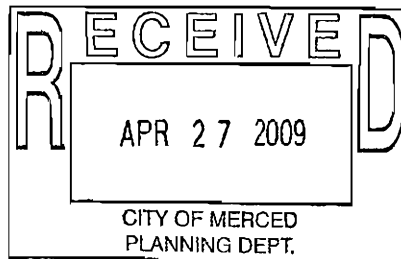


Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



RE: Construction Equipment and the Wal-Mart Distribution Center

Dear Ms. Espinosa,

I have grave concerns about the use of construction equipment for the proposed Wal-Mart Distribution Center. Several studies have highlighted the fact that construction equipment is one of the leading sources of diesel pollution in California. Please include the following study in the EIR record, *Digging-Up Trouble - The Health Risks of Construction Pollution in California*, 2006 by the Union of Concerned Scientists. In short their study quantifies the effects of construction pollution on California's public health and economy, both across the state and in the five most affected regions. The risk of exposure to construction activity is evaluated for cities in each of these regions. Merced is one of the cities cited as being a high-risk area. Additionally, the EIR should implement the safety steps residents can take in protecting themselves against harmful construction equipment highlighted on page 32 of the study.

188-1

The DEIR is deficient in its analysis of how many and what type of construction equipment will be used during construction and should include it in its final drafting. Thank you.

Regards,

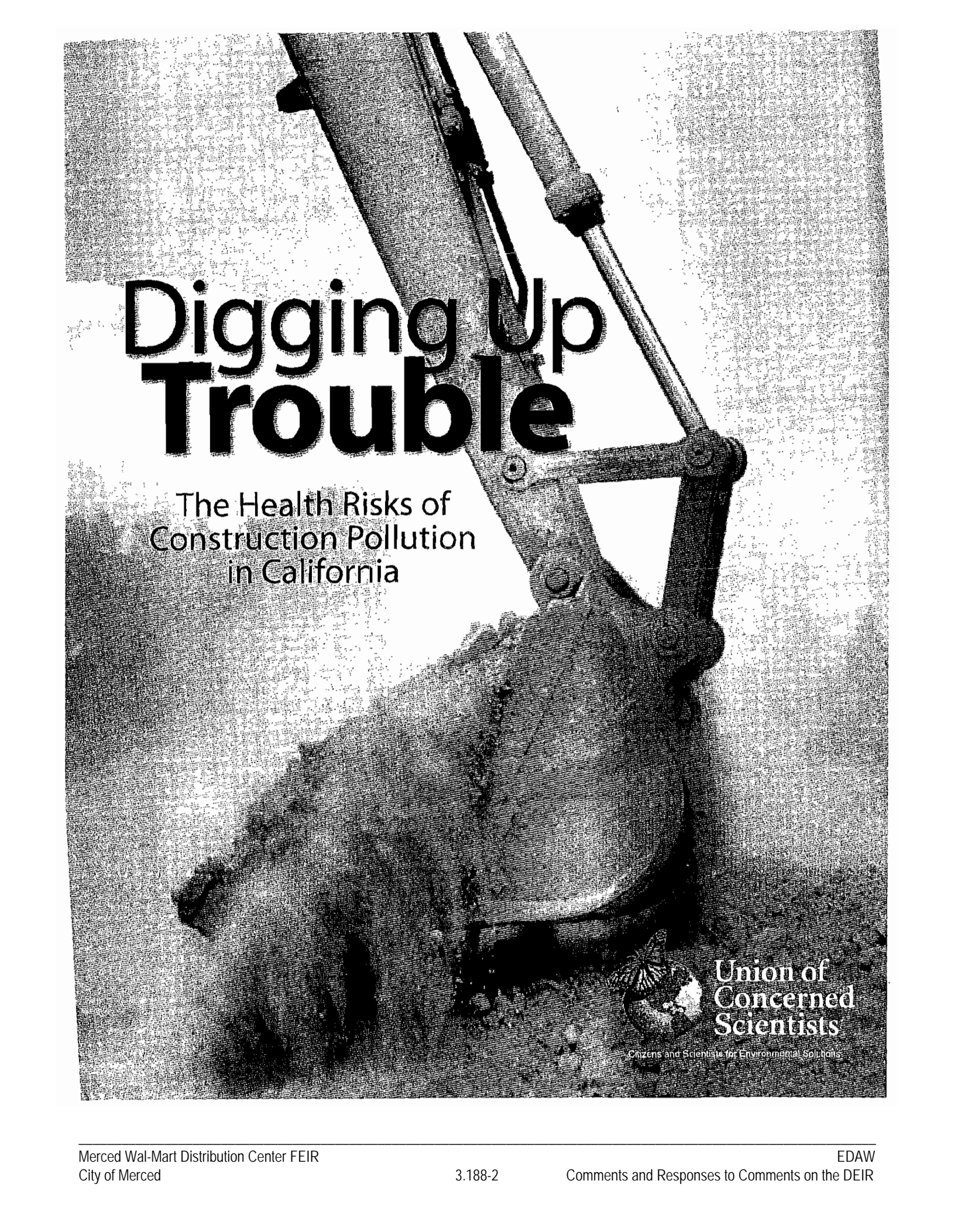
Lisa M. Rosales

137 Sweetwater Ave

Merced, Ca 95341

Lisa M. Rosales

4/16/09



Digging Up Trouble

The Health Risks of
Construction Pollution
in California

Union of
Concerned
Scientists

Citizens and Scientists for Environmental Solutions

Digging Up Trouble

The Health Risks of Construction Pollution in California

D O N A N A I R

**Union of Concerned Scientists
November 2006**

© 2006 Union of Concerned Scientists
All rights reserved

Don Anair is a vehicles engineer in the Union of Concerned Scientists Clean Vehicles Program.

The Union of Concerned Scientists (UCS) is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and to secure responsible changes in government policy, corporate practices, and consumer choices.

The UCS Clean Vehicles Program develops and promotes strategies to reduce the adverse environmental impact of the U.S. transportation system.

More information about UCS and the Clean Vehicles Program is available on the UCS website at www.ucsusa.org.

The full text of this report is available online at www.ucsusa.org/clean_vehicles or may be obtained from:

UCS Publications
2 Brattle Square
Cambridge, MA 02238-9105

Or, email pubs@ucsusa.org or call (617) 547-5552.

COVER PHOTO: © iStockphoto
DESIGN: David Gerratt/NonprofitDesign.com

Printed on recycled paper

CONTENTS

Figures and Tables	iv
Acknowledgments	vi
Executive Summary	1
Chapter 1	
Diesel Pollution from Construction Equipment	3
Chapter 2	
Health and Economic Damage from Construction Equipment	7
Chapter 3	
Construction Pollution Impact by Region	10
Chapter 4	
Building a Cleaner Future	23
Appendix	
Estimating the Health Damage and Economic Costs of Construction Pollution	25
References	28

FIGURES AND TABLES

FIGURES

1. Construction Equipment Emissions Compared with a New “Big Rig”	4
2. Construction Pollution Risk in the South Coast Air Basin	13
3. Construction Pollution Risk in the San Francisco Bay Area Air Basin	15
4. Construction Pollution Risk in the San Diego Air Basin	17
5. Construction Pollution Risk in the San Joaquin Valley Air Basin	19
6. Construction Pollution Risk in the Sacramento Valley Air Basin	21

TABLES

1. Health Damage from Construction Pollution (by Air Basin)	2
2. Emissions by Type of Construction Equipment	4
3. Health and Economic Damage from Construction Pollution (Statewide)	9
4. South Coast Construction Pollution Damage	12
5. Top 10 Percent of South Coast Construction Risk Zones	12
6. San Francisco Bay Area Construction Pollution Damage	14
7. Top 10 Percent of San Francisco Bay Area Construction Risk Zones	14
8. San Diego Construction Pollution Damage	16
9. Top 10 Percent of San Diego Construction Risk Zones	16
10. San Joaquin Valley Construction Pollution Damage	18

11. Top 10 Percent of San Joaquin Valley Construction Risk Zones	18
12. Sacramento Valley Construction Pollution Damage	20
13. Top 10 Percent of Sacramento Valley Construction Risk Zones	20

ACKNOWLEDGMENTS

Support for this work was provided by Foundation M, Steven and Michele Kirsch Foundation, The California Wellness Foundation, The Energy Foundation, and The William and Flora Hewlett Foundation.

The author would like to thank the helpful staff of the California Air Resources Board for its expertise and advice. I am especially grateful to Hien Tran, Kim Heroy-Rogalski, Jeff Wilson, Debbie Futaba, and Lei Zhou.

I would also like to acknowledge Tom Albo at Greeninfo for his data processing and map production, Patrick Otsuji at the California State Water Resources Board for his expertise and help in gathering construction permit information, and Karen Huss and Larry Sherwood at the Sacramento Metropolitan Air Quality Management District for information regarding their construction mitigation program.

Here at the Union of Concerned Scientists, I want to thank Patricia Monahan, Jason Mark, David Friedman, Erin Rogers, Rich Hayes, and Daniel Kalb for their valuable comments and advice at various stages in the preparation of this report. Additional thanks go to Bryan Wadsworth for copyediting and David Gerratt for layout and design.

The opinions expressed in this report do not necessarily reflect the opinions of the foundations that supported the work, or the individuals who reviewed and commented on the report. Both the opinions and information contained herein are the sole responsibility of the author.

EXECUTIVE SUMMARY

Pollution from diesel construction equipment is taking a toll on the health and economic well-being of California residents. This equipment contributes to particulate and ozone pollution that can cause severe cardiovascular and respiratory illnesses, asthma attacks, acute bronchitis, and even premature death.

This study analyzes air pollution caused by construction equipment and—for the first time—quantifies its effect on California’s public health and economy, both across the state and in the five most-affected regions. In addition, we evaluate the risk of exposure to construction activity in specific cities in each of these five regions. Lagging emission standards and very old equipment have made construction equipment one of the largest sources of toxic diesel particulate matter pollution in the state, necessitating an accelerated cleanup program to protect the health of all Californians.

Using established U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) methods to quantify the impact of air pollution, the Union of Concerned Scientists (UCS) estimates that construction equipment emissions statewide are responsible for:

- more than 1,100 premature deaths per year
- more than 1,000 hospital admissions for cardiovascular and respiratory illness
- 2,500 cases of acute bronchitis
- tens of thousands of asthma attacks and other lower respiratory symptoms

This pollution is hurting the state’s economy as well. Construction equipment is critical to the building industry (a sector of the economy worth \$60 billion per year)¹ and instrumental in maintaining and building our roads and highways (on which California spent eight billion dollars last year). But the pollution from this equipment results in more than nine billion dollars in annual public health costs, including hundreds of thousands of lost work days and school absences.

Construction equipment is used extensively throughout the entire state. More than 270,000 acres of land in California were under construction permit during 2005—an area the size of Los Angeles.² In addition, more than 10,000 miles of state roadway were under contract for construction, repairs, or maintenance.³

The impact of construction pollution on public health is greatest where equipment and people mix, and 90 percent of the health and economic damage occurs in California’s five most populous air basins. The South Coast air basin (which encompasses most of Los Angeles, Orange, Riverside, and San Bernardino counties) ranks first with more than 700 premature deaths and more than 650 hospitalizations for respiratory and cardiovascular illness annually. The San Francisco Bay Area and San Diego follow, with more than 150 and 89 premature deaths, respectively, every year. The San Joaquin Valley and Sacramento Valley (the two largest air basins in

¹ As reported to the California Department of Finance by the California Construction Industry Research Board. Available at http://www.dof.ca.gov/HTMLFILES_DATA/LatestEconData/FS_Construction.htm.

² Total acres based on State Water Resources Control Board data (SWRCB 2005). The city of Los Angeles covers 300,160 acres.

³ Mileage based on ongoing contract data available from the California Department of Transportation (CALTRANS 2005).

TABLE 1 Health Damage from Construction Pollution (by Air Basin)

Health Endpoint	Total Incidences					
	Statewide	South Coast	San Francisco Bay Area	San Diego	San Joaquin Valley	Sacramento Valley
Premature Deaths	1,132	731	154	89	49	39
Respiratory Hospitalizations	669	353	58	50	55	30
Cardiovascular Hospitalizations	417	274	61	33	14	12
Asthma and Other Lower-Respiratory Symptoms	30,118	20,841	3,406	2,127	1,264	790
Acute Bronchitis	2,494	1,729	284	177	107	66
Lost Work Days	182,940	123,439	25,713	14,014	6,241	4,617
Minor Restricted Activity Days	1,544,952	959,839	168,459	113,280	99,585	50,408
School Absences	331,040	175,356	18,472	24,689	33,282	17,492

NOTE: Values represent the mean annual incidence estimate for 2005.

California's Central Valley) round out the top five with 49 and 39 annual premature deaths, respectively.

Construction activity varies from city to city and, therefore, so does potential exposure to harmful diesel exhaust. Areas with high population density and construction activity are an obvious concern because construction equipment emissions are more likely to be occurring in close proximity to people. Nevertheless, the most densely populated cities are not the only areas with high potential for construction risk; evaluation of active construction projects finds areas outside major population centers also face risks since large-scale construction projects accompany regional population growth.

While incentive programs have begun to clean up some of this equipment, only statewide regulations can achieve the reductions in construction equipment pollution needed to truly protect public health. Cost-effective technology solutions that would help meet this regulatory goal already exist, and more will become available over the next few years. CARB should adopt a regulatory regime that will clean up existing construction equipment by retiring the oldest, most-polluting equipment and using retrofit technology where appropriate.

Chapter 1

DIESEL POLLUTION FROM CONSTRUCTION EQUIPMENT

Highway truck and bus engine manufacturers have had to meet increasingly stringent emission regulations since the late 1980s. Construction and other off-road equipment, however, did not face new particulate matter (PM) emission standards until 1996, with some engines unregulated as late as 2003.⁴ In 2004, the U.S. Environmental Protection Agency (EPA) finally forced construction equipment to meet similar standards to highway trucks and buses, requiring 90 percent reductions in nitrogen oxides (NOx) and PM for most engine sizes. These standards will phase in over a seven-year period starting in 2008, reaching full implementation in 2014 (EPA 2004).

Although these standards will significantly reduce pollutants from new engines, the full benefits will not be realized until sometime after 2030, when the long-lasting equipment currently in use today is finally retired. There are technology options available to clean up these existing machines, but neither the EPA nor the state of California currently requires them. As a result, if no additional requirements are put in place, the construction sector will continue emitting high levels of toxic and smog-forming pollution for the next two to three decades.

THE WORST OFFENDERS

The Union of Concerned Scientists (UCS) took a closer look at pollution from California's construction equipment to find out which types of

equipment emit the most toxic diesel PM (or "soot") and smog-forming NOx. Most people think of trucks and buses when they think of diesel pollution, but as it turns out, the equipment repairing the road near your home or operating at a construction site near your office may be many times more polluting. Diesel construction equipment ranges from backhoes and bulldozers to paving equipment and cranes; we have identified the worst offenders.

Out of 18 categories of construction equipment identified in the 2005 California Air Resources Board (CARB) emission inventory, the five highest-polluting categories are responsible for 65 percent of PM and 60 percent of NOx emissions. In descending order, they are excavators, tractors/loaders/backhoes, crawler tractors (commonly called bulldozers), rubber-tired loaders, and skid-steer loaders (CARB 2006c).

We compared PM and NOx emissions from these types of equipment with the number of miles a new heavy-duty tractor-trailer truck (or "big rig") would have to travel to emit the same amount of pollution. The emissions of a model year 2007 big rig were estimated based on a truck traveling 55 miles per hour and operating on recently available ultra-low-sulfur diesel fuel. Hourly construction equipment emissions were calculated from equipment population estimates and CARB's 2005 emission inventory.

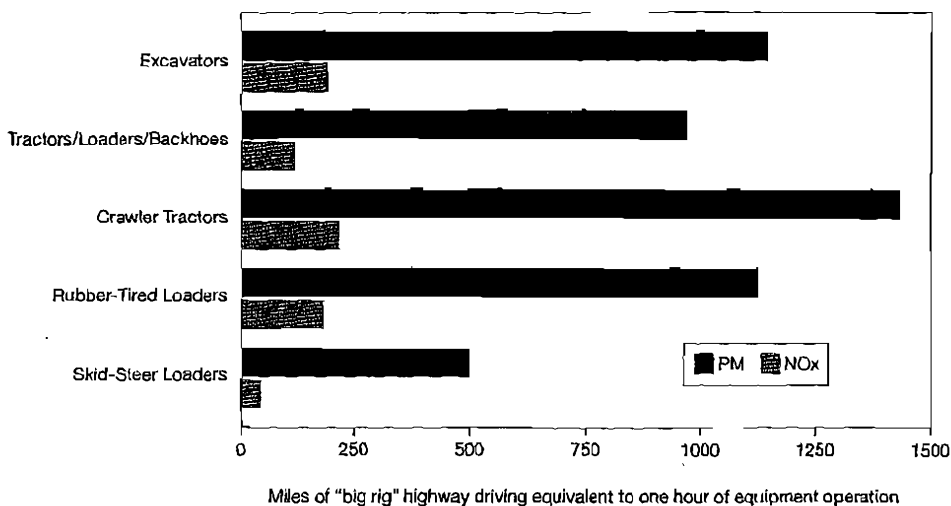
⁴ Tier 1 EPA nonroad engine standards did not include PM limits for engines of 50 to 175 horsepower.

TABLE 2 Emissions by Type of Construction Equipment

	Percent of Total PM from Construction Equipment	Percent of Total NOx from Construction Equipment	Useful Life (in years)
Excavators	17%	18%	17
Tractors/Loaders/Backhoes	16%	12%	18
Crawler Tractors (Tracked Bulldozers)	13%	13%	29
Rubber-Tired Loaders	12%	12%	21
Skid-Steer Loaders	7%	4%	13
Off-Highway Trucks	5%	9%	17
Rough-Terrain Forklifts	5%	3%	16
Graders	5%	5%	23
Off-Highway Tractors	4%	5%	31
Rollers	3%	3%	20
Trenchers	3%	2%	28
Scrapers	3%	1%	26
Cranes	3%	4%	19
Rubber-Tired Dozers	2%	2%	32
Pavers	2%	1%	26
Bore/Drill Rigs	1%	1%	10
Other Construction Equipment	0.4%	1%	16
Paving Equipment	0.3%	0.2%	24
Surfacing Equipment	0.04%	0.1%	22

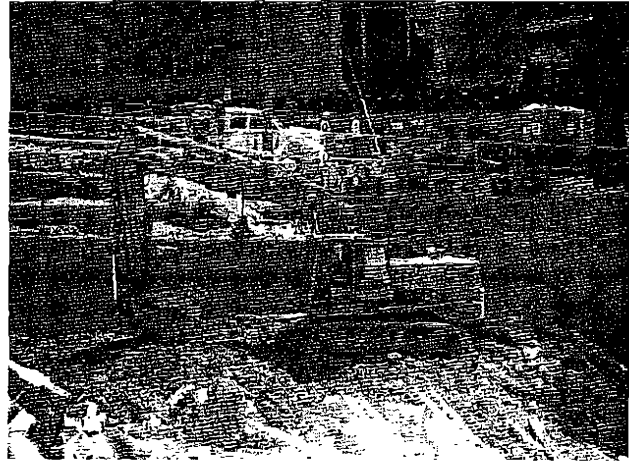
NOTE: Useful life is defined as the age at which half of the equipment of a given model year has been retired.
 SOURCE: Based on 2005 CARB construction emission inventory (updated as of September 2006).

FIGURE 1 Construction Equipment Emissions Compared with a New "Big Rig"



Excavators

There are an estimated 19,000 excavators in California, ranging in size from about 50 to 750 horsepower. The annual PM pollution from excavators accounts for 17 percent of all PM from construction equipment. On average, an excavator operating for one hour emits as much PM as a new big rig traveling 1,100 miles, while NO_x emissions are equivalent to driving a big rig about 200 miles. The useful life of this equipment is 17 years.⁵



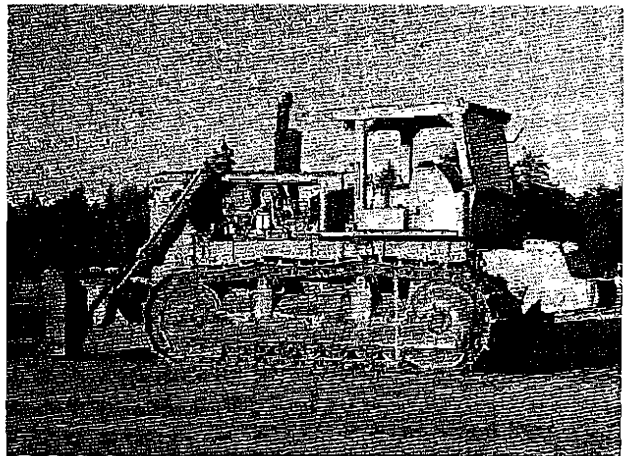
Tractors/loaders/backhoes

These versatile pieces of equipment are commonly used on construction sites and road repair projects. More than 30,000 backhoes are operated in California every year, emitting 16 percent of all PM from construction equipment. The PM produced by the average backhoe in one hour is equivalent to driving a big rig nearly 1,000 miles, while the NO_x emissions are equivalent to driving more than 100 miles. The useful life of this equipment is 18 years.



Crawler tractors (bulldozers)

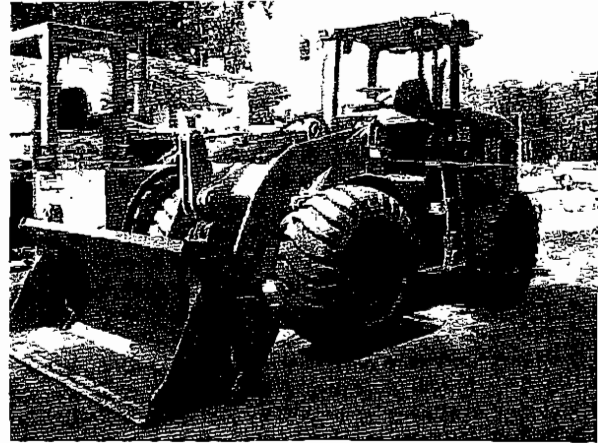
These tracked vehicles are used primarily for earthmoving operations. More than 16,000 bulldozers operate in California and emit 13 percent of all PM from construction equipment. The average bulldozer operating for one hour emits the same amount of PM as a new big rig driving 1,400 miles. The NO_x emissions from an hour of operation are equivalent to driving a big rig 200 miles. The useful life of a crawler tractor is an impressive 29 years.



⁵ Useful life is defined as the age at which half of the equipment of a certain model year has been retired. The useful life, equipment populations, emissions, and other equipment specifics described in this section are based on CARB's updated off-road emission inventory model as of September 2006 (CARB 2006c).

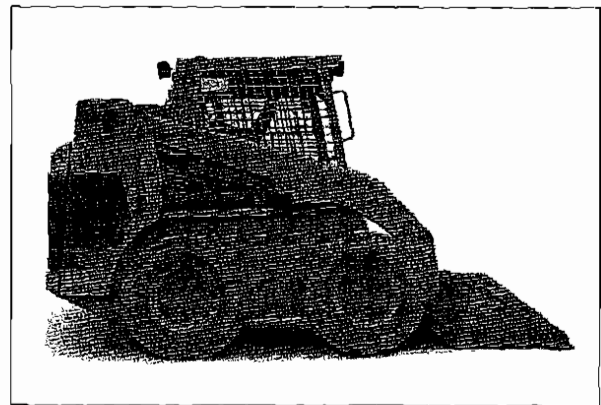
Rubber-tired loaders

These heavy-duty vehicles, commonly used to load trucks, represent the fourth largest source of diesel emissions from construction equipment; the estimated 19,000 rubber-tired loaders in California account for 12 percent of all construction pollution. The average loader operating for one hour emits PM equivalent to driving a new big rig 1,100 miles and NOx emissions equivalent to driving 200 miles. The useful life of rubber-tired loaders is 21 years.



Skid-steer loaders

More than 29,000 of these relatively small pieces of equipment operate in California on all types of construction projects, and account for seven percent of all PM from construction equipment. Even though the average skid-steer loader delivers less than 50 horsepower (a fraction of that provided by a big rig),⁶ its PM emissions from one hour of operation are equivalent to driving a new big rig 500 miles. The useful life of a skid-steer loader is 13 years.



6 A new big rig's engine can range anywhere from 300 to 600 horsepower.

*Chapter 2***HEALTH AND ECONOMIC DAMAGE FROM
CONSTRUCTION EQUIPMENT**

Emissions from construction equipment and other diesel vehicles are harmful to our health and well-being. The damage comes in the form of premature death, increased hospital admissions for respiratory and cardiovascular diseases, asthma attacks, and lost productivity through school absences and missed work days. Following established statistical methods, UCS has quantified the cost of diesel emissions from construction equipment in California.

The impact of several pollutants that comprise diesel exhaust must be taken into account:

- **Particulate matter (PM).** Also known as soot, these small particles (25 times smaller than the width of a human hair) are released directly from the tailpipe or formed indirectly from emissions of NO_x and sulfur oxides (SO_x). PM can penetrate deeply into the lungs, causing or aggravating a variety of respiratory and cardiovascular illnesses and even leading in some cases to premature death (Pope 2002, Krewski 2000, Samet 2000).
- **Smog-forming pollutants.** NO_x and hydrocarbons react in the presence of sunlight to form ozone (smog), which can damage the respiratory tract, reduce lung function, exacerbate asthma, aggravate chronic lung diseases, and also cause premature death (White 1994,

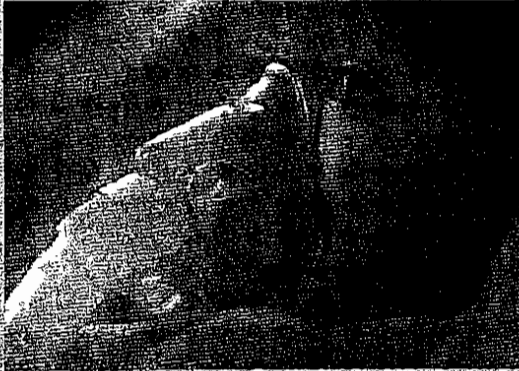
Koren 1995, Thurston 2001, Bell 2005). As much as 10 to 20 percent of all summertime hospital visits and admissions for respiratory illness are associated with ozone, and more than 90 percent of Californians live in areas that do not comply with federal ozone standards (Thurston 1992, 1994).

- **Air toxics.** The state of California has classified diesel exhaust and more than 40 compounds in diesel exhaust as toxic air contaminants.⁷ Exposure to these chemicals can cause cancer, damage to fetuses, and other serious health and reproductive problems. CARB has estimated that diesel exhaust is responsible for 70 percent of the state's risk of cancer from airborne toxics (CARB 1998).

**ESTIMATING HEALTH EFFECTS
OF CONSTRUCTION POLLUTION**

This analysis uses methods established by CARB and the EPA to quantify health and economic damage from diesel pollution. In March 2006, CARB released a study detailing the regional health and economic damage caused by California's goods movement system (CARB 2006a). A number of adverse health effects, or endpoints, strongly linked to diesel pollution were quantified along with an estimate of the economic costs associated with these endpoints.

⁷ According to the California Health and Safety Code, a toxic air contaminant is "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health."



How Diesel Exhaust Damages Lungs

As PM from diesel exhaust travels through the air and is inhaled, the largest particles settle in the nose, throat, and lungs. The finest particles are able to evade the body's natural defenses (such as sneezing and coughing) and travel deep into the lungs. Once there, these particles can cause inflammation and scarring of air passageways and lung tissue, resulting in reduced oxygen flow to the rest of the body. Symptoms can range from coughing and shortness of breath to severe and fatal asthma attacks.

When inhaled, ozone—a key ingredient of smog—can also damage lungs by chemically burning delicate tissue and causing scarring. Recent evidence suggests that exposure to ozone can cause asthma in otherwise healthy children (McConnell 2002). On days with high ozone levels, health officials recommend reducing outdoor activities to lower exposure to this dangerous pollutant.

Using emission data specific to diesel construction equipment in California, we used the same methodology to quantify the damage from construction equipment pollution. Because our ability to quantify the public health impact of diesel pollution is limited, the health endpoints quantified in this analysis do not represent all of the potential damage associated with diesel pollution and are therefore conservative estimates.

Economic damage associated with construction equipment pollution is estimated by assigning each health endpoint an economic value. Economic valuations for each health endpoint are based on the cost of treating an illness, lost productivity or wages, or the value society is willing to pay to lower the risk of certain outcomes.

For further discussion of the methodology used to estimate the health and economic impact of construction pollution, please refer to the appendix.

Our analysis found that the economic and health damage caused by construction equipment pollution in California is staggering. More than 1,000 premature deaths per year can be attributed to these emissions, along with more than 1,000 hospitalizations for cardiovascular and respiratory illness, and more than 30,000 asthma attacks and other respiratory symptoms. Hundreds of thousands of lost work days and school absences equate to more than \$60 million in annual economic losses. In addition, Californians collectively experience millions of days each year when air pollution restricts their activities. Overall, construction equipment pollution costs the state more than nine billion dollars every year.

TABLE 3 Health and Economic Damage from Construction Pollution (Statewide)

Health Endpoint	Pollutants	Total Incidences	Costs (in thousands of 2005 dollars)
Premature Deaths (\$7.9 million/incidence)	PM and ozone	1,132 (328-1930)	8,944,256 (2,588,161-15,249,672)
Respiratory Hospitalizations (\$34,000/incidence)	PM and ozone	669 (398-933)	22,758 (13,530-31,795)
Cardiovascular Hospitalizations (\$41,000/incidence)	PM only	417 (263-646)	17,082 (10,795-26,491)
Asthma and Other Lower Respiratory Symptoms (\$19/incidence)	PM only	30,118 (11,686-48,110)	572 (222-914)
Acute Bronchitis (\$422/incidence)	PM only	2,494 (-609-5,408)	1,053 (-257-2,282)
Lost Work Days (\$180/incidence)	PM only	182,940 (155,031-210,810)	32,929 (27,906-37,948)
Minor Restricted Activity Days (\$60/incidence)	PM and ozone	1,544,952 (983,809-2,150,641)	92,697 (59,329-129,038)
School Absences (\$86/incidence)	Ozone only	331,040 (134,632-531,374)	29,131 (11,848-46,761)
Total Cost			9,140,480 (2,711,532-15,524,840)

DEFINITIONS:

Premature deaths: Premature deaths due to exposure to PM and ozone, including cardiopulmonary and lung cancer mortality.

Respiratory hospitalizations: Hospital admissions for respiratory illnesses (such as emphysema or chronic bronchitis) as a result of exposure to both PM and ozone.

Cardiovascular hospitalizations: Hospital admissions for cardiovascular illnesses (such as heart attacks or hypertension) as a result of exposure to PM.

Lower respiratory symptoms: Asthma attacks and other symptoms such as wheezing, coughing, and shortness of breath.

Acute bronchitis: Symptoms can include coughing, chest discomfort, and slight fever and can last several days.

Lost work days: Days of work missed due to symptoms resulting from exposure to PM or to take care of an individual with such symptoms.

Minor restricted activity days: Days in which high ozone and PM levels require less strenuous activities but do not result in a lost work day or school absence.

School absences: Days of school missed due to symptoms resulting from exposure to ozone.

NOTE: Mean estimates are shown in bold; ranges shown in parentheses represent the 95 percent confidence interval (i.e., there is a 95 percent chance that the actual value falls between the two values shown).

Chapter 3

CONSTRUCTION POLLUTION IMPACT BY REGION

The majority of the damage caused by construction equipment pollution occurs in areas where large numbers of people are exposed. Five of California's 15 air basins, home to more than 85 percent of the state's population, suffer more than 90 percent of the total health and economic damage from construction pollution. In each of these five air basins, which are the focus of this chapter, concerns exist in both urban and suburban areas.

Air basins are largely defined by physical features, such as mountain ranges, and meteorological conditions, such as air flow patterns, that restrict the movement of air pollution to another air basin. Air quality in a given air basin is influenced by the emission sources within it, and to a lesser degree by pollution entering from another air basin. Transport of air pollution from neighboring air basins is an ongoing area of research and, for the purposes of this analysis, construction equipment emissions are assumed to remain in the air basin in which they were generated.

WHERE PEOPLE AND CONSTRUCTION MIX

UCS also evaluated the likelihood of exposure to construction activity in specific cities within the five most-affected air basins. While construction equipment contributes to overall PM and ozone concentrations in each air basin, people who live or work near construction equipment may be at a higher risk of exposure to these dangerous pollutants.⁸ Using 2000 census data and

2005 construction permit data from the California State Water Resources Control Board (SWRCB), we have identified those cities that have a higher risk of exposure to construction activity. The results show that areas where construction activity and people mix are spread throughout each region, in both urban and suburban cities and towns.

The SWRCB requires permits for construction projects that disturb more than one acre of land through clearing, grading, or excavation. We used permits from the SWRCB database for our analysis because such land disturbance generally involves the use of diesel earthmoving construction equipment. By excluding local building permits, we attempted to eliminate small projects such as single-family home construction and remodeling work that may not require the use of diesel equipment. The permits selected for this analysis were either active or issued between January 1, 2005, and December 31, 2005 (SWRCB 2005).

We then created maps using geographic information system (GIS) software to display "Construction Risk Zones" related to construction activity in each of the five studied air basins. Construction Risk Zones represent the risk of exposure to construction pollution in a given city, based on its mixture of construction activity and population density. To determine the relative risk potential for each city, we multiplied the total acreage under construction permit during 2005

⁸ Northeast States for Coordinated Air Use Management showed increased concentrations of diesel PM near construction sites (NESCAUM 2003). Other studies have shown an elevated risk of cancer near diesel pollution sources; these studies include a health risk assessment at a California rail yard (CARB 2005).

by population density from the 2000 census. A city's risk potential is presented in relation to other cities within the air basin, ranging from a relatively high risk to a relatively low risk.

The resulting Construction Risk Zones are based on the best information available, but it is important to note that this is not a measure of actual exposure to emissions and is only one measure of the likelihood that people and construction equipment will be in proximity to one another. Actual exposure levels depend on the amount of emissions produced by specific equipment, the types of equipment on a construction site and the length of time they operate, wind patterns and atmospheric conditions, and proximity

to the emission source. These details are not available from the SWRCB permit database.

Also, because we have measured construction activity in terms of acreage, a multi-story project and a single-story project are treated equally. In addition, the construction permit data used to evaluate Construction Risk Zones does not include California Department of Transportation (Caltrans) highway projects—a major source of construction activity in the state.⁹ In spite of these limitations, our Construction Risk Zone evaluation captures a majority of the largest construction sites in the state.

Please see the appendix for further discussion of the SWRCB permit data.

⁹ For perspective, Caltrans contracts were worth eight billion dollars in 2005 (CALTRANS 2005) while building and construction contracts were valued at \$65 billion according to the California Department of Finance (CDF 2005).

SOUTH COAST

Comprising most of Los Angeles, San Bernardino, Riverside, and Orange counties, this air basin experiences the greatest degree of health and economic damage in the state from construction equipment emissions. For 2005, this includes estimates of:

- more than 700 premature deaths
- 650 hospitalizations for respiratory and cardiovascular disease
- more than 1,700 cases of acute bronchitis
- nearly 21,000 incidences of asthma attack and other lower respiratory symptoms
- 300,000 days of lost work and school absences
- close to one million days of restricted activity

This loss of life and productivity cost South Coast residents an estimated \$5.9 billion.

Within the air basin, 127 cities and towns had active construction permits during 2005 accounting for more than 70,000 acres of land under construction. Areas designated as high-risk are spread throughout the region, with cities in all four counties falling in the top 10 percent of Construction Risk Zones. San Bernardino and Riverside counties each have four such cities while Los Angeles has three and Orange two. The presence of less population-dense cities such as Murrieta and Temecula in this group reflects the fact that large developments of 50 acres or more are common in these cities.

TABLE 4 South Coast Construction Pollution Damage

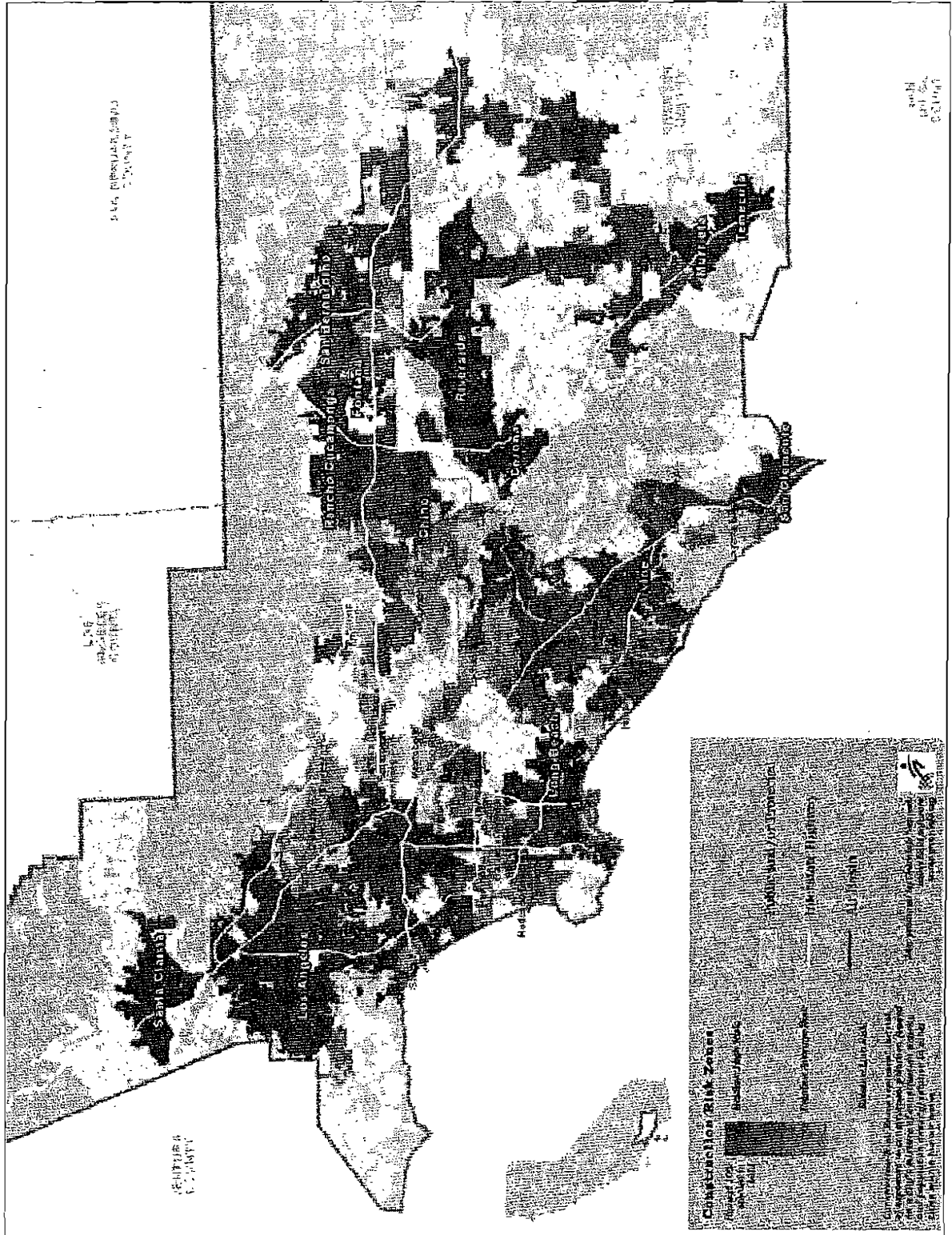
Health Endpoint	Mean Annual Incidences	Annual Costs (in thousands of 2005 dollars)
Premature Deaths	731	5,776,261
Respiratory Hospitalizations	383	13,019
Cardiovascular Hospitalizations	274	11,248
Asthma and Other Lower Respiratory Symptoms	20,941	368
Acute Bronchitis	1,729	730
Lost Work Days	129,439	22,219
Minor Restricted Activity Days	959,839	57,590
School Absences	175,339	15,430
Total Annual Cost		5,896,894

TABLE 5 Top 10 Percent of South Coast Construction Risk Zones

City	County
Long Beach	Los Angeles
Los Angeles	Los Angeles
Santa Clarita	Los Angeles
Irvine	Orange
San Clemente	Orange
Corona	Riverside
Murrieta	Riverside
Riverside	Riverside
Temecula	Riverside
Chino	San Bernardino
Fontana	San Bernardino
Rancho Cucamonga	San Bernardino
San Bernardino	San Bernardino

NOTE: Cities are listed in alphabetical order by county

FIGURE 2 Construction Pollution Risk in the South Coast Air Basin



SAN FRANCISCO BAY AREA

This air basin comprises nine counties and is second only to the South Coast air basin in health and economic damage from construction equipment emissions. For 2005, this includes estimates of:

- more than 150 premature deaths
- 100 hospitalizations for respiratory and cardiovascular disease
- more than 280 cases of acute bronchitis
- 3,000 incidences of asthma attack and other lower respiratory symptoms
- 44,000 days of lost work and school absences
- well over 100,000 days of restricted activity

This loss of life and productivity cost Bay Area residents an estimated \$1.2 billion.

Within the air basin, 80 cities and towns had active construction permits during 2005 accounting for more than 17,500 acres of land under construction. As in the South Coast, areas designated as high-risk are spread throughout the region. San Francisco and San Jose, both densely populated cities, fall in the top 10 percent of Construction Risk Zones along with less population-dense cities in Contra Costa, Alameda, and Solano counties (where large amounts of acreage are under construction).

It should be noted that the replacement of the Bay Bridge’s eastern span, a multi-year, multi-billion-dollar project involving large amounts of construction equipment, is not captured in this evaluation.

TABLE 6 San Francisco Bay Area Construction Pollution Damage

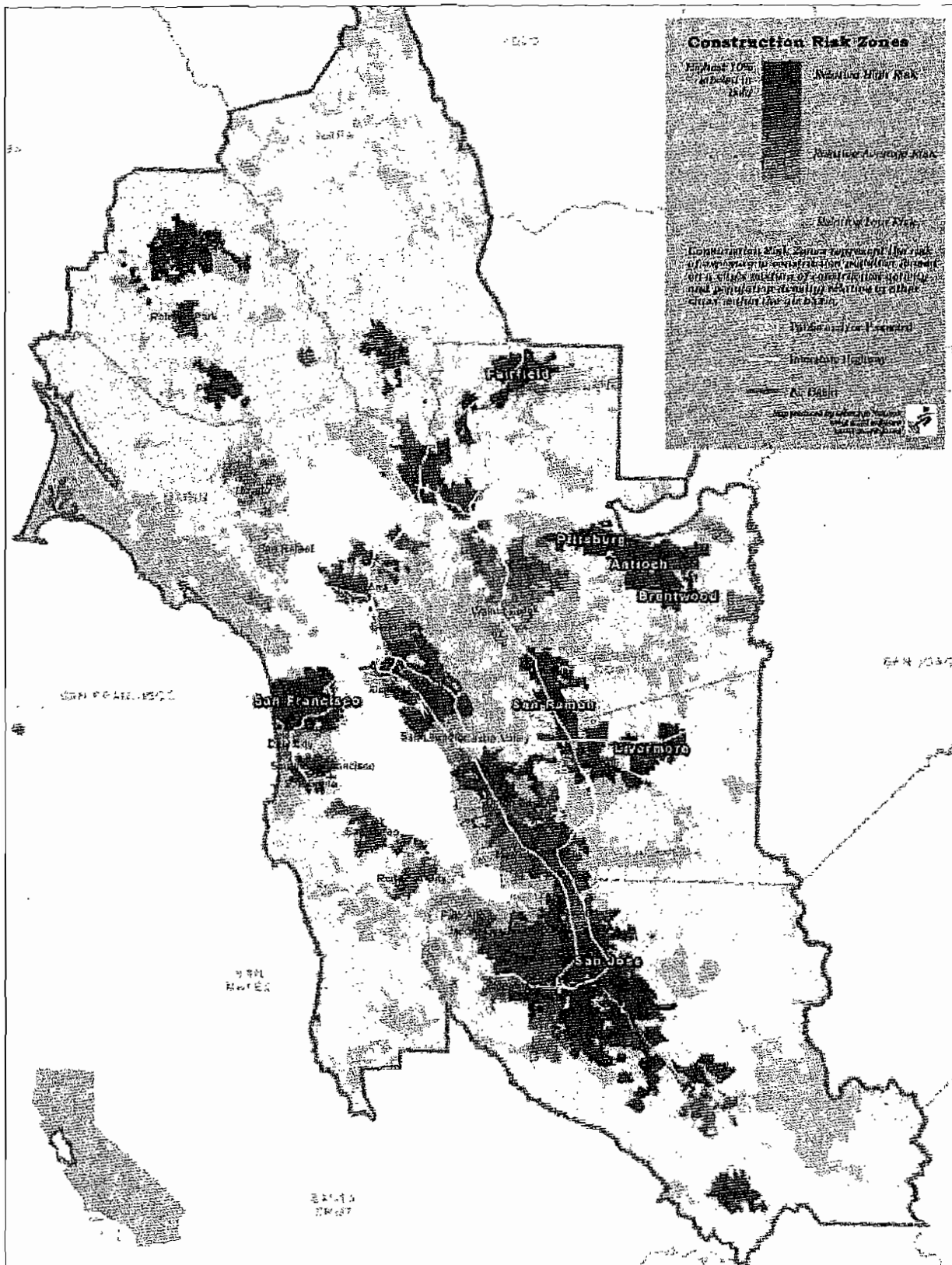
Health Endpoint	Mean Annual Incidences	Annual Costs (in thousands of 2005 dollars)
Premature Deaths	154	1,215,948
Respiratory Hospitalizations	56	1,914
Cardiovascular Hospitalizations	61	2,482
Asthma and Other Lower Respiratory Symptoms	3,406	65
Acute Bronchitis	284	120
Lost Work Days	25,713	4,628
Minor Restricted Activity Days	168,459	10,108
School Absences	18,472	1,628
Total Annual Cost		1,236,890

TABLE 7 Top 10 Percent of San Francisco Bay Area Construction Risk Zones

City	County
Livermore	Alameda
Anuelo	Contra Costa
Brentwood	Contra Costa
Pittsburg	Contra Costa
San Ramon	Contra Costa
San Francisco	San Francisco
San Jose	Santa Clara
Fairfield	Solano

NOTE: Cities are listed in alphabetical order by county.

FIGURE 3 Construction Pollution Risk in the San Francisco Bay Area Air Basin



SAN DIEGO

This air basin ranks third behind the South Coast and San Francisco Bay Area for damage from construction equipment pollution. For 2005, this includes estimates of:

- nearly 90 premature deaths
- more than 80 hospitalizations for respiratory and cardiovascular disease
- more than 170 cases of acute bronchitis
- more than 2,000 incidences of asthma attack and other lower respiratory symptoms
- 38,500 days of lost work and school absences
- more than 100,000 days of restricted activity

This loss of life and productivity cost San Diego residents an estimated \$718 million.

Within the air basin, 25 cities and towns had active construction permits during 2005 accounting for more than 22,500 acres of land under construction. San Diego is by far the most populated and largest city in the air basin falling in the top 10 percent of Construction Risk Zones; others include Chula Vista and Oceanside, which both have a population density similar to San Diego and more than 1,000 acres under construction permit in 2005.

TABLE 8 San Diego Construction Pollution Damage

Health Endpoint	Mean Annual Incidences	Annual Costs (in thousands of 2005 dollars)
Premature Deaths	89	703,222
Respiratory Hospitalizations	50	1,703
Cardiovascular Hospitalizations	33	1,357
Asthma and Other Lower Respiratory Symptoms	2,127	40
Acute Bronchitis	177	75
Lost Work Days	14,014	2,523
Minor Restricted Activity Days	113,280	6,797
School Absences	24,689	2,173
Total Annual Cost		717,890

TABLE 9 Top 10 Percent of San Diego Construction Risk Zones

City	County
Chula Vista	San Diego
Oceanside	San Diego
San Diego	San Diego

NOTE: Cities are listed in alphabetical order by county.

FIGURE 4 Construction Pollution Risk in the San Diego Air Basin



SAN JOAQUIN VALLEY

This air basin, comprising the southern counties of California’s Central Valley, ranks fourth for health and economic damage from construction equipment pollution. For 2005, this includes estimates of:

- nearly 50 premature deaths
- 70 hospitalizations for respiratory and cardiovascular disease
- more than 100 cases of acute bronchitis
- more than 1,200 incidences of asthma attack and other lower respiratory symptoms
- 39,000 days of lost work and school absences
- nearly 100,000 days of restricted activity

This loss of life and productivity cost San Joaquin Valley residents an estimated \$401 million.

Within the air basin, 66 cities and towns had active construction permits during 2005 accounting for more than 32,500 acres of land under construction. The seven cities comprising the air basin’s top 10 percent of Construction Risk Zones are spread throughout the valley (in six different counties) and correspond to the most populated areas.

TABLE 10 San Joaquin Valley Construction Pollution Damage

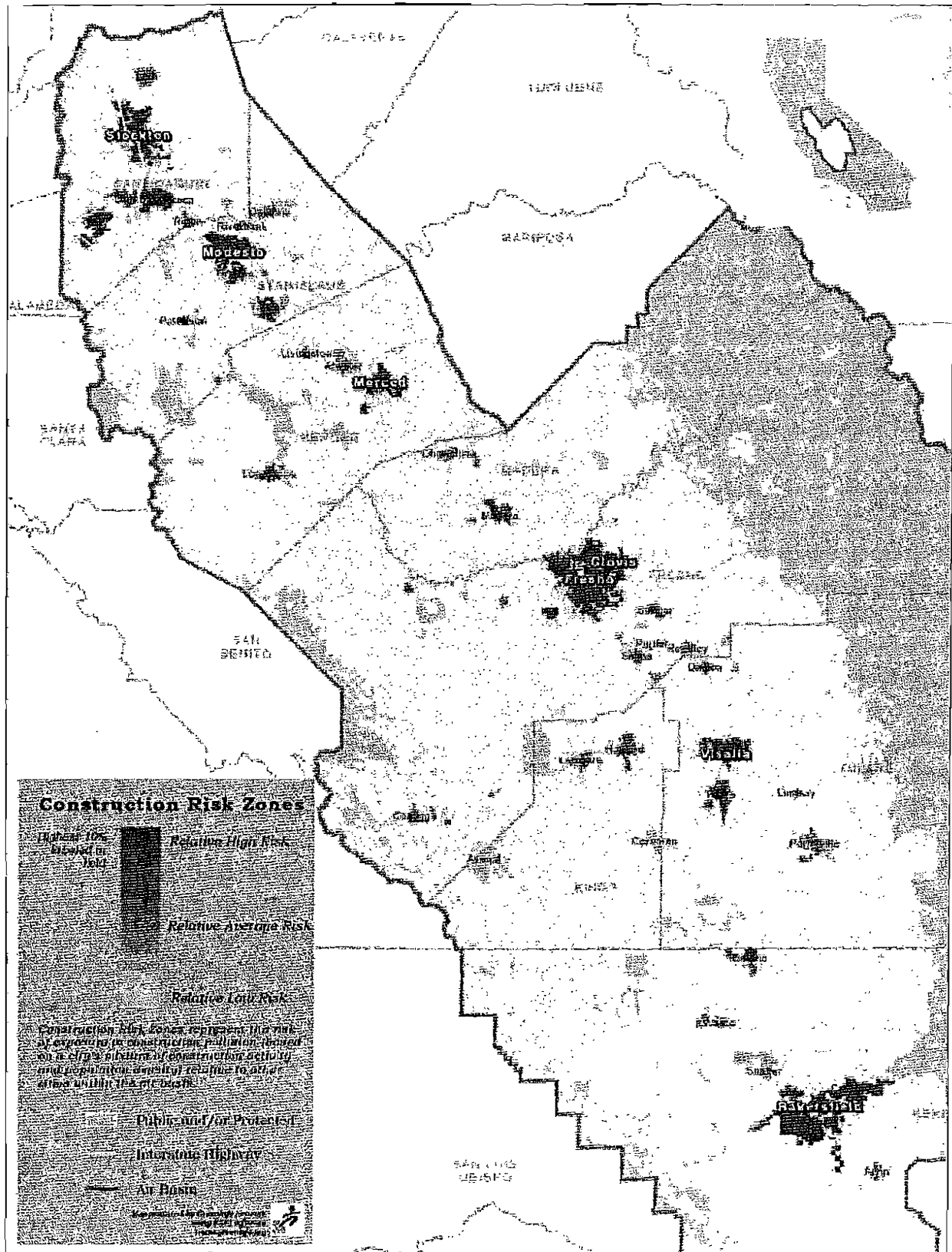
Health Endpoint	Mean Annual Incidences	Annual Costs (in thousands of 2005 dollars)
Premature Deaths	49	388,547
Respiratory Hospitalizations	55	1,858
Cardiovascular Hospitalizations	14	592
Asthma and Other Lower Respiratory Symptoms	1,284	24
Acute Bronchitis	107	45
Lost Work Days	8,241	1,123
Minor Restricted Activity Days	99,585	5,975
School Absences	33,282	2,929
Total Annual Cost		401,094

TABLE 11 Top 10 Percent of San Joaquin Valley Construction Risk Zones

City	County
Clovis	Fresno
Fresno	Fresno
Bakersfield	Kern
Merced	Merced
Stockton	San Joaquin
Modesto	Stanislaus
Visalia	Tulare

NOTE: Cities are listed in alphabetical order by county.

FIGURE 5 Construction Pollution Risk in the San Joaquin Valley Air Basin



SACRAMENTO VALLEY

This air basin, comprising the northern counties of California’s Central Valley, ranks fifth for health and economic damage from construction equipment pollution. For 2005, this includes estimates of:

- nearly 40 premature deaths
- more than 40 hospitalizations for respiratory and cardiovascular disease
- more than 65 cases of acute bronchitis
- 790 incidences of asthma attack and other lower respiratory symptoms
- 22,000 days of lost work and school absences
- more than 50,000 days of restricted activity

This loss of life and productivity cost Sacramento Valley residents an estimated \$314 million.

Within the air basin, 52 cities and towns had active construction permits during 2005 accounting for more than 29,000 acres of land under construction. The cities falling in the top 10 percent of Construction Risk Zones include the city of Sacramento and its suburbs Elk Grove, Roseville, and Woodland, along with Yuba City in Sutter County.

TABLE 13 Top 10 Percent of Sacramento Valley Construction Risk Zones

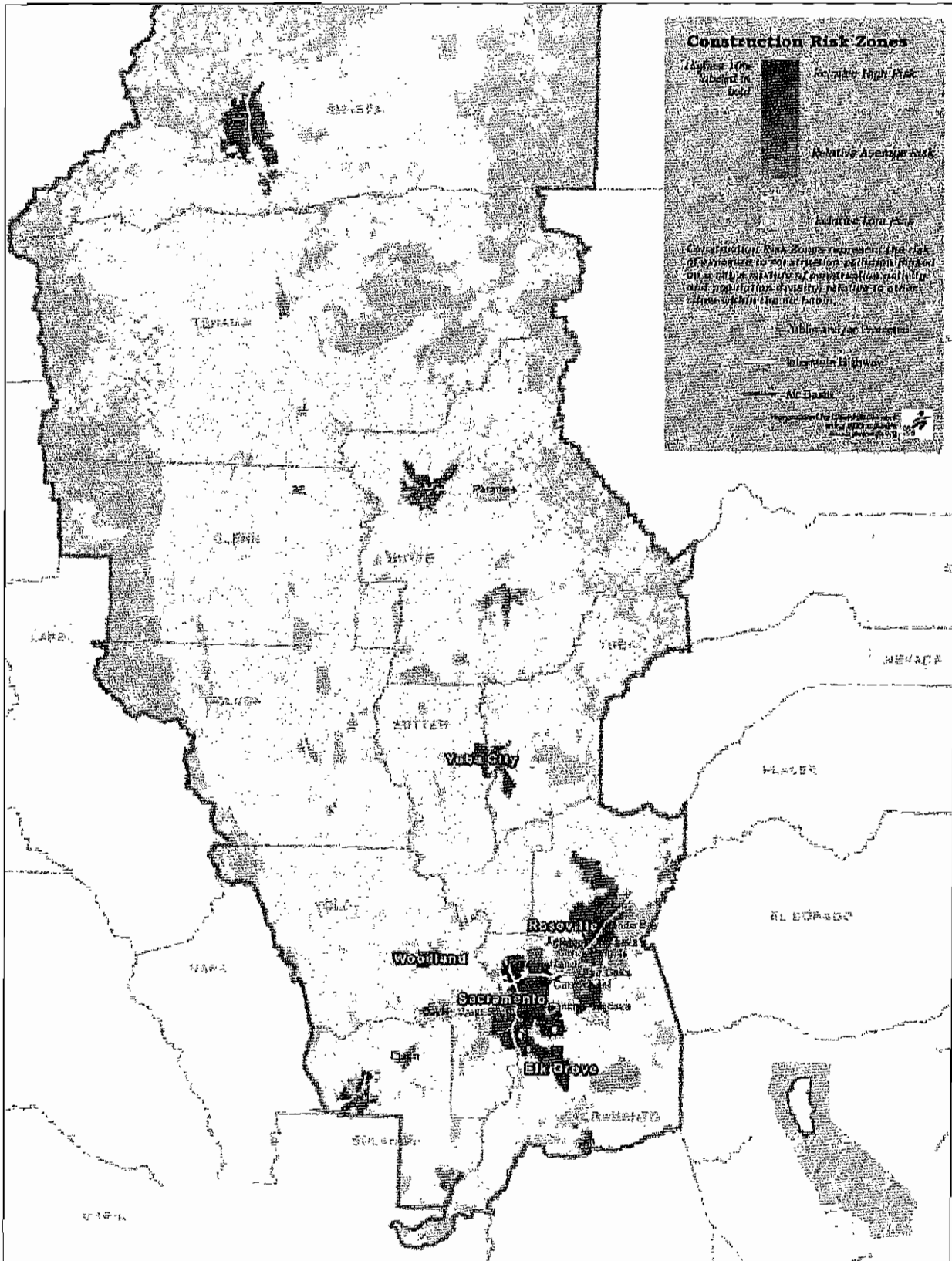
City	County
Roseville	Placer
Elk Grove	Sacramento
Sacramento	Sacramento
Yuba City	Sutter
Woodland	Yolo

NOTE: Cities are listed in alphabetical order by county.

TABLE 12 Sacramento Valley Construction Pollution Damage

Health Endpoint	Mean Annual Incidences	Annual Costs (in thousands of 2005 dollars)
Premature Deaths	39	306,638
Respiratory Hospitalizations	40	1,003
Cardiovascular Hospitalizations	12	493
Asthma and Other Lower Respiratory Symptoms	790	15
Acute Bronchitis	66	28
Lost Work Days	4,817	831
Minor Restricted Activity Days	50,408	3,025
School Absences	17,492	1,539
Total Annual Cost		313,571

FIGURE 6 Construction Pollution Risk in the Sacramento Valley Air Basin



CONCLUSIONS

Construction equipment is operating in cities and towns throughout California, releasing harmful NO_x and PM emissions into the air and raising the risk of exposure to these pollutants for residents who live and work near construction sites. The likelihood of people living or working close to construction sites is highest in densely populated urban areas, but the suburbs are not

free of risk from construction equipment pollution. Many projects in these areas, including new commercial and residential developments, require extensive use of construction equipment for land clearing and grading operations. Road construction and maintenance projects occurring throughout the state add additional risk.

Construction equipment pollution is therefore a health concern for all Californians.

Chapter 4

BUILDING A CLEANER FUTURE

Because of its long working life, high replacement cost, and lagging emission standards, diesel construction equipment will continue to pollute for decades. That means Californians will suffer from increased hospital admissions for respiratory and cardiovascular disease, asthma attacks, acute bronchitis, and even premature death—unless the state takes action to dramatically reduce construction equipment pollution.

WHAT CAN CALIFORNIA DO?

Under the federal Clean Air Act, California has the unique authority to regulate construction equipment. The state should use this authority to establish stringent new regulations that would complement its recent efforts to clean up pollution from other on-road and off-road sources of diesel pollution.¹⁰ An effective regulatory regime for diesel construction equipment would:

- reduce diesel PM 75 percent below 2000 levels by 2010 and 85 percent below 2000 levels by 2020—which would reduce estimated annual premature deaths from construction equipment pollution by 790 (70 percent) compared with 2005
- phase out or retire the oldest, most polluting equipment
- install the best available retrofit technology on newer equipment

- require the strongest emission controls near sensitive locations such as schools, nursing homes, hospitals, and day care centers

Incentive programs have also proven effective in cleaning up construction equipment (UCS 2004). These programs should continue to fund equipment cleanup with the goal of achieving emission reductions above and beyond what regulations require.

There are a number of cost-effective ways to reduce emissions from construction and other off-road diesel equipment, allowing for flexibility in meeting reduction targets:¹¹

- **Refuel.** Switching to alternative diesel fuels can achieve modest reductions in pollutants. These fuels can also facilitate the use of advanced retrofit technologies, resulting in even less pollution.
- **Repower.** The body or chassis of some equipment can last many decades, beyond the life of the original engine. Installing a new low-emission engine in an older chassis can allow the machine to run cleanly for many more years. California's Carl Moyer incentive program is currently funding some repower projects for construction equipment.¹²
- **Replace.** Replacing old equipment with a new lower-emission model ahead of schedule can result in substantial pollution reductions.

¹⁰ CARB has passed numerous regulations under its Diesel Risk Reduction Plan that set strict emission reduction targets for specific types of diesel vehicles and equipment (CARB 2005a, 2005b, 2005c, 2004b, 2003a, 2003b, 2003c, 2000).

¹¹ Previous UCS analysis found that diesel cleanup through California's Carl Moyer incentive program achieves benefits valued at 10 times the cost of cleanup (UCS 2004).

¹² Repower projects funded by the Carl Moyer incentive program must meet stringent cost-effectiveness thresholds (CARB 2000a, 2004a).

- **Retrofit.** Existing engines that can be expected to run for many more years can be retrofitted with emission control technologies that reduce PM more than 90 percent.¹³
- **Reduce idling.** Idling equipment not only pollutes, but also wastes fuel. Limiting idle time, on the other hand, saves money by reducing fuel use and wear-and-tear on the engine.

Efforts around the country and around the world are proving that the technology exists to lower construction equipment emissions. In Switzerland, for example, an aggressive regulation to curtail diesel PM emissions from construction sites has resulted in thousands of retrofits (Mayer 2004, 2005). In 2003, New York City passed an ordinance requiring that diesel equipment on all city-funded construction sites use ultra-low-sulfur fuel and be retrofitted with the best available control technology (Bradley 2006). Boston's "Big Dig" incorporated more than 200 retrofit devices on construction equipment, and Connecticut's Harbor Crossing Corridor is following suit.

In California, some air districts are funding repowers and retrofits through the Carl Moyer incentive program and, for large projects, requiring the use of cleaner construction equipment.¹⁴ These and other groundbreaking efforts (MECA 2006) have proven the success of cleanup technology for construction equipment, but statewide action is necessary to achieve the greatest reductions and maximum health benefits.

WHAT CAN YOU DO?

By taking the following actions, individuals can help protect themselves from harmful diesel emissions and make sure that the appropriate

decision makers know that Californians want diesel-powered construction equipment cleaned up:

- File a visible smoke complaint with your air district (contact information can be found at <http://www.arb.ca.gov/capcoal/roster.htm>) or CARB (call 800-952-5588 or email vruiiz@arb.ca.gov) when you see plumes of diesel soot coming from construction equipment. Request that an inspector be sent to the site and investigate the emission source.
- Report illegal idling (commercial trucks that haul dirt or service construction sites cannot idle for more than five minutes) to CARB (visit <http://www.arb.ca.gov/enf/complaints/complaints.htm> or call 800-END-SMOG) or your local air district (contact information can be found at <http://www.arb.ca.gov/capcoal/roster.htm>). Citations for illegal idling can also be issued by local law enforcement.
- Tell your state legislative representatives (contact information can be found at <http://www.leginfo.ca.gov/yourleg.html>) and CARB (arbboard@arb.ca.gov) that cleaner construction equipment is important to you.
- Close your windows while diesel-powered equipment is operating near your home or office.
- Raise your concern about emissions from proposed construction in your neighborhood during the public review period, and demand that the project's environmental impact review assesses these emissions and includes a strategy for controlling them.
- Urge your city council to protect residents from construction pollution by enacting a clean-construction ordinance—especially around sensitive sites such as schools and day care centers.

¹³ CARB has verified retrofit technologies for use on off-road equipment. See <http://www.arb.ca.gov/diesel/verdev/verifiedtechnologies/cvr.htm>.

¹⁴ The Sacramento Metropolitan Air Quality Management District (<http://www.airquality.org/ceqa/index.shtml>) and San Luis Obispo County Air Pollution Control District (contact: Andrew Mutziger) require construction equipment pollution mitigation for some projects under the California Environmental Quality Act.

*Appendix***ESTIMATING THE HEALTH DAMAGE AND ECONOMIC COSTS OF CONSTRUCTION POLLUTION**

Our polluted air has provided researchers a real-world laboratory for studying the impact of air pollution on people's health. Numerous epidemiological studies tracking thousands of individuals have linked PM exposure to premature death as well as cardiovascular and respiratory illnesses. Similar studies have been carried out for exposure to ozone pollution. These studies provide the basis for estimating the health benefits of reducing air pollution and are used in this study to estimate the impact of construction pollution.

The health effects quantified in this report are based on peer-reviewed epidemiological studies used by both the EPA and CARB to evaluate the benefits of reducing air pollution. These studies establish a statistically significant relationship between exposure to PM and ozone and increased incidences of specific health endpoints, which can then be quantified through a concentration-response function. The uncertainty in these estimates is quantified by presenting results as both a mean estimate of the number of incidences and a range of estimates representing the 95 percent confidence interval.¹⁵

Our analysis links health and economic damage to construction equipment pollution by using California-specific air quality monitoring data, county baseline health incidence rates, population estimates, and a diesel construction equipment emission inventory. PM concentrations for specific air basins were measured by CARB when identifying diesel PM as a toxic air contaminant (CARB 1998). And CARB recently evaluated

concentration-response functions for specific health endpoints using diesel PM concentration estimates along with population data, baseline health incidence rates, and an inventory of diesel emission sources related to the movement of goods (CARB 2006a). As part of these efforts, air basin-specific factors were estimated (in tons of diesel pollution per incidence) for each health endpoint. UCS used these factors along with CARB's air basin-specific inventory of diesel PM, NO_x, and reactive organic gases (ROG) to estimate the health effects of PM and ozone from construction equipment (CARB 2006d).

Each health endpoint covered in this report is assigned a dollar value to estimate the economic impact of diesel pollution. The EPA uses economic valuations of health endpoints to perform cost-benefit analyses of air pollution reduction measures, and our analysis reflects changes made to the EPA's hospitalization endpoints and lost work days to better reflect California-specific wage and health care data (CARB 2006a).

Premature death is the most serious health endpoint related to diesel pollution and has the greatest economic impact. Estimates of premature death resulting from exposure to fine PM are based on long-term exposure for people 30 or older, and include all causes of death (Pope 2002). Individuals with existing respiratory and cardiovascular disease and the elderly are most vulnerable, and life expectancies are shortened by months or even years (Pope 2000). Economic valuation of premature death is based on a review of studies carried

¹⁵ For a list of the epidemiological studies used, see CARB 2006a and EPA 2004.

out by the EPA and on society's "willingness-to-pay" to lower the risk of premature death (EPA 1999).

CONSTRUCTION PERMIT DATA

The California State Water Resources Control Board (SWRCB) construction permit database was chosen as the primary source for representing construction activity in California. Residential and commercial building permit data were excluded from the study due to overlapping information with the SWRCB database and the inclusion of projects that may not involve the use of diesel construction equipment.

SWRCB construction permits, which we used to calculate Construction Risk Zones, are required under the federal Clean Water Act for projects that disturb more than one acre of land. According to the SWRCB Fact Sheet for Water Quality Order 99-08-DWQ:

Construction activity subject to this General Permit includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area. Construction activity that results in soil disturbances of less than one acre is subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses one or more acres of soil disturbance or if there is significant water quality impairment resulting from the activity.

Construction projects that disturb more than one acre of land generally involve the use of diesel earthmoving construction equipment. These permits, while not directly representing construction equipment activity, provide the best available indication of where large earthmoving equipment is being used.

Limitations of permit data. There are, however, some limitations to estimating construction activity from SWRCB permits.

Projects under permit may go through many different phases of construction before completion, not all of which require the use of diesel-powered construction equipment or sustained levels of construction equipment activity. Therefore, there is no guarantee that construction equipment was operated on site during a specific period of time, but permittees must pay an annual fee to the SWRCB to keep permits active. This monetary requirement should minimize the number of permittees holding active permits but not performing construction activity.

Additionally, there are some construction projects that will not appear in the SWRCB database. Projects in which storm runoff is captured in a combined sewer/storm water system do not require permits because the water treatment plant that receives the runoff is the permitted entity. Some projects in San Francisco and Sacramento, where a combined sewer system exists, may be excluded from the database as a result, but the majority of California cities do not have combined sewer/storm water systems.

Furthermore, some projects listed in the SWRCB database have incomplete location information. These details can include street address with or without number, street intersections with or without compass directions, pier number, and tract number. Mapping project location by city rather than zip code or street address allowed us to capture 90 percent of the acres under permit.

Because the size of a project is represented by the number of acres disturbed during construction, the amount of construction equipment activity may not have a linear relationship to the size

of the project. In general, large-acreage projects will likely have greater construction equipment activity than small-acreage projects. However, urban construction sites that are relatively small in area may have heavy construction equipment activity due to multi-story construction. For instance, a two-acre high-rise construction site in

downtown Los Angeles may have a much higher sustained level of construction equipment activity than a two-acre single-family home construction site in the suburbs. The available data did not allow us to distinguish between single-story and multi-story construction.

REFERENCES

- Bell, M.L., F. Dominici, and J.M. Samet. 2005. A meta-analysis of time-series studies of ozone and mortality with comparison to the national morbidity, mortality, and air pollution study. *Epidemiology* 16:436–445.
- California Air Resources Board (CARB). 2006a. Appendix A. *Quantification of the health impacts and economic valuation of air pollution from ports goods movement in California*. March. Online at http://www.arb.ca.gov/planning/gmerp/march21plan/appendix_a.pdf.
- California Air Resources Board (CARB). 2006b. Air quality almanac emissions projections. Online at <http://www.arb.ca.gov/eilemissiondata.htm>.
- California Air Resources Board (CARB). 2006c. Updated off-road emissions inventory. September.
- California Air Resources Board (CARB). 2006d. Technical supplement. *Quantification of the health impacts and economic valuation of air pollution from ports goods movement in California*. March. Online at http://www.arb.ca.gov/planning/gmerp/march21plan/docs/health_analysis_supplement.pdf.
- California Air Resources Board (CARB). 2005a. Staff report. Initial statement of reasons: Notice of public hearing to consider requirements to reduce idling emissions from new and in-use trucks, beginning in 2008. Sacramento: California Environmental Protection Agency.
- California Air Resources Board (CARB). 2005b. Staff report. Initial statement of reasons for proposed rulemaking: Public hearing to consider adoption of the proposed regulation for mobile cargo handling equipment at ports and intermodal railyards. Sacramento: California Environmental Protection Agency.
- California Air Resources Board (CARB). 2005c. Staff report. Initial statement of reasons: Proposed diesel particulate control measure for on-road heavy-duty diesel-fueled vehicles owned or operated by public agencies and utilities. Sacramento: California Environmental Protection Agency.
- California Air Resources Board (CARB). 2004a. The Carl Moyer Program annual status report. Sacramento: California Environmental Protection Agency. February.
- California Air Resources Board (CARB). 2004b. Staff report. Initial statement of reasons for proposed rulemaking: Airborne toxic control measure for diesel fueled portable engines. Sacramento: California Environmental Protection Agency, Stationary Source Division Project Assessment Branch.
- California Air Resources Board (CARB). 2003a. Staff report. Initial statement of reasons: Proposed diesel particulate matter control measure for on-road heavy-duty residential and commercial solid waste collection vehicles. Sacramento: California Environmental Protection Agency.
- California Air Resources Board (CARB). 2003b. Staff report. Initial statement of reasons for proposed rulemaking: Airborne toxic control measure for stationary compression ignition engines. Sacramento: California Environmental Protection Agency, Stationary Source Division Emissions Assessment Branch.
- California Air Resources Board (CARB). 2003c. Staff report (revised). Initial statement of reasons for proposed rulemaking: Airborne toxic control measure for in-use diesel fueled transport refrigeration units (TRU) and TRU generator sets, and facilities where TRUs operate. Sacramento: California Environmental Protection Agency, Stationary Source Division Emissions Assessment Branch.

California Air Resources Board (CARB). 2002a. Staff report. Public hearing to consider amendments to the ambient air quality standards for particulate matter and sulfates. Sacramento: California Environmental Protection Agency, Air Resources Board and Office of Environmental Health Hazard Assessment.

California Air Resources Board (CARB). 2002b. The Carl Moyer Program annual status report. Sacramento: California Environmental Protection Agency. March 26.

California Air Resources Board (CARB). 2000a. The Carl Moyer air quality standards attainment program (the Carl Moyer Program) guidelines—approved revision 2000. Sacramento: California Environmental Protection Agency.

California Air Resources Board (CARB). 2000b. Risk reduction plan to reduce particulate matter emissions from diesel-fueled engines and vehicles. Sacramento: California Environmental Protection Agency, Stationary Control Division and Mobile Source Control Division.

California Air Resources Board (CARB). 1998. Proposed identification of diesel exhaust as a toxic air contaminant: Health risk assessment for diesel exhaust. Sacramento: California Environmental Protection Agency, Office of Environmental Health Hazard Assessment.

California Department of Finance (CDF). 2006. Annual data of residential and non-residential construction permits. Online at http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Construction.htm.

California Department of Transportation (CALTRANS). 2005. Division of Construction on-going contracts database. Recent data online at <http://www.dot.ca.gov/hq/construcstatement.html>.

California State Water Resources Control Board

(SWRCB). 2005. Construction permit database. Online at <http://www.swrcb.ca.gov/stormwtr/databases.html>.

Koren, H.S. 1995. Associations between criteria air pollutants and asthma. Presented at the Workshop on Air Toxics and Asthma—Impacts and End Points, Houston, February 4. U.S. Environmental Protection Agency Health Effects Research Laboratory.

Krewski, D., R.R. Burnett, M.S. Goldberg, K. Hoover, J. Siemiatycki, M. Jerrett, M. Abrahamowicz, and W. H. White. 2000. Reanalysis of the Harvard Six Cities Study and the American Cancer Society study of particulate air pollution and mortality. Cambridge, MA: Health Effects Institute. Online at <http://www.healtheffects.org/pubs-special.htm>.

Manufacturers of Emission Controls Association (MECA). 2006. Case studies of construction equipment diesel retrofit projects. Washington, DC. March. Online at <http://www.meca.org/galleries/default-file/Construction%20Case%20Studies%200306.pdf>.

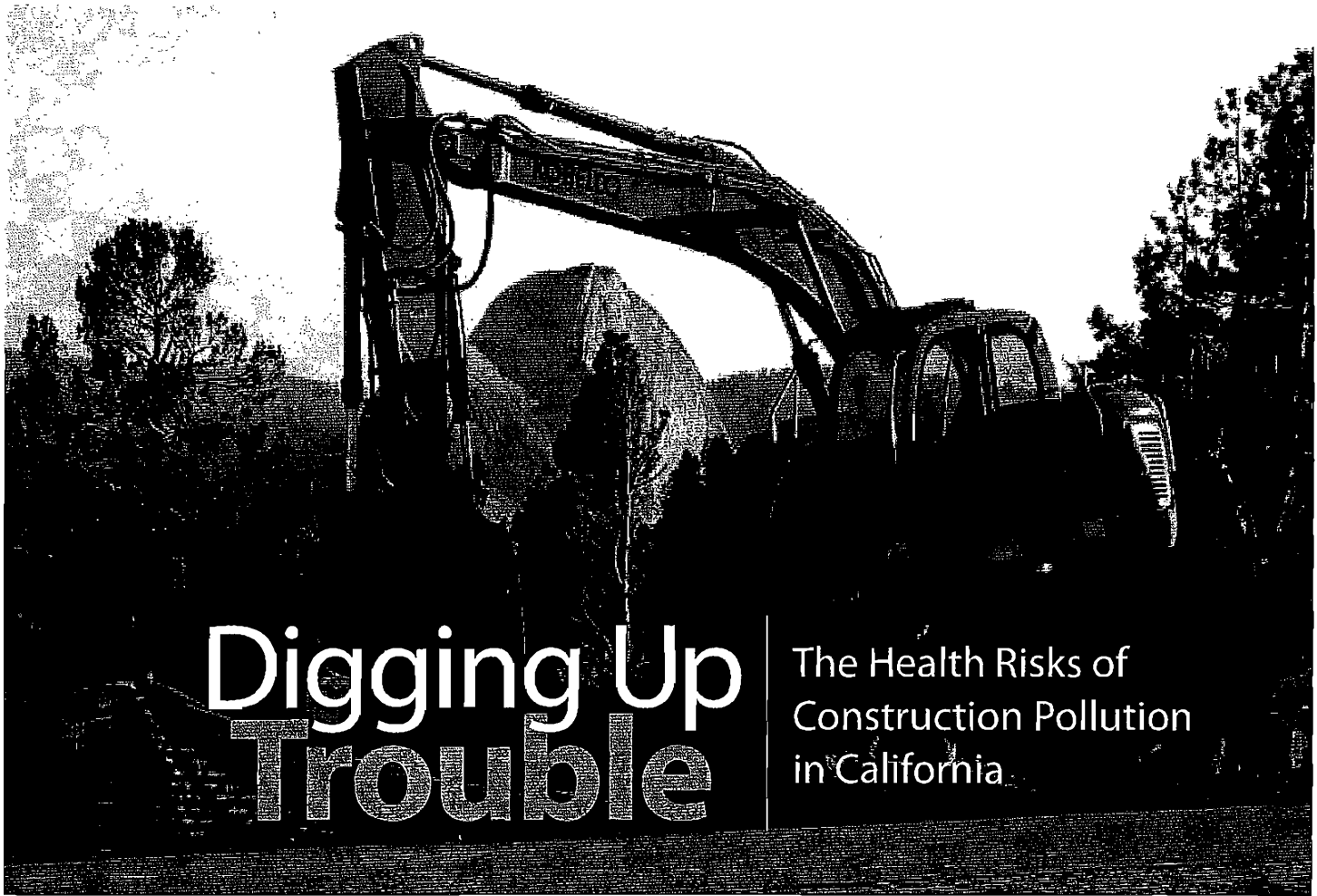
Mayer, A., J. Czerwinski, J.-L. Petermann, M. Wyser, and F. Legerer. 2004. Reliability of DPF-systems: Experience with 6000 applications of the Swiss retrofit fleet. SAE paper no. 2004-01-0076.

McConnell, R., K. Berhane, F. Gilliland, S.J. London, T. Islam, W.J. Gauderman, E. Avol, H.G. Margolis, and J.M. Peters. 2002. Asthma in exercising children exposed to ozone: a cohort study. *Lancet* 359(9304):386–391.

M.J. Bradley and Associates (Bradley). 2006. Local law 77: DDC ultra low sulfur diesel manual. Prepared for City of New York Department of Design and Construction.

Northeast States for Coordinated Air Use Management (NESCAUM). 2003. Interim report. Evaluating the environmental and occupational impact of nonroad diesel equipment in the Northeast. Boston. June 9. Online at <http://64.2.134.196/mobile/rpt030609nonroad.pdf>.

- Pope III, C.A. 2000. Epidemiology of fine particulate air pollution and human health: Biological mechanisms and who's at risk? *Environmental Health Perspectives* 108 (supplement 4):713–723. Online at <http://www.ehponline.org/members/2000/suppl-4/713-723popel/pope-full.html>.
- Pope III, C.A., R.T. Burnett, M.J. Thun, E.E. Calle, D. Krewski, K. Ito, and G.D. Thurston. 2002. Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution. *Journal of the American Medical Association* 287(9):1132–1141.
- Samet, J., S. Zeger, F. Dominici, F. Curriero, I. Coursac, D. Dockery, J. Schwartz, and A. Zanobetti. 2000. The National Morbidity, Mortality, and Air Pollution Study. Report no. 94. Cambridge, MA: Health Effects Institute. May.
- Thurston, G.D. and K. Ito. 2001. Epidemiological studies of acute ozone exposure and mortality. *Journal of Exposure Analysis and Environmental Epidemiology* 11:286–294.
- Thurston, G.D., K. Ito, C.G. Hayes, D.V. Bates, and M. Lippmann. 1994. Respiratory hospital admissions and summertime haze air pollution in Toronto, Ontario: Consideration of the role of acid aerosols. *Environmental Research* 65:271–290.
- Thurston, G.D., K. Ito, P.L. Kinney, and M. Lippmann. 1992. A multi-year study of air pollution and respiratory hospital admissions in three New York State metropolitan areas: Results for 1988 and 1989 summers. *Journal of Exposure Analysis and Environmental Epidemiology* 2:429–450.
- Union of Concerned Scientists (UCS). 2004. *Sick of soot: Reducing the health impacts of diesel pollution in California*. Cambridge, MA. June.
- United States Environmental Protection Agency (EPA). 2004. Final regulatory analysis: Control of emissions from nonroad diesel engines. EPA420-R-04-007. Washington, DC: Office of Transportation and Air Quality. May.
- United States Environmental Protection Agency (EPA). 1999. Appendix H. The benefits and costs of the Clean Air Act 1990–2010. EPA-410-R-99-001. Washington, DC: Office of Air and Radiation. November. Online at <http://www.ehponline.org/members/2000/suppl-4/713-723popel/pope-full.html>.
- White, M.C., R.A. Etzel, W.D. Wilcox, and C. Lloyd. 1994. Exacerbations of childhood asthma and ozone pollution in Atlanta. *Environmental Research* 65:56–68.



Digging Up Trouble

The Health Risks of
Construction Pollution
in California

Diesel engines may conjure up images of big rigs or transit buses, but construction equipment is a leading source of diesel pollution in California. Air pollution caused by construction equipment can result in severe cardiovascular and respiratory illnesses, asthma attacks, acute bronchitis, and even premature death.

This study quantifies the effect of construction pollution on California's public health and economy, both across the state and in the five most-affected regions. The risk of exposure to construction activity is evaluated for cities in each of these regions.

Construction equipment will continue to be a significant source of pollution over the next two to three decades unless California acts now. By adopting the cost-effective technology solutions that already exist (and those that will become available over the next few years), the state can reduce this public health threat and help all Californians breathe easier.

National Headquarters
Two Brattle Square
Cambridge, MA 02238-9105
Phone: (617) 547-5552
Fax: (617) 864-9405

Website www.ucsusa.org

West Coast Office
2397 Shattuck Ave., Ste. 203
Berkeley, CA 94704-1567
Phone: (510) 843-1872
Fax: (510) 843-3785

Email ucs@ucsusa.org

Washington, DC, Office
1707 H St. NW, Ste. 600
Washington, DC 20006-3962
Phone: (202) 223-6133
Fax: (202) 223-6162



**Union of
Concerned
Scientists**

Citizens and Scientists for Environmental Solutions



Printed on recycled paper

188-1

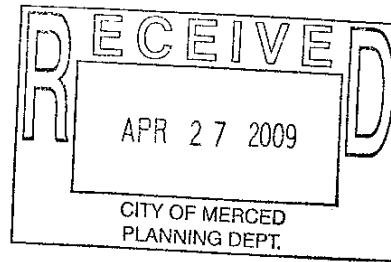
The commenter expresses concerns about the analysis of construction-generated emissions. Please see response to comments 30-D and 108-1. Information on detailed modeling input parameters, including the SJVAPCD-Recommended Construction Fleet spreadsheet is included in Appendix C to the DEIR, as stated on Page 4.2-29.

The commenter also recommends that the analysis of construction-generated emissions in the DEIR rely on information in a source called “Digging Up Trouble – The Health Risks of Construction Pollution in California, 2006” and attached a copy. The commenter suggests that the DEIR “implement the safety steps residents can take in protecting themselves from harmful construction equipment highlighted on page 32 of the study.” The study attached to the comment does not include a page 32 as it is less than 32 pages long. It is assumed that the commenter is referring to page 24 of the study. While the City can require mitigation measures on a project to reduce its impact, the City cannot impose mitigation measures on residents. The health risks associated with project construction are discussed under Impact 4.2-4 on page 4.2-43 of the DEIR. The analysis concluded that the incremental increase in health risk levels, including cancer risk and noncancer chronic risk, would not exceed applicable thresholds at nearby sensitive receptors and, as a result, this impact would be less than significant and no mitigation is required.

This page intentionally blank.

March 28, 2009

Ms. Kim Espinosa
Planning Director
City of Merced Planning Department
678 W. 18th Street
Merced, CA 95340



Dear Kim,

Reading the Air Quality section of the Wal-Mart Distribution Center's DEIR, it is a stark reminder about how little rain fall we get here in the Valley. As you know, rain is always a welcomed sign for us in Merced. Acid rain is something that rarely crosses my mind, but if this distribution center brings additional air pollution to the Valley, this could be a very serious problem!

Dirty rain is bad for our health, our agricultural crops and our cars. It might be silly to mention cars, but I want to make the point that acid rain affects so many things in our lives. In fact on page 4.2-3, you even state "Ground level ozone also damages forests, agricultural crops, and some human-made materials, such as rubber, paint and plastics (City of Merced 1977)".

With all these trucks driving in and out of Merced and idling in the parking lot of the distribution center, there will be more unintended consequences than you might be aware of.

Thank you for your attention to this matter.

Vincent G. Rosales
Signature

Vincent G. Rosales
Print Name

137 Sweetwater Ave.
Address

Merced CA 95341
City, State Zip

(209) 777-3142
Phone Number

189-1

189-1

The commenter expresses concern about the proposed project's contribution to acid rain in the SJVAB. Rain is naturally acidic (i.e., with normal pH of approximately 5.0-5.6) due to dissolution of CO₂, a prevalent gas in the atmosphere, into rain droplets forming carbonic acid. When pH of rain approaches values below 5.0, then acid rain is considered to be an environmental problem. Acid rain is not a major concern in the Central Valley, and annual average pH of rain in California is greater than 5.5 (Ahrens 2003). Acid rain is primarily formed through dissolution of sulfur oxides or oxides of nitrogen into water droplets. Sulfur oxides are most often associated with large industrial sources, such as coal-fired power plants, which are more common in the northeastern United States. The northeastern United States is where most of the country's acid rain problems occur. The proposed project would not result in appreciable emissions of sulfur-containing compounds (such as sulfur dioxide [SO₂]). The project would result in emissions of oxides of nitrogen; however, since the central valley experiences low annual rainfall, the project would not substantially contribute to conditions that would result in acid rain.

Espinosa, Kim

From: Saan Saechao [saechao.s@live.com]
Sent: Friday, April 24, 2009 7:47 PM
To: Espinosa, Kim
Subject: RESPONSIBLE growth

I can fully understand the reason why some Mercedians would want the Wal-Mart distribution center to move in, employment. There would always be pros and cons in an argument but in this situation the pros have no competition against the cons. From traffic affecting school area to more taxes, it would be very ignorant for anyone living in the Merced area to accept the Wal-Mart distribution center. The best argument against the Wal-Mart distribution center is how it will effect the air we breathe everyday. The air in the Central Valley is already a problem so why feed flame to the fire? When summer rolls by you can bet the humidity would be extremely horrible. I would suggest the Central Valley Air Quality coalition (CVAQ) to get invovle in this matter. I am all in for growth in Merced but you have to do it the smart way, another word **RESPONSIBLE**.

190-1

Saan Saechao
Business Major
Merced Community College

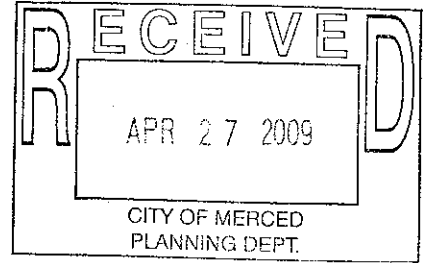
Rediscover Hotmail: Now available on your iPhone or BlackBerry [Check it out.](#)

190-1

The commenter generally addresses the merits of the project, although a couple of environmental issues are briefly mentioned, including traffic and air quality. The DEIR analyzes project-related impacts to traffic in Section 4.11 “Traffic and Transportation” and air quality in Section 4.2 “Air Quality.” The commenter does not raise issues related to the adequacy of the DEIR’s analysis. The comment is noted.

April 16, 2009

Ms. Kim Espinosa
Project Director
Merced Planning Division
678 W. 18th Street
Merced, CA 95340



Dear Ms. Espinosa:

After reading the Implementing Actions from our 2015 General Plan, listed in the Wal-Mart distribution center's environmental impact report, I am writing to learn how Merced will work with Wal-Mart to agree to alternatives which might replace or convert tractor trailer trucks used at the distribution center. I feel Wal-Mart should make sure that at the very least, 50% of it's truck fleet coming in and out of Merced be fitted with the cleanest burning engines possible.

191-1

Second, I know Wal-Mart subcontracts outside trucks. I hope Merced will ask Wal-Mart to make sure that at least 25% of the subcontract trucks used at the distribution center will also be outfitted with clean burning diesel engines.

191-2

These are simple and small steps that Merced can take to reduce the impacts on air quality.

Sincerely yours,

672 Santa Barbara Ave
Los Banos CA 93635

- 191-1 The commenter recommends that 50% of the Wal-Mart truck fleet be fitted with the cleanest engine technology available and 25% of the non-applicant-owned trucks using the distribution center would also be fitted with this clean engine technology. Please see mitigation measure 4.2-2c, which states that all Wal-Mart trucks would participate in EPA's SmartWay Transportation Partnership. However, the City does not have discretionary control of the non-applicant-owned trucks that would use the distribution center. Nonetheless, the requirement to continue Wal-Mart's membership in SmartWay would ensure that 40% of the total amount of trucks using the distribution center would use clean engine technology. Please also refer to response to comment 9-2.
- 191-2 The commenter recommends that 50% of the Wal-Mart truck fleet be fitted with the cleanest engine technology available and 25% of the non-applicant-owned trucks using the distribution center would also be fitted with this clean engine technology. Please see mitigation measure 4.2-2c, which states that all Wal-Mart trucks would participate in EPA's SmartWay Transportation Partnership. However, the City does not have discretionary control of the non-applicant-owned trucks that would use the distribution center. Nonetheless, the requirement to continue Wal-Mart's membership in SmartWay would ensure that 40% of the total amount of trucks using the distribution center would use clean engine technology. Please also refer to response to comment 9-2.

Espinosa, Kim

From: JULIA SANCHEZ [jsanchez-contreras@sbcglobal.net]
Sent: Thursday, February 26, 2009 10:35 AM
To: Espinosa, Kim
Cc: sjson@mercedsun-star.com
Subject: Wal Mart

Ms. Espinosa - My name is Julia Sanchez-Contreras I am a resident of Merced and have lived in Merced and Merced County for most of my life. I care deeply about our farm rich area and value our small town environment here in Merced.

I work in for a large insurance company and travel from Bakerfield up to Northern California. I travel lots of Freeways but am on the 99 on most days. About a year ago my work took me to Porterville where I would be spending the night for an early morning appointment. As I approached my hotel I noticed a Wal Mart sign on a building and as I approached the building got bigger and bigger. It turned out to be a Wal Mart Distribution Center.

As I checked in I commented on how terrible it must be to have a Wal Mart Warehouse right in front of the hotel. There must be so much pollution, traffic and noise. Not to mention the low paying jobs. I also made mention that I was from Merced and that we were battling the building of a Wal Mart center ourselves.

Out of the six from the hotel that I spoke with that and the next day and the several other people I spoke with in town about the same subject I got the same response. Wal Mart is considered to be a good partner to the community. That the traffic is paced and most of it done at night so that the town is not affected. The building itself does not create any pollution and that the only added pollution is from the trucks. The noise is also not a factor. The pay is good and most of those I spoke with either knew or were related to someone that worked there.

When I heard this I changed my view. I was very against it. Now I am for it so long as Wal Mart is paying a good wage, manages the traffic and creates minimal pollution what harm can it bring to Merced. In this uncertain economic time we certainly need the jobs. We need the revenue from the property and other applicable taxes.

In all the articles that I have read in the Merced Sun-Star I have never read about the Porterville Distribution Center. It is so close to use in distance and in likeness to our community. Why? Has anyone from the City Council or Board of Supervisors ever talked to their counter parts in Porterville. Have we talked to other communities that faced the same challenging decision?

Julia Sanchez-Contreras
3138 McKee Road
Merced, CA 95340

192-1

**Letter
192
Response**

Julia Sanchez-Contreras
February 26, 2009

192-1

The comment addresses the merits of the proposed project, recommends approval, and does not raise any issues regarding the adequacy of the DEIR. The comment is noted.

Espinosa, Kim

From: clayton sandy [clayton_clayton_mortal@yahoo.com]
Sent: Saturday, February 28, 2009 4:21 PM
To: Espinosa, Kim
Subject: Walmart Distribution Center

We need the Walmart distribution center. If we do not get the jobs your going to see crime really go up. This was their only hope in getting a job. You'll see more desparate people doing deparate things to survive in this bad economy. People with money will no longer be safe.

193-1

GIVE HOPE TO THE PEOPLE AND WE WILL LIVE IN A SAFER ENVIRONMENT.

GOD BLESS AMERICA!

clayton_clayton_mortal@yahoo.com

193-1

The comment addresses the merits of the proposed project, recommends approval, and does not raise any issues regarding the adequacy of the DEIR. The comment is noted.

Espinosa, Kim

From: Jeanne Sanford [jeannesanf@sbcglobal.net]
Sent: Saturday, February 28, 2009 2:16 PM
To: Espinosa, Kim
Subject: Wal-Mart Dist. Center

Dear Ms. Espinosa,

I'm a retired teacher from Weaver School District. My major concern is the health of children in the area of the proposed Wal-Mart Distribution Center. The incidence of asthma among children has risen alarmingly in the area where the center would be located. I urge that the Planning Commission and the City Council protect our children's health from the air pollution that would be caused by trucks coming, going, and idling in connection with their deliveries and possible layovers. Please give primary consideration to the well being of the children.

194-1

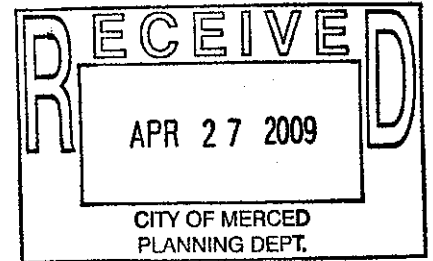
Sincerely,

**Jeanne Sanford
146 Madrona Dr.
Atwater, CA 95301**

194-1

The commenter expresses concern about the project's affects to children's health, including students at nearby schools who have respirator issues. Please refer to the response to comment 16-8 which discusses how the schools were included in the HRA performed for the project. Please refer to the Master Response 13 regarding the commenter's concern about project-generated emissions of air pollutants and the public health concerns (including asthma). Please refer to the response to comment 17-12, which discusses how the relative locations of nearby schools were analyzed in the traffic analysis.

William C. Sanford
146 Madrona Dr.
Atwater, CA 95301-2272
209/357-0701; wjsanford@sbcglobal.net



April 25, 2009

To the Planning Commissioners

Gentlepersons:

I write to comment on the proposed Wal-Mart Distribution Center.

Some citizens are offering thoughts in favor, and I need not speak for them.

Some citizens are raising issues in opposition, and neither they nor you need me to go over that ground for what the umpteenth time. No, my objective is strictly limited. I want to identify one point which may not have been given the attention I believe it deserves. My thought relates particularly to location.

In my view, the proposed location is seriously flawed. It is way too close to schools and residences. I'm under the impression that many people living in close proximity don't want this particular development to land in their neighborhood.

195-1

I ask then that you bring into consideration an ethical guideline common to at least seven of the world's major religions: Hinduism, Buddhism, Taoism, Confucianism, Judaism, Christianity and Islam. The guideline is often called "The Golden Rule." My personal favorite rendering is in Matthew 7:12 New English Bible: "Always treat others as you would like them to treat you."

But let me lay alongside that a negative rendering drawn from a Confucian source: "What you do not want done to yourself, do not do to others."

Expressed either way, the guidance seems clear to me. If I wouldn't want to live there, then I should not be a party to making someone else live there.

Much of the world gives the 'rule' lip service. I invite you to honor it by acting on it. That's my point. Thanks for considering it.

Yours truly,

A handwritten signature in cursive script that reads "Bill Sanford".

195-1

The commenter indicates that the project location is not appropriate. Please see Section 5 of the DEIR "Alternatives to the Proposed Project", which evaluates three alternative sites for the project. As indicated in Table 5-8 of the DEIR, the other locations evaluated generally result in greater impacts than the proposed project. See also Master Response 12: Alternatives. Please see responses to comments 29-21 and 17-12 regarding concerns about impacts to nearby schools and reference to mitigation for truck traffic. The commenter does not raise issues related to the adequacy of the DEIR's analysis. The comment is noted.

Espinosa, Kim

From: Dhruv Shah [dhruvshah@sbcglobal.net]
Sent: Saturday, April 18, 2009 10:48 AM
To: Espinosa, Kim
Subject: Approve Walmart Distribution Center.

Hi,

My name is Dhruv Shah and I'm the General Manager at the Quality Inn in Merced. I've to tell you this even though you all might already know, I've been managing the place since April of 2008 and I'm seeing over a 50% drop in business when comparing 08-09 Q1 reports. We are the worst hit area in the nation due to this economic downturn.

I honestly think that somethings needs to be done to bring Merced from the worst performing city and county and the Walmart Distribution Center is just the kind of boost we need in this area. 1200 Jobs is what the city and county needs and we've not seen a big employer like that in a long time, if we pass up this opportunity we'll not find another one like this anytime soon.

I can understand the effect that it will have the enviornment but at the same time we've to think about a healthy community mentally and financially and this is a perfect way to address these issues. I'm sure the grants from places will help ease some of the air pollution effects that people are talking about.

I hope this goes through and i'll praying everyday for this to happen. This is not just for my job security but for the security of the community that is falling apart due to high unemployment rates.

Thanks,

Dhruv Shah

2654 El Centro Rd.
Sacramento, CA 95833
Ph# 415-385-3291
Fax# 415-230-4704
dhruvshah@sbcglobal.net

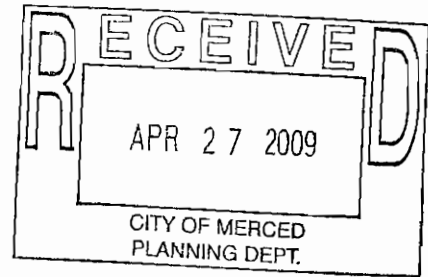
196-1

196-1

The comment addresses the merits of the proposed project and dismisses environmental issues. The comment does not raise any issues regarding the adequacy of the Draft EIR. The comment is noted.

April 24, 2009

**Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340**



Ms. Espinosa:

Thinking of transportation alternatives which could reduce the number of cars employees take to work, you should consider walking routes or trails that employees who live in Southeast Merced could take to the distribution center. It's a great way to get employees who live nearby out of their cars and getting a little exercise.

If new walking trails or paths have to be build, let's make sure that Wal-Mart pays for them. I don't feel taxpayers should be on the hook for this.

Please explore walking paths and trails as ways to commute in the Environmental Impact Report.

Thank you for your attention,

Jan Show
488 HYDRANGEA CT
MERCED CA 95341

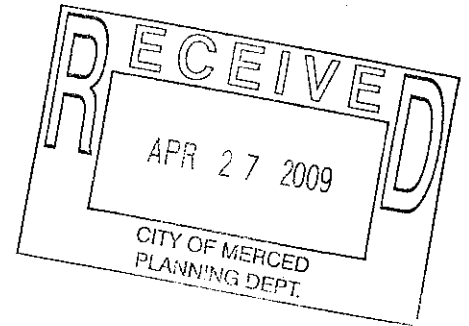
197-1

197-1

The comment recommends that the DEIR include analysis of various transportation alternatives. To be conservative, the DEIR transportation analysis assumed a worst-case scenario, in that employees would drive to the site and park. The assumptions regarding mode choice and potential affect to pedestrian, bicycle and transit operations are described in more detail on page 4.11-4 and in the Traffic Impact Analysis report in Appendix E of the DEIR. No further analysis is required.

April 20, 2009

Ms. Kim Espinosa
Planning Manager
City of Merced Planning Department
678 W. 18th St.
Merced, CA 95340



Dear Ms. Espinosa,

The construction period of the Wal-Mart Distribution Center is just as important to study as when the center is operational. I'm glad the draft environmental impact report addresses the issue, but I feel it does not go into enough specifics.

For example, some construction equipment will be noisier and more polluting than others. I don't see anything in the report that mentions this or what measures will be taken by Wal-Mart to reduce all of the impacts from the more obnoxious machinery than the less obnoxious ones.

198-1

Are there more details you can make available in the report?

Thank you,

*Terese Shaw
488 Hydrangea CT
Merced CA 95341*

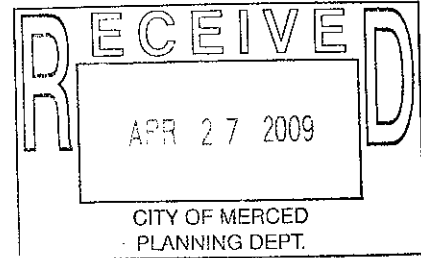
198-1

The comment states that some construction equipment would be louder than others and asks what is being done about the louder pieces of equipment. Noise levels from the loudest pieces of construction equipment associated with project implementation are presented in the DEIR on page 4.8-18 in Table 4.8-8. Construction noise was modeled using the Federal Highway Administration's Roadway Construction Noise Model and takes into account the loudest pieces of equipment that would be used during project construction. Mitigation Measure 4.8-1 "Regulate Short-Term Construction Noise" would apply to all pieces of construction equipment and would reduce construction noise to less-than-significant levels.

The comment also states that some construction equipment would have more emissions than others and asks what is being done about the "more obnoxious" pieces of equipment. Construction-generated emissions of criteria air pollutants are discussed in Impact 4.2-1 and mitigated by Impact 4.2-1a and Impact 4.2-1b. Construction-generated emissions of toxic air contaminants are discussed in Impact 4.2-4 and were found to be less than significant.

April 19, 2009

Kim Espinosa, Project Director
Merced Planning Division
678 W. 18th St.
Merced, CA 95340



Ms. Espinosa,

Why are you using data that is almost 10 years out-of-date in your asbestos assessment? I noticed that you are using a guide that was published in 2000. Seems to me that some recent data ought to be available. Please study this issue further. There are some very serious health concerns that you ought to explore.

199-1

Sincerely,

Carol Simmers-Tilma

*Carol Simmers-Tilma
7229 Tokay Circle
Winton, CA 95388*

**Letter
199
Response**

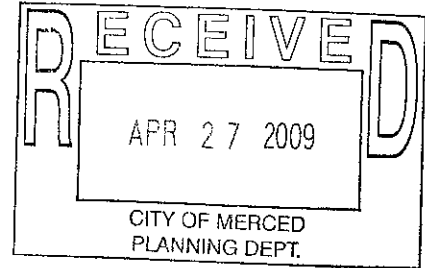
Carol Simmers-Tilma
April 19, 2009

199-1

Please see response to comment 178-1 regarding NOA.

April 12, 2009

Kim Espinosa
Planning Manager
Merced Planning Department
City of Merced
678 W. 18th St.
Merced, CA 95340



Re: Merced Wal-Mart Distribution Center Project

Kim,

As an avid naturalist, I was shocked to learn that the City was actually seriously considering the approval of a Wal-Mart Distribution Center on a property which provides over 200 acres of open space and nature. Having such a piece of land seems to be harder and harder to come by these days. Not only would residents not have the value of such a piece of property if it were replaced by pavement, buildings, and an endless parade of semi-trucks, but various wildlife species would be harmed in the process. While the area is close to human movement, constructing and developing the site would disrupt the wildlife that has considered this their home. I am more than against the idea of the project and would hope the City takes my sentiments and the sentiments of the many other citizens against the project into consideration.

200-1

Thank you.

A handwritten signature in black ink, appearing to read "Renee Smith".

Signature

Renee Smith

Print Name

318 Pomelo Ave - Los Banos, Ca, 98635

Address

(209) 675-6339

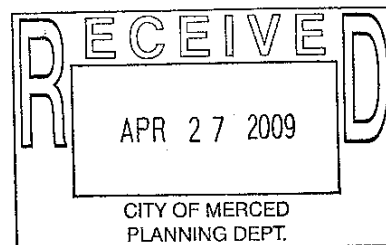
Phone

200-1

The commenter is concerned that implementation of the proposed project would harm various wildlife species and would disrupt their home. In addition, the commenter is opposed to the project. The project's biological impacts were evaluated in Section 4.3, "Biological Resources," of the DEIR. As described therein, the project would result in potentially significant impacts to wildlife, and mitigation is proposed to reduce these impacts to a level of less-than-significant (see page 4.3-10). In addition, please note that the project site is located within the City's Specific Urban Development Plan (SUDP) area. All land within the SUDP is planned for eventual development. Please refer to response to comment 121C-1 for further discussion.

The commenter does not provide any specific disagreements with the analysis provided in the DEIR; therefore, no further response can be provided. This comment is noted for the City's consideration during review and approval of the project. No further response is necessary.

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Dear Ms. Espinosa,

The EIR for the Wal-Mart Distribution Center ought to have a specific plan to regulate the equipment monitoring and during the construction process.

The current Draft eir lacks specific details regarding the type, size and frequency of construction equipment being operated. How will the equipment be monitored to make certain it meets manufacturing specs detailed in the DEIR? Please do a better job on the final EIR.

201A-1

Many Thanks,

Lucy Snyder

Lucy Snyder

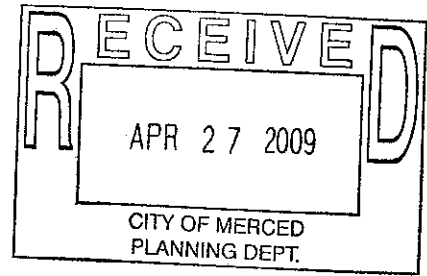
3554 Beals Ave

Merced, CA 95348

209-723-2342

March 22, 2009

Kim Espinosa
Merced Planning Department
678 West 18th Street
Merced, CA 95340



Dear Kim,

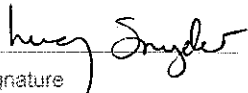
While I have shopped at Wal-Mart before, I am concerned with the construction of the proposed distribution center. I read in the Draft EIR that the construction of the buildings and pavement could lead to many pollution issues. The Draft EIR states increased impervious surfaces in the area in and around the site has resulted in higher rates of runoff during rainy season previously which has been a source of water pollution. My concern is that this increased pollution will affect our groundwater when it is recharged from the various polluted surface waters.


201B-1

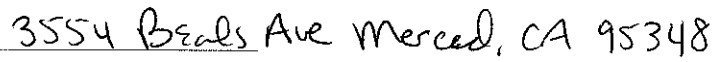
Additionally, increased runoff leads to the question of whether excessive flooding may occur. While there are already some parts which can flood during the rainy season, the increase in runoff would make flooding more rampant.

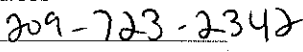
For these reasons, I ask the City not approve the construction of the distribution center in our community.

Sincerely,


Signature

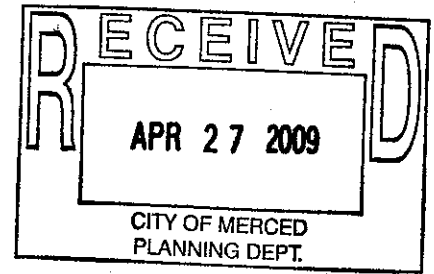

Print Name


Address


Phone

April 7, 2009

Kim Espinosa
Planning Manager
City of Merced
678 W. 18th St.
Merced, CA 95340



Re: Wal-Mart Distribution Center Project

Dear Ms. Espinosa:

In regards to the Draft Environmental Impact Report, I am opposed to the City building on this property.

This specific area is prime agriculture land and needs to be protected. There are economic benefits of this type of soil and building on it only hurts the local agriculture and farmland industry. The City has been responsible in protecting this type of land and should continue to support farmers and the agricultural community.

201C-1

Please deny this application and keep this site farmland. Thank you for your consideration.

Thank you.

Lucy Snyder
Signature

Lucy Snyder
Print Name

3554 Beals Ave
Address

Merced, CA

209-723-2342
Phone

**Letter
201A-C
Response**

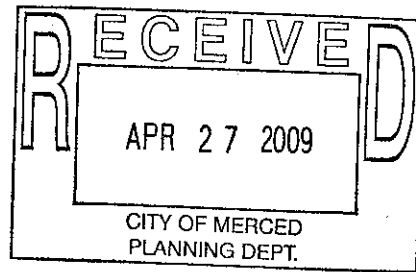
Lucy Snyder

- 201A–Undated ➤ 201B–March 22, 2009
 - 201C–April 7, 2009
-

- 201A-1 The commenter requests that the DEIR include more detail about the construction equipment expected to be used to construct the proposed project. Please refer to response to comment 30D-1. The commenter also questions how the equipment would be monitored to make certain it meets the manufacturer specifications, as require by Mitigation Measure 4.8-1. In order to provide additional clarity, please see Section 4 of the FEIR for specific changes to this mitigation measure.
- 201B-1 The commenter expresses general concern over contaminated runoff and flooding from the proposed project. Section 4.6 “Hydrology and Water Quality” presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces. The final design specifications would be required to demonstrate to the City and MID that runoff generated as a result of the project would be properly contained and conveyed. Please also refer to Master Responses 8 and 9 which address issues related to surface and groundwater quality.
- 201C-1 The commenter states the prime agricultural land on the project site needs to be protected. The commenter identifies economic benefits of and the City’s responsibility to protect agricultural land. Please refer to Master Response 5: Agricultural Resources, which addresses the issue related to conversion of important farmland.

4.14.2009

Kim Espinosa
Planning Manager
Merced Planning Department
678 West 18th Street
Merced, CA 95340



Re: Merced Wal-Mart Distribution Center Project

Dear Ms. Espinosa:

I am voicing my concern against the development of a distribution center in our City. Mainly, I am against the project for the following reasons:

- The construction of the distribution center would create more impervious land, which would exacerbate the current flooding situation, which sometimes occurs when there is too much stormwater in our drainage systems. 202-1
- The distribution center would lead to more traffic which would not only congest the surrounding roads more but would also lead to more pollution including oils from the semi-trucks polluting water runoff. 202-2
- The development of a distribution center could potentially harm wildlife in the area, which I have grown accustomed to and enjoy. 202-3

For these reasons, I believe the City should deny the construction of the Wal-Mart distribution center.

White Soans
Signature

Celeste Soanes
Print Name

2355 Atwater Blvd.
Address

Atwater CA.

209 242-6187
Phone

- 202-1 The commenter expresses general concern over flooding resulting from the proposed project. Section 4.6 “Hydrology and Water Quality” presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces. The final design specifications would be required to demonstrate to the City and MID that runoff generated as a result of the project would be properly contained and conveyed. Please also refer to Master Response 7: Detention Basins and Drainage, which provides a more detailed discussion regarding the proposed drainage system. The comment does not raise issues related to the adequacy of the DEIR’s analysis.
- 202-2 The commenter expresses general concern over contaminated runoff and flooding from the proposed project as a result of increase traffic. Section 4.6 “Hydrology and Water Quality” presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces. The final design specifications would be required to demonstrate to the City and MID that runoff generated as a result of the project would be properly contained and conveyed. Please also refer to Master Response 7: Detention Basins and Drainage, which provides a more detailed discussion regarding the proposed drainage system and also refer to Master Response 8: Runoff Water Quality, which provides a more detailed discussion regarding surface water quality and stormwater runoff. Issues related to traffic are discussed in the DEIR under Section 4.11 “Traffic and Transportation.” The comment does not raise issues related to the adequacy of the DEIR’s analysis.
- 202-3 The commenter makes a general statement about the potential harm of wildlife resulting from implementation of the proposed project but does not disagree with the conclusions in the DEIR or otherwise question the adequacy of the document. Project-related impacts to wildlife are analyzed in Section 4.3 of the DEIR, “Biological Resources.” The comment is noted.

Espinosa, Kim

From: sspitler [bertaandsyd@comcast.net]
Sent: Saturday, April 18, 2009 10:13 AM
To: Espinosa, Kim
Subject: Hi Kim

Hi Kim,

Just a couple of thoughts about the Wal-Mart EIR.

The thing that I am having trouble understanding in this situation is why it is Wal-Mart feels it must be so intrusive. I can not argue the need for jobs is this city and county. But, I can argue with the placement of this business that will intrude on schools, noise levels (not just for the resedints in the immediate area, but for all of Merced [we hear train and 99 traffic noise out here on Bellevue Road near the University, which will ultimately affect the value of all Merced homes]), polution, and traffic. Wal-Mart does not have to place itself in an area that makes it the first and last thing Mercedians hear or think about every day.

203-1

Couldn't Wal-Mart move to an area in-between Merced and Chowchilla?

Will Wal-Mart be made to pay for its roads, take care of its wastewater and up-grade for its utilities? For the sake of just 900 (or more) jobs I'm wondering who's getting the best deal, our potential employees or Wal-Mart. And I'm quite tempted to this it is really Wal-Mart.

Syd Spitler

203-1

The comment describes concerns related to traffic, pollution, and noise. The commenter indicates that the proposed project should be placed at a different location (such as an area between Merced and Chowchilla). Regarding traffic and pollution, the Draft EIR analyzes these environmental issues under sections 4.2 “Air Quality,” 4.6 “Hydrology and Water Quality,” 4.10 “Public Health and Hazards,” and 4.11 “Traffic and Transportation.” Regarding placement of the site at a different location, alternative sites were evaluated in Section 5 of the Draft EIR “Alternatives to the Proposed Project.” Please see Response to Comment 111-2, which describes the impacts, relative to the proposed project, resulting from development of a more “remote” alternative site (Alternative Site #3). Although Section 5 does not evaluate an area between Merced and Chowchilla as an alternative site, Table 5-1 in the Draft EIR shows several other locations considered for the proposed project. However, the area between Chowchilla and Merced would pose extreme challenges that would make such a location infeasible. Because these areas are not associated with any municipality or public services district, provision of public services and utilities (such as sewer, water, and electrical service) would be extremely difficult. The lack of any formal interchange with SR 99 would create serious traffic hazards associated with 643 trucks and 1,756 passenger cars entering an exiting the freeway each day using an at “at-grade,” stop-controlled intersection. Note that one of the project objectives is to “locate industrial projects in areas with good access to major highway transportation links [...]” Although the applicant has not formally assessed this area as an alternative site to locate the project, it is not likely that this area would present a feasible option that would meet project objectives. For more discussion related to project alternatives, see Master Response 12: Alternatives.

The commenter also briefly questions whether Wal-Mart would be required to pay for infrastructure and utilities upgrades. The Draft EIR does not focus on the payment source of proposed utility and roadway improvements (although the Draft EIR does require the applicant to mitigate cumulative traffic impacts in the form of fair share payment for various improvements as indicated in Section 6); the Draft EIR focuses on the environmental impacts associated with the proposed improvements, as required by CEQA. The comment does not raise issues related to the adequacy of the Draft EIR.

Espinosa, Kim

From: Walker, Dawn on behalf of city, council
Sent: Tuesday, March 10, 2009 8:17 AM
To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill
Cc: Davidson, Dana; Quintero, Frank; Conway, Mike; Espinosa, Kim; Schechter, Jeanne
Subject: FW: Wal mart vote!!

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----

From: Pamela Spiva [mailto:pamela.spiva@sbcglobal.net]
Sent: Monday, March 09, 2009 9:41 AM
To: city, council
Subject: Wal mart vote!!

I vote YES for Walmart!!!! WE NEED IT!!!!

| 204-1

Pamela M. Spiva, Realtor
Coldwell Banker Gonella Realty
701 W. Olive Avenue
Merced CA 95348
Cell: 209.761.8251
Office: 209.383.2171
Fax: 209.725.0423

**Letter
204
Response**

Pamela M. Spiva, Realtor
Coldwell Banker Gonella Realty
March 9, 2009

204-1

The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues regarding the adequacy of the Draft EIR. The comment is noted.

Espinosa, Kim

From: Bingaman, Jamie
Sent: Thursday, February 26, 2009 12:26 PM
To: Espinosa, Kim
Subject: FW: Wal-Mart Distribution Center

FYI

-----Original Message-----

From: Davidson, Dana
Sent: Thursday, February 19, 2009 11:21 AM
To: Bingaman, Jamie
Subject: FW: Wal-Mart Distribution Center

For the record.

From: Walker, Dawn **On Behalf Of** city, council
Sent: Thursday, February 19, 2009 10:00 AM
To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill
Cc: Davidson, Dana; Quintero, Frank; Conway, Mike; Espinosa, Kim; Rozell, Kenneth
Subject: FW: Wal-Mart Distribution Center

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----

From: 4everdodgerblue@sbcglobal.net [mailto:4everdodgerblue@sbcglobal.net]
Sent: Saturday, February 14, 2009 3:14 PM
To: city, council
Subject: Wal-Mart Distribution Center

Let Wal-Mart in ! I can't believe that we are even debating this, It's a no-brainer. With unemployment at 15% in Merced county we need this distribution center more than ever and if we keep messing around, some other city will snag it up. Jobs are more important right now than any environmental impact.

205-1

2/27/2009

John & Vickie Stephan
1284 El Portal Dr.
Merced CA 95340

205-1

The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues regarding the adequacy of the Draft EIR. The comment is noted.

This page intentionally blank.

Espinosa, Kim

From: KEN STEPHENSON [ken.stephenson@sbcglobal.net]

Sent: Friday, April 17, 2009 11:17 AM

To: Espinosa, Kim

Subject: Wal-Mart

Merced needs jobs !!. Not every one living here is wealthy. Lets get it done !. LETS GO FOR
WAL-MART !. KENNETH E. STEPHENSON 851 ALABASTER CT. ATWATER, CA
95301

206-1

**Letter
206
Response**

Ken Stephenson
April 17, 2009

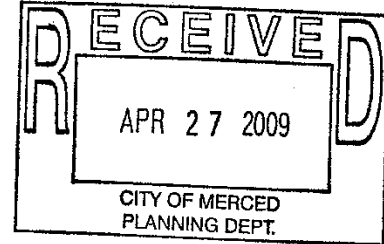
206-1

The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues regarding the adequacy of the Draft EIR. The comment is noted.

Espinosa, Kim

From: Kyle Stockard [kylestockard@clearwire.net]
Sent: Monday, April 27, 2009 11:28 AM
To: Espinosa, Kim
Cc: Kyle Stockard
Subject: Wal-Mart Distribution Center DEIR

Kim Espinosa, Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Dear Ms. Espinosa:

After reading the DEIR for the Wal-Mart Distribution Center I have several concerns about the feasibility of the location of this project. While there are many areas of the report that could pose potential problems, I will limit myself to four areas of greatest concern.

(1) AIR QUALITY Impact findings in the DEIR

* The project is estimated to produce 74,812.1 tons of unmitigated carbon dioxide per year. For perspective, the world's largest cruise ship weighs 74,000 tons.

* In 2005, Merced County emitted 167 tons of carbon dioxide per day. That works out to 60,955 tons per year. This facility would more than double greenhouse gas emissions for the county.

* The study indicates a potential of 4 diesel trucks idling at any given time during a one hour period. Because state law requires that no truck can idle longer than 5 minutes continuously, this is significant because it means trucks will be moving with extreme frequency.

* Approving this project will create many more days of the year when children suffering from asthma won't be able to play outside because of the poor air quality.

207-1

(2) TRAFFIC Impact Findings in the DEIR

* The DEIR Traffic Study underestimates the project's traffic impacts, because it fails to measure those impacts against existing traffic conditions. Instead, the DEIR examines the project's traffic impacts against a hypothetical future traffic conditions that includes traffic from housing that may never be built or occupied.

* As a result, the DEIR masks the extent to which this project is a direct cause of traffic conditions going from acceptable to unacceptable at 4 intersection locations in the AM peak and 5 intersections in the PM peak.

* The DEIR Traffic Study underestimates the project's traffic impacts because its estimate of the project's trip generation is non-representative of the project's full potential. For example, for truck trips the DEIR's trip generation is based on observations taken in the month of August at

207-2

4/27/2009

only one other Wal-Mart Regional Distribution Center in Apple Valley, CA. Since sales of consumer shopping goods in some months are vastly higher than in August, the trip generation estimates do not represent a peak or even an average trip generation for the project. Auto trips may also be underestimated because the work force may also be supplemented in months of highest retail activity.

207-2
Cont'd

* The DEIR Traffic Study underestimates the project's traffic impacts because its of the project's trip generation is implausible. Even if the DEIR assumes that all the 1756 projected auto trips to and from the site daily are trips to and from work by the 1200 employees, this equals an average Vehicle occupancy rate of 1.37 persons per car. This is implausible since average vehicle occupancy in similar areas is typically about 1.10. Since many employee shifts apparently start and end in off- peak times, there is little incentive for ride sharing and virtually no likelihood of transit usage for commuting. In compiling the above 1.37 average vehicle occupancy statistic, all 1756 projected auto trips have been assumed to be employee commute trips between home and work. It must be recognized that some proportion of the 1756 trips will be for other purposes such as employees departing and returning in mid-shift for lunch or personal business, and other non-employees arriving and departing for routine business calls or job applications and the like. Therefore, the actual vehicle occupancy among worker commute trips implicit in the DEIR trip generation would actually be even larger than the 1.37 persons per car occupancy rate noted above, an occupancy level that is even more implausible. Therefore, the DEIR's estimate of auto trip generation of the project must be significantly understated. If it is assumed that the employee's average vehicle occupancy on commute trips is realistic at 1.10 persons per vehicle and that there would be 100 non-commute auto trips to and from the site each day, the net auto trip generation for the project would be 2282, 30 percent higher than the 1756 trips the DEIR estimates.

207-3

* The DEIR fails to estimate, disclose or mitigate the project's traffic impacts on residential quality of life along affected streets. The City of Merced adopted Neighborhood Calming Guidelines in January 2008. The DEIR makes no effort to evaluate whether project traffic conforms to or conflicts with goals and policies of the adopted traffic calming.

207-4

* The DEIR Traffic Study underestimates the project's traffic impacts, because it assumes that trucks will access the site on the south side using Campus Parkway and Gerard Avenue. Infact, truck traffic to and from the north using State Highway 99 will be as likely to use East Childs Avenue and its interchange to transition between State Highway 99 and the site. The DEIR should analyze this more realistic probability.

207-5

* The traffic assumptions input to the UBREMIS air quality model are not documented in the traffic section of the DEIR or its Appendix (E). The DEIR should document a quantified relationship between its traffic analyses and the traffic estimates assumed in the air quality modeling.

207-6

* Although project access is limited to two points, both intersecting Gerard Avenue, the DEIR does not include an analysis of the project's access intersections. Such an analysis should be provided.

207-7

* Although the project description claims that the project will provide a parking area for trucks tha arrive at hours when the project's entry gates are closed, the project site plan in the DEIR shows no such area.

207-8

(3) URBAN DECAY Findings in the DEIR

* The creation of a Wal-Mart distribution center will lower residential property values in the

207-9

4/27/2009

areas near the site. Noise, pollution and a nearby industrial location have all been shown to reduce property values in numerous economic studies.

* This area has already been hit hard by the current housing downturn, which is likely to persist for a while. Lower property values will make it even more difficult for some families to get out from under "upside down" mortgages thus increasing foreclosure rates.

* There is no guarantee that the few jobs created by this project will go to residents of Merced. You can expect that workers as far away as Modesto and Fresno will also take many of these jobs. It is likely that most of the benefits that these jobs will create will go outside City limits.

207-9
Cont'd

* The increased crime from urban decay, the costs of policing for noise mitigation, fire service, etc. will add considerably to the costs for the City of Merced. Will these costs be offset by taxes generated? Very possibly NO---the DEIR does not examine this issue, but citizens of Merced should be concerned.

* The distribution center will increase urban decay and blight in the area as property prices fall. Some home sites are partially completed and abandoned in the area and it will be harder for these sites to be restored. Increased crime is a result of such urban decay impacts.

* If Wal-Mart builds a distribution center in Merced it is very likely that it will expand its current store to a Supercenter or, as it often does, close its existing store (leaving a serious vacancy) and open a new Supercenter. Most of these new Supercenters in California are enormous---225,000 square feet---equal to about one and a half Costco's. They include a large grocery component and these stores typically sell at least as much as two very large grocery stores (e.g. Save Mart, Raleys, Food 4 Less) or 3-4 smaller grocery stores (e.g. Smart and Final, Grocery Outlet, etc.). In a city like Merced this can have a devastating impact on local shopping centers, which are typically anchored by grocery stores.

207-10

* The DEIR does not properly evaluate the impact of this proposed distribution center on Merced or the surrounding area. It is very likely that the center will cater to Wal-Mart's expanding line of groceries and lead to the further development of their Supercenter format stores in the north central valley. Without this evaluation the DEIR is inadequate --a DEIR is supposed to inform citizens what to expect, so they can make an intelligent decision.

(4) WATER IMPACT Findings in the DEIR

* The pattern of naturally occurring water runoff is at serious risk of being disturbed. By constructing on the 230 acre site, the project would reduce the amount of land that can absorb rain water, and such imperviousness could lead to bad flooding.

207-11

* The DEIR proposes to use an outdated Storm Water Pollution Plan called Best Management Practices to prevent flooding -- but many cities and counties in California have replaced that method with a far more effective standard called Integrated Management Practices which has been endorsed by the Governor and leaders of both political parties.

207-12

* The construction of the Distribution Center will lead to increased pollution of the area's water, including groundwater, in certain instances even to toxic levels. The DEIR notes that construction wastes such as solvents, fuels and the like could lead to the degradation of the existing water quality.

207-13

* The oil and grease associated with having semi-trucks going to and from the distribution center could seep not only into drainage, but possibly also Merced's groundwater supply.

207-14

4/27/2009

Without addressing the concerns of this letter, and the concerns of others in the community about the DEIR, I would conclude that this project is not a good fit for the community.

Sincerely,

Kyle Stockard
2499 E. Gerard Ave. #12
Merced, CA 95341
(209)722-0620

4/27/2009

- 207-1 The first two points in this comment are not about the adequacy of the DEIR.
- The third point in this comment reflects on the frequency of trucks that will visit the distribution center. Impact 4.2-4 demonstrates through performance of a health risk assessment that the project would have a less-than-significant impact associated with exposure to exhaust from trucks. The last aspect of this comment suggests that this project would result in many more poor air quality days. The project would contribute to regional air quality impacts as identified in Impacts 4.2-1 and -2. However, the project's emissions would be mitigated to less-than-significant levels, and therefore, the project would not result in a detectable increase in poor air quality days.
- 207-2 The commenter suggests that the traffic study inflates the baseline and assumes trip generation taken from a non-worst-case season and therefore underestimates the project's traffic-related impacts. The traffic analysis was prepared using industry standard methodologies and the traffic impact analysis guidelines of the City of Merced. Known approved projects were included in the 2010 Background Condition, and the traffic analysis was based on the information and appropriate assumptions at the time of the analysis. The trip generation forecast that was used in the traffic analysis was based on a survey of a similar facility in Apple Valley, CA and was conducted in a manner and during a timeframe that was considered representative of average conditions and appropriate for analysis.
- 207-3 The commenter suggests that the average vehicle occupancy assumed by the DEIR's traffic analysis is unrealistic. The trip generation forecast that was used in the DEIR's traffic analysis was based on surveys and accurately reflect the potential number of auto and truck trips. The surveys reflect the shift patterns of workers, the arrivals and departures during the morning and afternoon peak hours, and the average vehicle occupancy. The survey data was peer reviewed by an independent consultant and considered appropriate for use in the DEIR.
- 207-4 The commenter indicates that the DEIR does not appropriately analyze traffic-related impacts to residential quality of life, specifically indicating that the DEIR does not mention the Neighborhood Calming Guidelines adopted in January 2008. The comment suggests that many of the streets that would carry project traffic are residential in character, which is not consistent with the DEIR analysis, however. As noted on page 4.11-21 of the DEIR, 90% of the truck traffic is assumed to access the site via the SR 99/Mission Avenue interchange and Campus Parkway. Mission Avenue is designated as a divided arterial in the City of Merced General Plan, which means it is not addressed in the City of Merced Neighborhood Traffic Calming Guidelines and it is not eligible for construction of any traffic calming measures (page 6 of City of Merced Neighborhood Traffic Calming Guidelines). Arterial roadways serve a different function than residential or collector streets. With respect to the Goals and Policies of the City of Merced Neighborhood Traffic Calming Guidelines (page 5 of the Guidelines), a review of the DEIR analysis would not indicate that the proposed project would violate any of the seven goals or seven policies. The City of Merced Neighborhood Traffic Calming Guidelines outlines a procedure for addressing concerns such as pedestrian-bicyclist safety, gaps in traffic flow, speeding and other concerns. The transportation analysis of the proposed project evaluated congestion and service levels at intersections and along roadways that would potentially be used by project vehicles, and nothing in the DEIR analysis would lead to a conclusion that local

residential or collector streets would be adversely impacted. No changes to the DEIR are necessary.

- 207-5 The commenter suggests that the configuration the DEIR assumed for truck access is unlikely and an alternate access configuration should have been analyzed. Please refer the Master Response 6: Trucks and the Transportation Analysis, which addresses this issue.
- 207-6 The commenter states that “the traffic assumptions input to the URBEMS air quality model are not documented in the traffic section of the DEIR or its Appendix (E)” and requests that the DEIR “document a quantified relationship between its traffic analyses and the traffic estimates assumed in the air quality modeling.” The air quality modeling performed in URBEMIS was used to support the analysis and discussion under Impact 4.2-2 and Impact 4.2-6. The URBEMIS modeling used trip generation rates for the employee commute trips and truck trips that were based on the number of daily passenger vehicle trips (1,756) and daily truck trips (643) presented in Table 4.11-12 of THE DEIR. The default trip rate for a warehouse in URBEMIS is 4.96 trips per 1,000 square feet. This default value was changed to be consistent with the number of trips used in the traffic analysis and the size of the proposed distribution center:
- ▶ 1.46 trips per 1,000 square feet for employee commute trips and
 - ▶ 0.27 trips per 1,000 square feet for truck trips; and
 - ▶ 1.2 million square feet for the building size.
- These values are shown in the “Detail Reports for Annual Operational Unmitigated Emissions” from URBEMIS (sheets 7 and 9 in Appendix C of the DEIR)
- 207-7 The commenter indicates that the DEIR does not include an analysis of the project’s access intersections. The study intersections identified for analysis were developed in cooperation with City staff, and include those most likely to be impacted by the proposed project. Generally, access point intersections are often design issues that are managed through the design review process, as they are not city street intersections but rather mid-block driveways on Gerard Avenue.
- 207-8 The commenter questions why the DEIR’s project description indicates a parking area for trucks that arrive at hours when the project’s entry gates are closed, but no such area is indicated on the site plan. Neither the DEIR’s project description, nor the site plan included as Exhibit 3-3, indicate the after-hours parking area. However, Mitigation Measure 4.11-2a requires the project design to incorporate a designated on-site waiting area. Therefore, the site plan would require revision to include the waiting area.
- 207-9 The commenter indicates that the DEIR does not evaluate urban decay impacts and suggests that the implementation of the proposed project will impact property values which are already depreciated. The commenter further notes that the proposed project will make it more difficult for homeowners to get out from under their “upside down” mortgages and that there is no guarantee that the workers will originate from Merced. The commenter also indicates that the increased crime resulting from urban decay will increase the need for police protection and other public services. Master Response 11: Economics and Urban Decay addresses issues related to property values and the project’s potential to induce urban decay. Regarding issues associated with in-migration of workers and local hiring policies see Response to Comment 92-4. It should also be noted that the City will require Wal-Mart to pay approximately \$4.2 million in impact fees for public services (based on 2009 fee levels; see Response to Comment 16-5).
- 207-10 The commenter suggests that development of the proposed distribution center would likely result in the creation of a Wal-Mart Supercenter in Merced. Wal-Mart has indicated no plans to develop

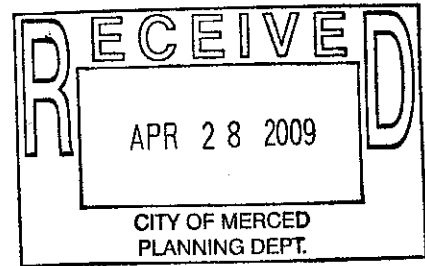
a Supercenter in Merced; therefore, the DEIR need not speculate. Please see Master Response 1: Growth Inducement and Expansion, which further addresses this issue. The potential economic impact the proposed distribution center could have on area businesses is described in Master Response 11: Economics and Urban Decay.

- 207-11 The commenter expresses general concern over flooding resulting from the proposed project. Section 4.6 “Hydrology and Water Quality” presents analyses of pre- and post-development conditions and Mitigation Measure 4.6-2 addresses both volume and quality of stormwater runoff from proposed impervious surfaces. Note that this mitigation measure has been revised. Please see Section 4 of this FEIR for the specific revised text. The final design specifications would be required to demonstrate to the City and MID that runoff generated as a result of the project would be properly contained and conveyed.
- 207-12 The commenter expresses general concern related to contaminated runoff from the proposed project and suggests the use of Integrated Management Practices. See response to comment 55-1 regarding Integrated Management Practices.
- 207-13 The comment raises issues associated with surface and groundwater contamination from construction activities. Mitigation Measure 4.6-1a describes the NPDES construction permit and SWPPP with the required performance standards that have been shown to prevent contamination to surface water and groundwater or reduce to less than significant levels.
- 207-14 The comment raises issues concerning the potential of contaminated runoff from truck traffic from the proposed project reaching drainage canals and groundwater. See Master Response 8: Runoff Water Quality regarding source control. Also see Comment 3-1. Source control measures are required under NPDES Industrial General Permit requirements.

This page intentionally blank.

April 1, 2009

Ms. Kim Espinosa
Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Postmark 4-27-09

Ms. Espinosa:

I watched a special on CNBC about Wal-mart where they discussed the company's distribution methods. In the film Wal-mart would fill up one truck and then visit a series of stores making partial deliveries at each stop. This distribution method, as described by the film, helped keep Wal-mart's stocked because they didn't need to have large storage facilities. You can see the evidence of this when you drive on the 99 because there is ALWAYS a Wal-mart truck next to you.

It seems to me that there are a lot of Wal-mart trucks on the 99. Does the city have any idea how many trucks we're talking about? And you're always hearing about Wal-mart trying to build new stores. Is there a limit on how many stores that could be accommodated by this distribution center?

208-1

Thank you,

William Stockard
Signature

William Stockard
Print Name

2640 E. Car de la Rd.
Merced, CA 95340
Address

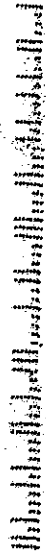
(209) 722-0620
Phone

USA FIRST-CLASS FOREVER



STOCKTON/STKN
CA 952 1 L
27 APR 2009 PM

Ms. Kim Espinosa
Planning Manager
City of Merced Planning Division
678 W. 18th Street
Merced, CA 95340



95340+4700

HUMAN RIGHTS WATCH
Mr. & Mrs. William Stockard
2640 E Cardella Rd
Merced CA 95340
WWW.HRW.ORG

208-1

The comment poses a question to the City wondering if they understand “how many trucks we’re talking about.” The Draft EIR indicates that the proposed project would generate 643 truck trips per day. The commenter further questions if there is a limit on how many stores could be accommodated by the proposed distribution center. Please see Master Response 1: Growth Inducement and Expansion, which addresses this issue.

This page intentionally blank.

Espinosa, Kim

From: Walker, Dawn on behalf of city, council
Sent: Tuesday, March 10, 2009 8:17 AM
To: city, council; Bill Spriggs (E-mail); Carlisle, John; Conway, Mike; Cortez, Joseph; Dawn Walker (E-mail); Ellie Wooten (E-mail 2); Ellie Wooten (E-mail); Gabriault, Michele; Jim Sanders (E-mail); Joe Cortez (E-mail); John Bramble; John Carlisle (E-mail); Lor, Noah; Lor, Noah; Michele Gabriault-Acosta (E-mail 2); Michele Gabriault-Acosta (E-mail); Sanders, Jim; Spriggs, Bill
Cc: Davidson, Dana; Quintero, Frank; Conway, Mike; Espinosa, Kim; Schechter, Jeanne
Subject: FW: Wal-Mart

From the website.

Dawn

Dawn Walker
Executive Secretary
City of Merced
678 West 18th Street
Merced, CA 95340
Phone: (209) 385-6834
Fax: (209) 385-1780

-----Original Message-----

From: Teri Strickland [mailto:tstrickland@gonellarealty.com]
Sent: Monday, March 09, 2009 10:12 AM
To: city, council
Subject: Wal-Mart

I want to voice my opinion regarding the Wal-Mart distribution center. Since Wal-Mart is known to be a "green" company and has tough restrictions on how long their trucks can continue to run when waiting in the yard, I feel this should not keep them from coming to Merced. Our city has suffered with many layoffs in recent months. We have an obligation to our citizens to do what we can to bring new jobs into the area.

209-1

I am in favor of the Wal-Mart distribution center making its home in Merced.

Teri Strickland, Realtor

Coldwell Banker Gonella Realty
701 W. Olive Avenue
Merced, Ca. 95348
(209) 386-3880 cell
(209) 383-2171 office
(209) 725-1242 fax
www.teristrickland.com

Oh by the way, I'm never too busy for your referrals.

3/10/2009

**Letter
209
Response**

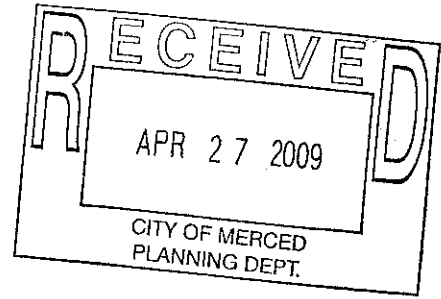
Teri Strickland, Realtor
Coldwell Banker Gonella Realty
March 9, 2009

209-1

The comment addresses the merits of the proposed project, recommends approval, and does not raise environmental issues or any issues regarding the adequacy of the Draft EIR. The comment is noted.

March 21, 2009

Kim Espinosa
Planning Department
City of Merced
678 West 18th Street
Merced, CA 95340



Re: Merced Wal-Mart Distribution Center Project

Dear Ms. Espinosa:

I am very concerned with the proposed Wal-Mart Distribution Center Project and the ramifications it may have on the local environment. In particular, the Draft EIR for the project makes clear that construction may be contrary to the Open Space, Conservation and Recreation section of the City's Vision 2015 General Plan. The General Plan makes a specific goal to protect endangered or threatened species and their habitats. Among other things, the Distribution Center project would pose a threat to certain animal species including the Swainson's hawk.

210A-1

As a supporter of conservation for reasons such as the protection of existing animal species I question whether the City has really considered the impact the Project will have on local animal species. Given that the land has historically been undeveloped and agricultural in nature with orchards and fields, the creation of a Distribution Center and the associated movement of traffic would disrupt the natural habitat of many animal species.

210A-2

For such reasons, I beg the City to not approve this Project.

Peter T Swaney

Signature

Peter Swaney

Print Name

2164 E Bellevue Rd

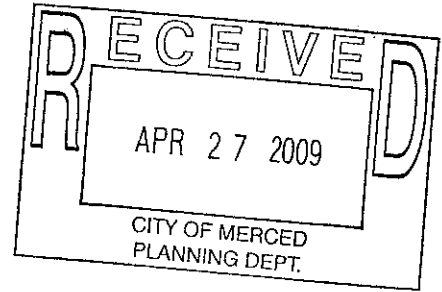
Address

(510) 593-3344

Phone

April 17, 2009

Ms. Kim Espinosa
Merced Department of Planning
678 West 18th St.
Merced, CA 95340



Kim,

I am concerned that construction of the Wal-Mart Distribution Project will have unintended consequences to the area's water supply. The Draft EIR notes that a groundwater well is located on a portion of the site of the proposed Project. The construction of the Distribution Center will lead to increased pollution of the area's water, including groundwater, in certain instances even to toxic levels. The Draft EIR notes that construction wastes such as solvents, fuels, and the like could lead to the degradation of the existing water quality. Additionally, the oil and grease associated with having semi-trucks going to and from the distribution center could seep not only into drainage, but possibly also Merced's groundwater supply. If the City were to consider the ramifications that construction wastes and the many years of use of the site as a distribution center may have on the City's water supply, they would see that this Project is not a good idea.

210B-1

Peter T Swaney

Signature

Peter Swaney

Print Name

2167 E Bellevue Rd.

Address

(510)593-3344

Phone

**Letter
210A-B
Response**

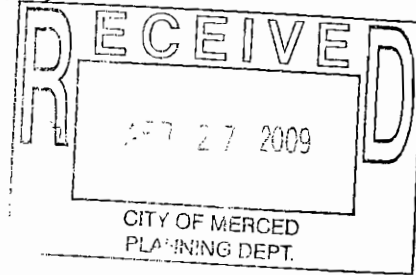
Peter T. Swaney
➤ 210A–March 21, 2009
➤ 210B–April 17, 2009

- 210A-1 The commenter states that the DEIR makes clear that construction may be contrary to the Open Space, Conservation, and Recreation section of the City’s Vision 2015 General Plan. Consistency with the City’s General Plan is addressed on under Impact 4.3-5 on page 4.3-12 of the DEIR. The impact is identified as significant, and mitigation is proposed that would reduce the impact to a less-than-significant level. The commenter appears to agree with the impact conclusion in the DEIR that the project could adversely affect the Swainson’s hawk. No issues regarding the adequacy of the EIR are raised in comment.
- 210A-2 The commenter suggests that the conversion of land that has historically been undeveloped and agricultural in nature to a Wal-Mart Distribution Center and the associated traffic would disrupt the natural habitats of many animal species. The commenter questions whether the City has really considered the impact the project would have on local animal species but does not specifically question the adequacy of the DEIR. The DEIR does address impacts to wildlife in accordance with the CEQA thresholds in the Biological Resources section of the DEIR. Effects on special-status wildlife are addressed under Impact 4.3-2 on page 4.3-10. Effects on wildlife movement are addressed under Impact 4.3-4 on page 4.3-23.
- 210B-1 The comment expresses concerns of potential contamination to the domestic well water supply through contaminated runoff to surface and groundwater from construction and operational activities of the proposed project. Mitigation Measure 4.6-1a describes the NPDES construction permit and SWPPP with the required performance standards that have been shown to prevent contamination to surface water and groundwater or reduce to less than significant levels. Additional information relating to groundwater is contained in Master Response 9. (Note also that the well in question is not on the project site.)

This page intentionally blank.

April 5, 2009

Ms. Kim Espinosa
Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Dear Kim:

I am confused. I read the traffic portion of the Wal-mart Distribution Center report. Why is a level of service of D and below allowed for traffic? Shouldn't we insist that the road be improved before Wal-mart opens?

211A-1

Creating new jobs is important - but we have to make sure the roads and infrastructure is good enough to support the jobs.

Thank you.

John A. Tabera
Signature

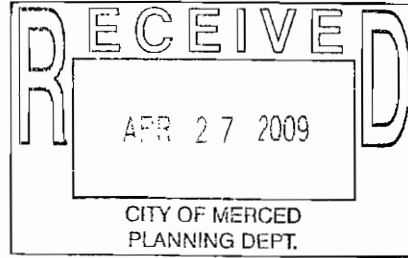
John A. Tabera
Print Name

1235 Pleasant Lane
Merced 95340
Address

Phone

April 20, 2009

Kim Espinosa
Planning Manager
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Dear Ms. Espinosa:

I was reviewing the traffic portion of the Wal-mart distribution center EIR. I am concerned that the roadways in the area were not constructed in a manner such that they could support 2,400 trucks trips per day.

211B-1

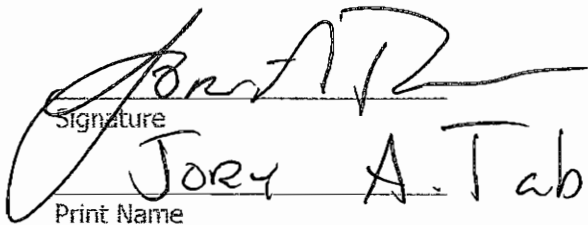
A simple drive down the 99 shows how much those trucks rip up the road – and how quickly. I don't think the city is doing enough to prepare for maintaining the roads in the area for that level of truck service.

211B-2

Could a special fee be placed on WM based on truck traffic to and from the facility to help pay to maintain the roads in the area? Its not like we're talking about 2,400 compact car trips. These are big 18-wheelers that will carry heavy loads, make wide turns and quickly chew up the roadways.

211B-3

Thank you for your consideration.


Signature
JOEY A. TABER
Print Name
1235 Pleasant lane
Merced 95340
Address

Phone

**Letter
211A-B
Response**

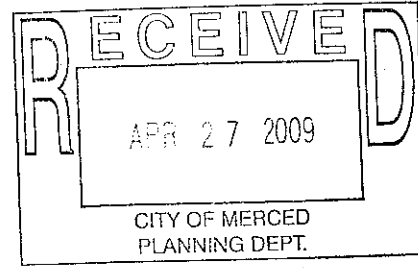
Jory A. Taber
➤ 211A–April 5, 2009
➤ 211B–April 20, 2009

- 211A-1 The commenter asks why LOS D and below is allowed for traffic. The thresholds for acceptable levels of service and assessment of impacts are outlined on page 4.11-17 of the DEIR.
- 211B-1 The commenter expresses concern that project-related truck traffic will result in impacts to local roadways. The DEIR analyzes impacts related to truck traffic in Section 4.11 “Traffic and Transportation.” Please also see Master Response 6: Trucks and the Transportation Analysis. For information related to roadway maintenance, please see Response to Comment 96B-5. The comment does not raise issues related to the adequacy of the DEIR. The comment is noted.
- 211B-2 The commenter expresses concern that project-related truck traffic will result in impacts to local roadways. See response to comment 211B-1.
- 211B-3 The commenter indicates that a fee should be required for wear and tear on local roadways by trucks. See response to comment 211B-1.

This page intentionally blank.

April 17, 2009

Ms. Kim Espinosa, Project Director
City of Merced Planning Division
678 West 18th Street
Merced, CA 95340



Ms. Espinosa:

In Mitigation Measure 4.2-2b, Wal-Mart would be required to hire and appoint an on-site Employee Transportation Coordinator to encourage car pooling among employees. While employee carpooling should be encouraged, I don't think it is realistically achievable in a rural county where employees reside sporadically around the Central Valley.

212-1

You make a correlation that carpooling will result in quantifiable decreases in NO_x and PM₁₀. Vanpools make sense in smart growth urban areas like large cities, but rural communities still require single-occupancy cars to drive to a van pool location. It's a nice theory, but it won't work in Merced. Therefore, this Mitigation Measure should be dismissed and the application be required to present a new one.

212-2

Sincerely,

Nancy Tapia
NANCY TAPIA
3581 CABRILLO CT.
MERCED, CA 95341

- 212-1 The commenter believes that one component of mitigation measure 4.2-2c (vanpooling) would be ineffective and would not be used by the employees. The commenter provides no reasoning to support this belief, however. In summary, Mitigation Measure 4.2-2b provides applicant with program and design options to reduce employee commute trips and associated mobile-source emissions.
- 212-2 The commenter believes that one component of mitigation measure 4.2-2b (car pooling and vanpooling) would be ineffective and would not be used by the employees because the project is located in a rural area. The commenter provides no reasoning to support this belief, however. In summary, Mitigation Measure 4.2-2b provides applicant with program and design options to reduce employee commute trips and associated mobile-source emissions. In addition, according to the *Recommended Guidance for Land Use Emission Reductions* (SMAQMD 2007), the measures listed under Mitigation Measure 4.2-2b result in quantifiable reductions in mobile-source emissions associated with industrial land uses and these reductions have been substantiated by research.