Noise Impacts from Goods Movement Activities are More Frequently a Problem in Low-Income, Minority Communities Where Residents Live Close to Ports, Freeways, Rail Yards and Distribution Centers**

The state of California has a responsibility to ensure environmental justice. Evidence shows that more low-income, minority residents live near busy roads and that goods movement activities at Ports, on freeways and at rail yards disproportionately impact low income communities (*See e.g., ARB Emission Reduction Plan statements: “Neighborhoods near ports, intermodal rail yards and high-traffic corridors suffer disproportionate air pollution impacts as compared to other locations.”... “Communities surrounding many goods movement-related facilities where there may be a disproportionate exposure to air pollutants are often economically disadvantaged or ethnically or culturally diverse.”*

As examples, the residents along the I-710 Long Beach Freeway and near the East L.A./City of Commerce Rail Yards are predominantly Latino; residents near the Port of Oakland are predominantly African-American.

In addition to air pollution, residents of these communities also experience greater noise exposure, a problem that is certainly not new. For example, in 1999, the Los Angeles *Times* reported on complaints by residents of Commerce and Vernon

about noise from the adjacent rail yards.<sup>7</sup> Noise levels at homes and schools near railyards and other noisy goods movement operations need to be evaluated and noise control plans developed.

**d. Noise Abatement Measures are Feasible, But The Cost of Abating Noise from Goods Movement Activities is Significant and Must be Considered as a Cost of Promoting Goods Movement in the State**

Noise impacting communities near goods movement facilities must be adequately addressed and abated to protect residents. In addition, the full costs of abating these noise impacts must be included in the costs of infrastructure project development as part of the Goods Movement Action Plan.

There are multiple programs underway in Europe and elsewhere to abate the elevated levels of noise from goods movement activities in European communities. We suggest that these be reviewed and that suggested mitigation methods for abating noise – and the costs of implementing them – be included in the State’s Goods Movement Action Plan. These include:

- Sound walls;
- window/wall insulation;
- programs to reduce the sound levels produced by locomotives and trains by changing the design and materials used in tracks; and
- pavement changes that can reduce sound levels from highway traffic.

In addition, the State Goods Movement Action Plan must consider as a cost of promoting the expansion of international trade:

- the loss of value of housing from excessive noise (and visual blight) that is created from increased goods movement activities;
- the potential costs of purchasing land in noisy areas to protect residents from excessive sound levels; and
- the costs to cities to create “quiet zones” to allow sleep, which has become a more serious problem recently with a new Federal Railroad Administration rule on sounding train horns.

We request that the State of California work with the Federal Railroad Administration to identify the cities that are considering constructing “quiet zones” under new FRA rules and that a list of these cities – and the costs of the quiet zones – be in the report that is produced.

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<sup>7</sup> Martin, H. and M. Gold. Railing at Noisy Railroads; In Commerce, Vernon and elsewhere, residents say increased train traffic is creating unbearable noise. Some inconvenience is to be expected, rail officials say. Los Angeles Times. November 10, 1999. Page 1.

Below we provide some additional details on concerns, abatement costs and feasibility of controls.

### *Sound walls*

Noise barriers are somewhat effective for reducing highway and rail traffic noise, although questions are often raised about who has responsibility for building these barriers. They should be installed for any highway or rail project that will be expanding goods movement capacity but also increasing local sound levels.

“Highway noise barriers typically cost approximately \$1 million per linear mile.”

See: <http://gulliver.trb.org/publications/millennium/00134.pdf>

In 1998 a consultant was hired to analyze impacts of additional train traffic on tracks near homes in Wichita, Kansas. He estimated a cost of between \$12-26,000 per home to install noise barriers along the Union Pacific train track where the number of trains passing daily was going to increase. See:

<http://gis.esri.com/library/userconf/proc98/proceed/TO750/PAP708/P708.HTM>

### *Insulation and acoustical windows*

The same consulting firm analysis estimated that “acoustical windows or modifications to existing windows can provide up to 10 dBA increased noise reduction. Nominal sound insulation treatment costs are on the order of \$10,000-\$20,000 per dwelling unit, depending on air-conditioning costs.” See:

<http://gis.esri.com/library/userconf/proc98/proceed/TO750/PAP708/P708.HTM>

Airports have experience in this area, both with abating noise and finding unique funding strategies: “The Federal Aviation Administration has significant experience with noise abatement programs to reduce exposure to noise, primarily by soundproofing buildings located near airports and by purchasing land to extend airport property (allowing residents and businesses to relocate elsewhere). Federal noise abatement activities are funded by the Airport Improvement Program and Passenger Facility Charge Program, using money collected from fees and taxes on passenger airline tickets”. . . . Through 2001, \$408 million had been spent on sound insulation for residential and school buildings around Chicago's O'Hare International Airport.” See: [http://books.nap.edu/html/greener\\_skies/ch2.html](http://books.nap.edu/html/greener_skies/ch2.html)

We suggest that the state evaluate this funding strategy, which is perhaps similar to the concept of a “container fee” in the goods movement world.

### *Reducing locomotive noise and tire pavement noise*

Again, significant research is being conducted in Europe. We refer the state agencies, as a start, to the following Web site for information about European research activities in this area, including research projects called, Silent Freight and Silent Track, funded by the European Union. Their aim was to demonstrate reductions of about 10dB(A) in the noise from a freight train on ballasted track.

<http://www.isvr.soton.ac.uk/DG/RailwayandVibrationResearch.htm>.

See other European research activities:

<http://europa.eu.int/comm/research/growth/gcc/projects/in-action-rail.html> and  
<http://europa.eu.int/comm/research/growth/gcc/projects/in-action-rail.html#01>

An additional resource on workshops held in Europe in October 2005 is: “Rail Freight Noise Abatement in Europe.”

<http://www.cer.be/files/Noise%20workshop-160716A.pdf>

*See also:* B. Schulters-Werning. Journal of Sound and Vibration. Research on noise and vibration reduction at DB to improve the environmental friendliness of railway traffic

We also refer the state agencies to the following document on U.S. research on transportation noise: <http://gulliver.trb.org/publications/millennium/00134.pdf>

#### *Depreciation/loss of value of housing from excessive noise*

Several studies have demonstrated that excessive noise lessens the value of housing near the transportation noise sources. The state agencies should incorporate these analyses into their externalities report. See, for example:

- “Impact analysis for highways suggests a decrease from 8 to 10% of property values due to noise emissions by road transportation.” See: <http://people.hofstra.edu/geotrans/eng/ch8en/conc8en/ch8c3en.html>
- “Existing research has investigated the economic consequences of noise exposure in communities empirically. Several studies have examined the impact of noise on property value, concluding that home prices drop about 0.6 percent per dB of DNL exposure.” See: [http://books.nap.edu/html/greener\\_skies/ch4.html](http://books.nap.edu/html/greener_skies/ch4.html)
- A recent study (2004) evaluated the impact of freight railroad tracks on housing markets. It found an average loss of 5-7% for houses less than 1250 square feet located within 750 feet of a railroad track. The study said that publicity about an anticipated increase in freight train traffic negatively impacted sales price of small homes.<sup>8</sup>

#### *Purchasing land in noisy areas to protect residents from noise*

Airports have experience with purchasing land near airports to protect residents from noise exposures. Such purchases and cost estimates could be obtained from airport authorities. See, for example:

<http://www.eltoroairport.org/issues/relocated-town.html>

#### *Constructing “quiet zones” to allow sleep in communities with train horn noise*

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<sup>8</sup> Simons RA and El Jaouhari A. The effect of freight railroad tracks and train activity on residential property values. The Appraisal Journal. Summer 2004: vol 72, Issue 3, pp. 223-234.

Train noise has always been a problem, but apparently a recent Federal Railroad Administration rule has resulted in more sounding of train horns, angering some residents. *See*, for example, a news article called “Sleepless in Bakersfield” at: [http://bakersfield.typepad.com/fired\\_up/2005/12/sleepless\\_in\\_ba.html](http://bakersfield.typepad.com/fired_up/2005/12/sleepless_in_ba.html). The article claims that: “The new rules require locomotive horns to be sounded at all public grade crossings 15 to 20 seconds before entering a crossing, but not more than one-quarter mile in advance. The pattern for blowing the horn must be two long, one short and one long to be repeated until the train clears the crossing. The minimum volume is 96 decibels and the maximum is 110. But some cities that monitor the noise have measured horns blaring at 144 decibels. A typical car stereo is 100 decibels, a rock concert is 120 and a gunshot is 130... Cities can create “quiet zones” along tracks, but it requires years of study and justification, as well investing about \$400,000 per intersection to add safety equipment. Further discouraging the creation of quiet zones is the requirement that cities assume liability for accidents at railroad crossings.”

Clearly, this situation with regard to “quiet zones” is heightened in communities that have a steady stream of freight trains through them. For example, Congressman Gary Miller’s Web site states: “*July 21, 2005 - Making Trains Better Neighbors. More than 50 freight trains a day, some a mile long, pass through Los Angeles, Orange, Riverside and San Bernardino Counties to deliver goods between the rest of the nation and seaports in Los Angeles and Long Beach. By 2020, 135 trains a day are expected to travel through this already-congested region. Although this influx of trade is great for the local economy, it can cause problems for residents, including increased traffic, noise and accidents.*” *See*: <http://www.house.gov/garymiller/TrainMitigation.html>

We refer the state agencies to the following article: R. Raub et al. “Improving the Quality-of-Life for Residents Living Near Highway-Rail Crossings.” *Transportation Quarterly* Vol. 57 No. 4 Fall 2003 for additional information.

## **2. HEAVY DUTY TRUCK ACCIDENTS AND RAIL ACCIDENTS**

Residents near railyards, Ports and freeways complain of other community impacts besides noise which must be investigated. We detail some of these concerns below.

Truck accidents: The preponderance of heavy duty trucks carrying cargo on many California freeways is a cause for concern for several reasons, including diesel emissions, noise, pavement deterioration, road dust and collisions causing injuries and fatalities. According to CalTrans: “*Large trucks are involved in a disproportional percentage of fatal collisions.*” Appendix II has statistics. *See*: <http://www.dot.ca.gov/hq/traffops/trucks/trucksize/fs-lcvs.htm>

The Long Beach Freeway is often described as having one of the highest volumes of big-rig trucks on the nation’s highways. A study by UCLA researchers found

that the freeway traffic consists of 25% big-rig trucks carrying cargo containers to and from the Ports. According to the California Highway Patrol, “50,000 trucks are using I-710 each day and, of these, about 25,000 are port-related. I-710 averages 660 truck-involved accidents a year between Ocean Boulevard and I-5. The CHP further notes that about 6000 accidents take place each year, countywide, which means that I-710 represents about 10% of these accidents”.<sup>9</sup>

Rail accidents: A Los Angeles *Times* analysis of census data shows that about half a million people in California live within 1,000 feet of active freight railroad tracks, their numbers growing as new rail-adjacent neighborhoods are added. Those figures do not include light-rail commuter tracks such as the Blue Line<sup>10</sup>.

A significant number of accidents happen every year with freight operations, resulting in fatalities. Appendix II has figures on the number of fatalities and injuries in California for both BNSF and Union Pacific (UP) in 2003 and has detailed charts for 2005. These are the figures for 2003: (*See:* [http://www.bts.gov/publications/state\\_transportation\\_profiles/state\\_transportation\\_statistics\\_2004/html/table\\_02\\_10.html](http://www.bts.gov/publications/state_transportation_profiles/state_transportation_statistics_2004/html/table_02_10.html))

	Incidents	Fatalities	Injuries
California	964	116	664

Freight accidents are expensive in terms of costs to railroad personnel and the public. Professor Fordenbrock at University of Iowa has studied the external costs of freight transportation accidents and concludes: “*In total there were 951 fatalities and 9669 personal injury casualties in 1994 arising from the operations of Class I freight railroads... In summary, Class I freight railroads were involved in accidents that cost society a total of \$3,323,980,000 in 1994, and they paid a total of \$1,263,000,000 in various kinds of compensation for accidents. The net uncompensated accident cost of freight rail operations in 1994 was therefore \$2,060,980,000*”.<sup>11</sup> If California were just 10% of this national total, in 1994 costs, the cost to society in uncompensated accident costs of freight rail operations would have been \$206,098,000.

### 3. PAVEMENT DETERIORATION BY BIG-RIG TRUCKS

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<sup>9</sup> *See:* Workshop on Highway Safety, I-710 Oversight Policy Committee Minutes. October 29, 2003. Presentation on the Interstate 710 Truck Corridor Safety Project by California Highway Patrol Assistant Chief Art Acevedo. <http://www.gatewaycog.org/I710/20031029opcm.pdf>

<sup>10</sup> Liu C and Smith D. Near the Rails, on the Edge; Southland residents near train tracks live with noise, dirt and danger -- and wonder why homes are allowed to be built so close. Los Angeles Times, April 6, 2005. p. B1.

<sup>11</sup> Forkenbrock, 2001.

A document on the CalTrans Web site states that: *“Heavier trucks deteriorate the pavement structure at an accelerated rate. A study at University of Texas found that one big rig pass causes the damage equivalent to 2,000 to 3,000 cars.”* See <http://www.dot.ca.gov/hq/traffops/trucks/trucksize/fs-lcvs.htm> The damage from heavier trucks creates a huge cost to taxpayers that the public needs to understand. The state’s analysis should offer predictions of what the cost for repairing pavement deterioration from heavy duty trucks transporting containers will be to California taxpayers over the next 5, 10, and 20 years as the number of big-rig trucks doubles or triples.

#### **4. CONGESTION FROM INDUCED TRAFFIC FROM NEW OR EXPANDED FREEWAYS.**

Although BTH, CalEPA, and ARB leaders and staff argue that expanding freeways, building more truck lanes, and building more HOV lanes, etc. will reduce congestion (and thereby emissions), recent published transportation studies are not so definitive and they actually state that it is now accepted that transportation projects typically induce demand for travel and often within a year of the transportation facility expansion. See, for example, these paragraphs from a 2005 report commissioned and published by the widely-respected Transportation Research Board;<sup>12</sup> lengthier sections from the report are reprinted in Appendix III.

“Within the past decade, transportation professionals have reluctantly accepted that many of the transportation projects that are implemented affect the level of travel demand. Most importantly, following a landmark court case in the San Francisco Bay Area, the existence of induced demand for travel has been recognized and must be dealt with in planning transportation facilities.” [Emphasis added]

“Traffic-flow improvements, by definition, improve overall vehicle operating speeds and reduce congestion. Reduced congestion means fewer and less extreme vehicle acceleration and deceleration events for the facility. ... However, there are second-order effects as well. The higher speeds mean lower travel times. Lower travel times may encourage vehicle drivers to make more trips, make longer trips, and change their mode, route, and time of day for making their trips. These second-order effects usually occur fairly soon (within a year) of the facility improvement. [Emphasis added]

#### **2.7 CONCLUSION**

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<sup>12</sup> See, for example: National Cooperative Highway Research Program, NCHRP Report 535. Predicting Air Quality Effects of Traffic-Flow Improvements: Final Report and User’s Guide. Transportation Research Board of the National Academies. 2005. Submitted as a .pdf file. Excerpts in Appendix III.

This chapter reviewed some of the attempts that have been made to measure induced travel and ideas for measuring induced travel in the future. First, induced and diverted traffic occur as a result of transportation system facility changes. There appears to be no dispute in the profession at this point on this issue; rather, it seems to be widely accepted that such changes occur and need to be estimated. [Emphasis added]

We also believe (from years of collective personal experience in California, from reading historical newspaper accounts, and from reading the transportation literature) that adding additional freeway capacity will induce additional travel demand and that any congestion relief from building new or expanding existing freeways will be short-lived. We urge the state agency leaders and staff to review the latest transportation studies and research and use currently accepted information about congestion relief (or the lack thereof) from transportation improvements in the debates.

## **5. FREIGHT TRAINS BUMPING COMMUTER TRAINS**

Commuter rail lines in some communities, including Los Angeles, share their lines with the Class I railroads. In Los Angeles, a major commuter rail line from Union Station to Riverside runs on a track owned by Union Pacific. Although the railroad is supposed to allow Metrolink trains to have priority during rush hour, delays routinely happen when freight trains are in the way. In May 2005, commuters had to wait two hours for Union Pacific trains to clear the tracks.<sup>13</sup> In 2006, the delays were becoming more regular<sup>14</sup>. The Los Angeles *Times* reports that mass transit ridership on the line has decreased as a result of the conflicts and delays. This inconveniences commuters and, of course, increases emissions, both from idling of trains and also from commuters resorting to driving to work in individual automobiles.

## **6. WORKER NOISE AND SAFETY ISSUES**

Noise is a serious occupational health hazard, affecting port, trucking, warehouse, and rail workers. A recent study of rail workers measured high impact noise that the authors concluded could result in noise-induced hearing loss. (*See study quoted in the Noise section on the impacts of noise on rail workers*).

We also refer to Appendix II which documents the accidents and fatalities occurring in California involving heavy duty trucks and rail operations. We were unable to locate figures on longshore/dock workers fatalities and injuries and

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<sup>13</sup> Weikel D. Freight vs. Folks on Lone Rail Line; Metrolink riders seethe as Union Pacific trains cause delays on the single track from Union Station to Riverside. Los Angeles Times. May 15, 2005. p. B1.

<sup>14</sup> Liu C and Cvarrubias A. Gov's plan is a boon to area rail. Los Angeles Times. Feb. 26, 2006, p. B1.

request that CalOSHA make these statistics readily available to the public. Access to these statistics is particularly important because the volume of containerized cargo in and out of the California ports has necessitated the hiring of thousands of new longshore workers. This means that a large portion of today's shipping terminal workforce is inexperienced and, historically, inexperienced workers have a higher rate of on-the-job injuries than more experienced workers.

In addition, we suggest that CalOSHA be charged with evaluating the impacts of increased international trade and goods movement on the overall health and safety of California's workforce and with developing a Worker Health and Safety Ports and Goods Movement Plan as a section of the larger Community Impacts Plan.

## 7. HAZARDOUS MATERIALS INCIDENTS AND DERAILMENTS

The following chart describes hazardous materials incidents on highway and rail in the state of California in 2003, illustrating potential risks for workers and residents that need to be evaluated in the state's Community Impacts Report.

### Hazardous Materials Incidents by Mode: 2003

State	Mode				Total
	Highway	Rail	Air	Water <sup>2</sup>	
California	1,058	94	43	2	1,197

See: [http://www.bts.gov/publications/state\\_transportation\\_profiles/state\\_transportation\\_statistics\\_2004/](http://www.bts.gov/publications/state_transportation_profiles/state_transportation_statistics_2004/)

In addition, derailments are an ongoing and serious problem in California. See, for example, a letter dated March 12, 2005, from California lawmakers asking the U.S. Department of Transportation for implementation of a rail safety plan in Southern California: <http://www.senate.gov/~feinstein/05releases/r-railsafety.htm> The costs to California residents from train derailments (which seldom are fully compensated by the railroads) must be evaluated as "external costs" of promoting a tripling of goods movement activities in the state.

## 8. MAPS OF GRADE CROSSINGS AND ESTIMATES OF COSTS

We are concerned about the enormous number of grade crossings that need to be built to accommodate the increasing number of freight trains in California – and who will pay for them. We request a set of electronic maps showing the rail routes in California, the current number of freight trains per day, and also showing on which routes freight traffic is expected to increase and by how much in increments of time such as 5 years/10 years/20 years and which intersections are slated to have grade separations. We request that these maps be posted to the BTH and ARB Web sites' "goods movement pages" so that the public has access to them. We also request that the full costs of grade separations be spelled out.

We have requested such a map showing key intersections and where grade crossings are planned, but have not received one.

## **9. STADIUM LIGHTING**

Residents near railyards and Ports complain of difficulty sleeping because of constant “stadium lighting,” intense lights that stay on all night and light up an entire work area – and adjacent neighborhoods – so that 24-7 work can occur. There are no known studies on the effects of this type of lighting, which residents say interrupts normal sleep patterns. Several recent studies, however, are relevant. One found that levels of melatonin in shift workers who had irregular light exposure were high upon rising from sleep and that the levels were normal or abnormally low during sleep.<sup>15</sup> Results from another recent study in laboratory mice show that nighttime exposure to artificial light stimulated the growth of human breast tumors by suppressing the levels of a key hormone called melatonin. The study also showed that extended periods of nighttime darkness greatly slowed the growth of these tumors.<sup>16</sup>

## **10. CONTRIBUTIONS OF EMISSIONS FROM SHIPS, YARD EQUIPMENT, RAIL AND TRUCK TRANSPORT TO GREENHOUSE GAS EMISSIONS**

We urge the Administration’s Climate Change Team to ensure that the full greenhouse gas emissions relating to international trade with Asia be accounted for in its California inventory. It is our contention that the emissions from cargo container ships – whose destination is California – should be counted as a California “charge” for the emissions on their entire voyage from Asia to California. If California chooses to encourage trade with Asia, dramatically increasing the number of ships, then the impacts of these ship emissions (which are considerable) must be considered in the inventory and in the Governor’s goals and strategies for reducing greenhouse gases.

## **11. EXTERNAL COSTS OF INCREASED HEALTH CARE COSTS**

Promoting goods movement as an economic strategy will increase the number of jobs in trucking, warehousing and other logistics operations. We request that the state do an evaluation of the level of health insurance coverage in these sectors. For example, at the February 24, 2006, Integrating Work Group meeting, Miguel

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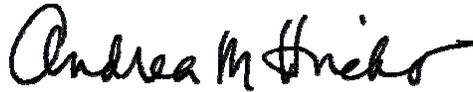
<sup>15</sup> Borugian MJ et al. Twenty-four-hour light exposure and melatonin levels among shift workers. *J Occup Environ Med.* 2005 Dec;47(12):1268-75.

<sup>16</sup> Blask DE. Melatonin-depleted blood from premenopausal women exposed to light at night stimulates growth of human breast cancer xenografts in nude rats. *Cancer Res.* 2005 Dec 1;65(23):11174-84.

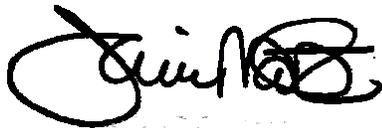
Lopez of the Teamsters Union stated that virtually none of the 10,000 drayage truck drivers going back and forth to the ports have health insurance. If his figures are correct, this lack of health insurance clearly creates an added burden to the state's taxpayers when these workers or their families require health care.

Thank you for the opportunity to submit these comments. We recognize that we are asking for a significant amount of work by State agencies with regard to evaluating impacts and developing suggested mitigation and abatement methods. These are issues that have been raised by community members for several years now, however, and they demand significant attention and solutions. We appreciate your consideration of our recommendations.

Sincerely,



Andrea M. Hricko  
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Southern California Environmental Health Sciences Center  
Keck School of Medicine, USC



Julie Masters  
Senior Attorney  
Natural Resources Defense Council



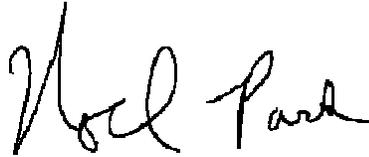
Andrea Samulon  
Research Associate  
Pacific Institute



Angelo Logan  
Director  
East Yard Communities for Environmental Justice



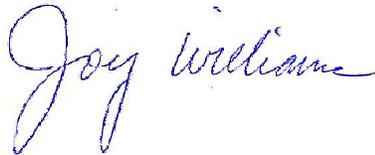
Penny J. Newman  
Executive Director  
Center for Community Action and Environmental Justice



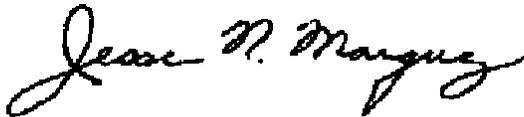
Noel Park  
President  
San Pedro & Peninsula Homeowners Coalition



Margaret Gordon  
Co-Chair  
West Oakland Environmental Indicators Project



Joy Williams  
Research & Community Assistance Director  
Environmental Health Coalition



Jesse Marquez  
Executive Director  
Coalition for a Safe Environment