Comment Letter #1

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December 31, 2016

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City of Fresno
Department of Development and Resource Management
2600 Fresno Street, Room 3065
Fresno, CA 93721

Delivered via email to: *Mike.Sanchez@fresno.gov, BoniqueE@fresno.gov*

RE: **Draft Initial Study, Producers Dairy Cheese Plant Project**

Dear Mr. Sanchez and Ms. Emerson:

Bruce Owdom, Robert Boro and I submit the following comments on the Initial Study for the proposed Producer's Dairy project at 450 E. Belmont Ave.

1-1 First, we hereby renew our repeated request to receive and review, and to have incorporated in the record of these proceedings, the full history of the contract under which the environmental work for this project is being conducted. Mr. Murphy has informed us that—as with this Initial Study—the City's "law department" [sic] "provided internal revisions and edits to SOAR, which incorporated them into the final document." Therefore, this request includes but is not limited to all contract drafts reviewed by any City department, and all correspondence of any kind between any representative of the City (DARM, Councilmembers or staff, and/or CAO), SOAR or any of its subcontractors, and Producers Dairy or any of its representatives, employees, or agents.

1-2 As you know, it is our concern that this contract fails to conform to the requirement of Public Resources Code § 21082.1(a), that "Any draft environmental impact report, environmental impact report, negative declaration, or mitigated negative declaration prepared pursuant to the requirements of this division shall be prepared directly by, or under contract to, a public agency." [Emphasis added.] As Mr. Sánchez has made clear, this anomalous arrangement, where the environmental consulting work is done directly under contract to the project proponent, results from Producers' insistence on this arrangement.

1-3 Second, based on statements from members of the public at the scoping meeting on December 19, 2016, and in particular residents in the immediate vicinity of the project, it appears that the distribution list for this project is incomplete. We therefore also request a copy of that distribution list.

1-4 Third, we renew our request to receive and review legible site plans, with dimensions, for both the subject property at 450 E. Belmont Ave., and the 302 N. Thorne property from which Producers proposes to move its permanent truck parking. We have in mind the City's staff report for the February 26, 2016

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Council meeting, which noted that "Once work is completed at the current leased site (302 N. Thorne) truck parking will again be available." The staff report suggests that the former site will not accommodate the same number of trucks, but the staff report fails to support that assumption with any evidence. Therefore, both site plans are necessary, and must be included in the record of proceedings, in order to ensure an adequate alternatives analysis.

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Fourth, in light of some surprising errors about statements made or not made at the September 20, 2016 public meeting, we request copies of all consultant's notes of the comments made at that meeting, and at the December 19, 2016 scoping meeting.

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Finally, as the review below makes clear, the initial study itself is incomplete in that it has failed to identify potential environmental impacts associated with the project, and has therefore also failed to perform its required function of identifying reasonably feasible mitigation measures. The IS must therefore be revised and resubmitted before it can adequately drive the proper scope of a supplemental EIR.

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(Please note: As of this date, the Tower District Final EIR is not accessible on the City of Fresno's new website. We therefore reserve the right to augment this comment letter within ten days of today's date, in the event our review of the Tower FEIR reveals additional bases for correcting the scope of the proposed supplemental EIR in this matter.)

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The Project Description is inadequate.

This project is not only about tearing down an historic resource: it is also about turning the property to a new, different, and unanticipated use not analyzed in the original Tower District FEIR. Thus the IS' project description is far too narrow to form an adequate basis for determining project impacts. Most importantly, it omits any reference whatsoever to project operational impacts, which all agree are substantially different from those originally contemplated in the 1991 Tower District FEIR (which called for almost the entire site to be covered with structures housing dairy production (IS Fig. 15)—a very different level of use from truck staging and/or storage.)

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The public, and decision makers, are entitled to know how much truck traffic every day, starting at what time and ending at what time, how many minutes per truck trip will be spent idling on the property, whether activities will include (as they do now, per statements at the scoping meeting) both servicing and washing of trucks. When will the trucks and trailers be washed on site? When will the maintenance be performed? Will the electric gates make noise at 4:30am? 10:00pm? Will there be noise from the refrigeration units stored on site? Will there be loading and unloading on site? What impact will headlights and hydraulics have on the ambient noise before daybreak and after sunset? Without this information, it is impossible to know the degree to which the project's increased intensity of truck traffic and related activities will create significant unanticipated and unanalyzed aesthetic, air quality, cultural resource,

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1-9 human health, land use, noise, and transportation/circulation impacts.*

1-10 A detailed operational statement will also allow objective assessment of factually unsupported claims to "environmental benefits" (such as the calculation of reduced truck miles traveled in the Transportation and Traffic section), and a reasonable evaluation of project alternatives, including return to use of the 302 N. Thorne parcel after High Speed Rail construction is completed.

1-11 Thus the IS Project Description must be re-drafted, incorporating a detailed operational statement that can allow adequate analysis of the project's potentially significant environmental impacts, and adequate assessment of reasonably feasible mitigation measures. Since this property is a small part of the Tower District Specific Plan, a new and adequate IS will still form the basis for a supplemental EIR. However—any supplemental EIR based on the current, flawed IS cannot accomplish CEQA's aims of full disclosure of environmental impacts to enable an informed decision by the lead agency.

The consistency analyses are inadequate.

1-12 All consistency analyses are insufficient and should be revised. For example, the general plan analysis erroneously—using boilerplate without factual support—concludes the project "would enhance the quality of life for Fresno residents in a manner that respects physical, environmental, fiscal, economic, and social issues." Precisely, how will demolishing an historic structure "revitalize the neighborhood" as promised in General Plan, goal 3? Experience in other cities, and in other locations in this City, suggest the contrary: more noise, exhaust fumes, traffic hazards to pedestrians, traffic congestion, and reduced property values. The Initial Study may not simply claim consistency, but must provide an evidentiary or factual basis for such claims.

Aesthetics

1-13 The Initial Study, at p. 22, erroneously claims "The anticipated sensitivity of identified viewers was evaluated during a public forum held on September 20th, 2016. No local residents expressed any concern about views or the aesthetics of the proposed project. The Tower District Design Review Committee was also in attendance and expressed concern over the view of the project along E. Belmont Avenue." The undersigned were all present, and are aware of at least one local resident who vehemently expressed concerns about the aesthetics of the project. That view was echoed at the December 19 scoping meeting by additional local residents.

1-14 We assume this omission was an oversight, but it reflects the general inadequacy of the Aesthetics section of the IS. The "view from the road" currently screens the unsightly truck and trailer parking behind the historic brick

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1-9 * As one hopes it will be unnecessary to note, the proposed mitigation measures in the Transportation/Traffic section are not paired with any impact information; they cannot substitute for an adequate Project Description.

1-14 buildings that are proposed for demolition. The proposed wrought iron fence (to sit on the property line, with no landscape buffer) would expose the entire site to the Belmont view shed which is antithetical to both the Tower District Specific Plan and the General Plan.

1-15 Moreover, the IS's inventory of "viewpoints" (fig. 8, p. 23) does not include residents' homes, nor the streets by which they access their neighborhood, including Belmont. Nor does this analysis take into account that

1-16 neighbors and travelers along Belmont will now be treated to views of parked trucks instead of historic brickwork

1-17 Section 6.1 compounds this analytic flaw with its finding of no substantial adverse impact to the viewshed. The study fails to consider the neighborhood residents and assumes that the preparer's "view" is the only one that counts. Residents are forced to walk and drive past this project daily, and it is their "view" that should be considered. Who would want the expansion of a truck parking, washing, service operation next to their home or in their neighborhood?

Air Quality

Egregiously, the IS fails even to acknowledge the possibility of operational health impacts to local residents and to pedestrians whose paths take them frequently past this facility, including families walking their children to school (as per comments at December 19 scoping meeting).

1-18 Of course without an adequate Project Description based on a detailed operational statement, it is impossible to quantify the air quality impacts that this project will impose on its near neighbors. But even without operational detail, a responsible analysis of air quality impacts by a reasonably well informed consultant would confess to the well-established correlation between an increase in exposure to diesel particulate matter and serious illness—including cancer and asthma.

1-19 For purposes of the revised IS—which will presumably quantify the specifics of truck trips and idling time, among other data points—we note the following: the California Air Resources Board classifies Diesel Particulate Matter as a separately toxic air pollutant (though DPM also contains $PM_{2.5}$ and PM_{10}); CARB's "Methodology for Estimating the Potential Health Impacts from Diesel Truck Idling Operations" prescribes assessing exposed individuals' cancer health risks "based on hours of diesel engine idling operations and downwind distance of the receptor"; and (for these reasons) California restricts siting of new schools near major highways and busy traffic corridors (California Education Code §7213.c.2.C). See also, Appendix A (Key Studies on Air Pollution and Health Effects Near High-Traffic Areas), which should provide a starting point for a CEQA-compliant IS and EIR.

1-20 The IS's conclusion that this project has no potential to significantly expose sensitive receptors to substantial pollutant concentrations (or for that

matter, to create objectionable odors affecting a substantial number of people—how well would *you* tolerate diesel fumes with your breakfast, lunch and dinner every day?) is completely unfounded. The IS must be revised to analyze the potential for these impacts, based on solid, quantifiable criteria.

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Cultural resources

Notwithstanding claims of consistency, the proposed project violates the 2014 General Plan's Historic & Cultural Resources Element, and Objectives.

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This residential neighborhood, from Belmont to Highway 180 and Broadway to Palm, contains homes that are historically significant and may qualify to be a historic district. As should be explored in a revised initial study, historic designation often results in improved conditions and higher property values. (The undersigned have direct experience of this phenomenon: Mr. Boro and Mr. Owdom live in an historic district; Ms. Milrod's office and Mr. Boro's office are located in adaptively re-used Historic Register buildings.)

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At the scoping session held on December 19, 2016, residents and property owners of the neighborhood expressed their concerns about increased truck traffic, and truck cleaning and servicing, on the project site near their homes at all hours, and increased risks to children crossing Belmont Avenue going to school. The IS's Section 3.3, without evidence or analysis, describes a distressed neighborhood and completely ignores the people who live there—even though, as stated in Section 6, the analysis must "take into account the whole action involved, including off-site as well as on-site, cumulative as well as project level…"

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An adequate impact analysis, taking into account the effects of the project as a whole, would acknowledge its detrimental effects on the neighborhood—which is what CEQA requires. The lead agency will make whatever determination it can, but it must be as fully informed as possible about the effects of that decision beforehand. This IS cannot be the basis for an EIR that actually performs that function.

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Land Use & Planning

The City of Fresno Development Code (§ 15-313), provides in pertinent part: "Front setbacks shall be measured from the back of the sidewalk (including instances where the back of the sidewalk lies within the project parcel) to the portion of the structure that is closest to the front of the lot."

The existing historic façade at 450 E. Belmont sits 9'9" back from the property line (back of the sidewalk), and 10' back from the sidewalk along Roosevelt.

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According to Development Code Table 15-1303-2, the minimum setback in an Employment District (including Light Industrial uses) is 15 feet.

Any fencing, per Development Code § 15-2006.B.1 "*shall* comply" with the setback requirement, "unless a *greater* setback is required by an operative plan,

an adopted policy, or a condition of project approval." [Emphasis added] (Also note: the proposed fence, to be comprised of 8' pilasters and 7' iron fencing, will run afoul of Development Code § 15-2006.F.1, which imposes a 4' height limit on a wrought iron fence.)

It would thus appear that leaving the present façade in place will actually better serve the project proponent—by making available additional square feet of usable space—than would tearing it down.

1-25 Although the City of Fresno has a statewide reputation for taking lightly its obligation to make factual findings justifying variances, in this case a variance finding is legally precluded unless there is extremely detailed proof (read: site plans for both the 450 E. Belmont and 302 N. Thorne locations; a detailed project operational statement; an acoustical analysis; a credible alternatives analysis; well-supported financial feasibility studies; economic impact studies; human health impact analyses; etc.) to support every finding—including that "granting of the application will not be detrimental or injurious to property or improvements in the vicinity, and will not be detrimental to the public health, safety, general welfare, or convenience..." Development Code § 15-5506.

Noise

1-26 This is another area of likely and significant environmental impacts that cannot be assessed in a serious way without an operational statement on which to base the Project Description: exactly how much truck traffic, for what purpose, during what hours? How much idling? What associated repair/maintenance/cleaning activities will occur on site? At what hours? Only once the revised IS includes this information, it can draw conclusions about potential significant environmental noise-related impacts.

1-27 Other errors: The General Plan and the City Noise Ordinance § 10-102(b)) designate nighttime hours as 10 p.m. to *7* a.m., not 6 a.m. The IS misstates the General Plan's classifications of normally and conditionally acceptable noise (See IS at p. 74, citing a 2002 Draft General Plan MEIR (!!) for the proposition that "The City of Fresno General Plan identifies normally and conditionally acceptable exterior noise levels for specific land use categories that range from 60–70 dB(A) at low-density residential land uses to 75–80 dB(A) at industrial and agricultural land uses.")[#]

1-27 [#] But *see, 2014 General Plan, Implementing Policy NS-1-a*, "Desirable and Generally Acceptable Exterior Noise Environment: Establish 65 dBA Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dBA Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to

1-28 The IS proposes only to maintain noise at 45 dBA inside adjacent homes, but noise is also measured at the property line; no exterior noise limit appears in any mitigation measure. The IS must undertake an acoustic study to determine whether it can credibly rule out any significant noise impacts from this project. See, Development Code 15-2506.D.2.

1-29 The IS includes no information, and no analysis, related to the height of the trucks' exhaust stacks or engines, even though the General Plan (p. 9-7) notes that "truck noise sources can be located as high as 10 to 15 feet above the roadbed due to tall exhaust stacks and higher engines." Without information about the Producers fleet, it is impossible to know if even a 12" wall would begin to mitigate project noise. See, e.g., http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/keepdown.cfm: "Noise barriers provide very little benefit for … buildings which rise above the barrier. "

1-30 Even though the General Plan establishes a significance threshold for environmental review purposes, (NS-1-j), the IS neither references it nor offers data that would permit applying it. Sound wall guidelines are available at NS-1-o, and require attention to aesthetic considerations as well as effectiveness, with the understanding that cinderblock alone may not do the job. See also, Development Code 15-2506.G, re: sound barrier standards, including substantial berming for sound walls taller than 9'.

1-31 Finally, the IS fails to address the issue of vibration, as required by the Development Code (§15-2507 (excluding construction activity): "No vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments by a reasonable person at the lot lines of the site.") The IS must analyze what impact if any may result from hundreds of mammoth vehicles traversing the site over the course of any given day.

Transportation/Circulation

1-32 The Transportation and Traffic section, Section 6.16, is flawed and inadequate. In particular the claim of "environmental benefit" from the proposed project is based on a substantially misleading calculation of reduced truck miles traveled: the IS uses the current (and avowedly temporary) G Street parking site (owned by High Speed Rail) as a comparative for truck miles traveled, rather than the site Producers already owns and can again use as truck parking at 302 N. Thorne. The distance from the G Street site to the 144 E. Belmont production facility is significantly longer than from the Thorne location to 144 E. Belmont.

The IS fails to note that the G Street location is temporary, and that (as the City's February 25, 2016 Council staff report notes), it will again be able to use its

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1-27 be measured at the property line of parcels where noise is generated which may impinge on neighboring properties." NS-1-b establishes 65 dBA as the ceiling for acceptable noise exposure for residences; see also, Development Code 15-2506-D.

302 N. Thorne Ave. site for truck parking within a few months. Therefore, the calculations at Section 6.16 may not be accepted as a project mitigation. Further, this section has no discussion of the impact of the operations on the abutting residential neighborhood, including the impact of truck traffic on students going to school and the impacts of the operations, described by residents at the December 19 scoping session, including washing and servicing of trucks and/ or trailers.

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The alternatives analysis does not appear to be a good faith effort.

Of the five proposed alternatives, one is a red herring, another is a half-measure not endorsed by any party, and the most obvious appropriate alternative is entirely omitted. Moreover, the engineering study purporting to underpin the claim that preservation is infeasible does not even address the façade-preservation question, but bases its semi-conclusions (which lack any associated dollar figures or comparative estimates or other basis for citing it as supporting "infeasibility") on restoration, in full, of all of the structures on the property—a false comparison that must be corrected in a revised Initial Study.

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The red herring is #4, "North Building Relocation Alternative." Relocating an unreinforced brick building—especially one whose history is so entwined with its present site—probably comes close to the very definition of infeasible. No one involved at any level at any point in the discussion of this site's fate over the past 2-plus decades has suggested such a resolution.

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The half-measure is #3, "Façade Alternative." As presented at the December 19 scoping meeting, this alternative would preserve only the façade of the North Building, even though at every point in the discussions of this project the neighborhood has made clear that it wishes to see both the north and east faces of both buildings preserved. (The IS at p. 22 even mentions that "The committee inquired about the feasibility of retaining the façade of the North and South buildings in order to screen the project from E. Belmont Avenue. The feasibility of retaining the façade of the North and South buildings will be examined as a Project alternative in the proposed Supplement to an EIR.")

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The most obvious appropriate alternative—and in fact the obligation the Shehadeys undertook in 1993—is to preserve and adaptively reuse the existing buildings. In fact, if Producers had fulfilled its obligations over the past 26 years, it is unlikely we would be having this conversation now. The Initial Study must therefore include an alternative that analyzes the repair and reuse of the site in a manner that would complement and be compatible with the residential neighborhood that surrounds this project on three sides.

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Finally, the alternatives analysis must include credible, fact-based specifics (unlike the Brooks-Ransom report) to support any assertion of what is, or is not, a "reasonably feasible" Project Alternative (or Mitigation Measure, for that matter).

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Mitigation Measures are too few and inadequate

1-37 As noted above, *passim*, the project will create numerous impacts whose effects remain unanalyzed and for which no mitigation measures have been proposed. Such mitigation measures as have been proposed are inadequate. For a few examples (among many): the proposed sound wall would be unsightly; the monument will likely be a target for vandals; LUP 1 fails to mention preserving palm trees along Belmont; there is no mention of crosswalks, or accommodating school children or other pedestrians; there is no mention of restoring ivy to the fences or otherwise "greening" the space visually.

We respectfully request this letter be made a part of the record of proceedings in this matter.

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APPENDIX A

KEY STUDIES ON AIR POLLUTION AND HEALTH EFFECTS NEAR HIGH-TRAFFIC AREAS

Air Pollution from Busy Roads Linked to Shorter Life Spans for Nearby Residents

Dutch researchers looked at the effects of long-term exposure to traffic-related air pollutants on 5,000 adults. They found that people who lived near a main road were almost twice as likely to die from heart or lung disease and 1.4 times as likely to die from any cause compared with those who lived in less-trafficked areas. Researchers say these results are similar to those seen in previous U.S. studies on the effects of long-term exposure to traffic-related air pollution. The authors say traffic emissions contain many pollutants that might be responsible for the health risks, such as ultrafine particles, diesel soot, and nitrogen oxides, which have been linked to cardiovascular and respiratory problems.

Hoek, Brunekreef, Goldbohn, Fischer, van den Brandt. (2002). Association between mortality and indicators of traffic--related air pollution in the Netherlands: a cohort study. *Lancet,* 360 (9341): 1203-9.

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Truck Traffic Linked to Childhood Asthma Hospitalizations

A study in Erie County, New York (excluding the city of Buffalo) found that children living in neighborhoods with heavy truck traffic within 200 meters of their homes had increased risks of asthma hospitalization. The study examined hospital admission for asthma amongst children ages 0-14, and residential proximity to roads with heavy traffic.

Lin, Munsie, Hwang, Fitzgerald, and Cayo. (2002). Childhood Asthma Hospitalization and Residential Exposure to State Route Traffic. *Environmental Research,* Section A, Vol. 88, pp. 73-81.

Pregnant Women Who Live Near High Traffic Areas More Likely to Have Premature and Low Birth Weight Babies.

Researchers observed an approximately 10-20% increase in the risk of premature birth and low birth weight for infants born to women living near high traffic areas in Los Angeles County. In particular, the researchers found that for each one part per million increase in annual average carbon monoxide concentrations where the women lived, there was a 19% and 11 % increase in risk for low birth weight and premature births, respectively.

Wilhelm, Ritz. (2002). Residential Proximity to Traffic and Adverse Birth

Outcomes in Los Angeles County, California, 1994-1996. *Environmental Health Perspectives.* doi: 10.1289/ehp.5688.

Traffic-Related Air Pollution Associated with Respiratory Symptoms in Two Year Old Children.

This cohort study found that two year old children who are exposed to higher levels of traffic-related air pollution are more likely to have self-reported respiratory illnesses, including wheezing, ear/nose/throat infections, and reporting of physician-diagnosed asthma, flu or serious cold.

Brauer et al. (2002). Air Pollution from Traffic and the Development of Respiratory Infections and Asthmatic and Allergic Symptoms in Children. *Am J Respiratory and Critical Care Medicine. Vol.* 166 pp 1092-1098.

People Who Live Near Freeways Exposed to 25 Times More Particle Pollution

1-38 Studies conducted in the vicinity of Interstates 405 and 710 in southern California found that the number of ultrafine particles in the air was approximately 25 times more concentrated near the freeways and that pollution levels gradually decrease to near normal (background) levels around 300 meters, or 990 feet, downwind from the freeway. The researchers note that motor vehicles are the most significant source of ultrafine particles, which have been linked to increases in mortality and morbidity. Recent research concludes that ultrafine particles are more toxic than larger particles with the same chemical composition. Moreover, the researchers found considerably higher concentrations of carbon monoxide pollution near the freeways.

Zhu, Hinds, Kim, Sioutas. Concentration and size distribution of ultrafine particles near a major highway. *Journal of the Air and Waste Management Association..* September 2002.

Zhu, Hinds, Kim, Shen, Sioutas. Study of ultrafine particles near a major highway with heavy-duty diesel traffic. *Atmospheric Environment.* 36(2002),4323-4335.

Asthma More Common for Children Living Near Freeways.

A study of nearly 10,000 children in England found that wheezing illness, including asthma, was more likely with increasing proximity of a child's home to main roads. The risk was greatest for children living within 90 meters of the road.

Venn et al. (2001). Living Near A Main Road and the Risk of Wheezing Illness in Children. *American Journal of Respiratory and Critical Care Medicine. Vol.* 164, pp 2177-2180.

A study of 1,068 Dutch children found that asthma, wheeze, cough, and runny nose were significantly more common in children living within 100 meters of freeways. Increasing density of truck traffic was also associated with significantly higher asthma levels - particularly in girls.

van Vliet et al. (1997). Motor exhaust and chronic respiratory symptoms in children living near freeways. *Environmental Research.* 74:12-132.

Children Living Near Busy Roads More Likely to Develop Cancer

A 2000 Denver study showed that children living within 250 yards of streets or highways with 20,000 vehicles per day are six times more likely to develop all types of cancer and eight times more likely to get leukemia. The study looked at associations between traffic density, power lines, and all childhood cancers with measurements obtained in 1979 and 1990. It found a weak association from power lines, but a strong association with highways. It suggested that benzene pollution might be the cancer promoter causing the problem.

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Pearson et al. (2000). Distance-weighted traffic density in proximity to a home is a risk factor for leukemia and other childhood cancers. *Journal of Air and Waste Management Association* 50:175-180.

Most Traffic-Related Deaths Due to Air Pollution, Not Traffic Accidents

Another study analyzed the affect of traffic-related air pollution and traffic accidents on life expectancy in the area of Baden-Wurttemberg, Germany. It estimated that 4,325 deaths in this region would result from motor vehicle emissions compared to 891 from traffic accidents (over a lifetime).

Szagun and Seidel. (2000). Mortality due to road traffic in Baden-Aurttemberg - air pollution, accidents, noise. *Gesundheitswesen.* 62(4): 225-33.

Emissions from Motor Vehicles Dominate Cancer Risk

The most comprehensive study of urban toxic air pollution ever undertaken shows that motor vehicles and other mobile sources of air pollution are the predominant source of cancer-causing air pollutants in Southern California. Overall, the study showed that motor vehicles and other mobile sources accounted for about 90% of the cancer risk from toxic air pollution, most of which is from diesel soot (70% of the cancer risk). Industries and other stationary sources accounted for the remaining 10%. The study showed that the highest risk is in urban areas where there is heavy traffic and high concentrations of population and industry.

South Coast Air Quality Management District. Multiple Air Toxics Exposure Study-II. March 2000.

Cancer Risk Higher Near Major Sources of Air Pollution, Including Highways

A 1997 English study found a cancer corridor within three miles of highways, airports, power plants, and other major polluters. The study examined children who died of leukemia or other cancers from the years 1953-1980, where they were born and where they died. It found that the greatest danger lies a few hundred yards from the highway or pollution facility and decreases as you get away from the facility.

Knox and Gilman (1997). Hazard proximities of childhood cancers in Great Britain from 1953-1980. *Journal of Epidemiology and Community Health.* 51: 151-159.

A School's Proximity to Freeways Associated with Asthma Prevalence

1-38 A study of 1498 children in 13 schools in the Province of South Holland found a positive relationship between school proximity to freeways and asthma occurrence. Truck traffic intensity and the concentration of emissions measured in schools were found to be significantly associated with chronic respiratory symptoms.

Speizer, F. E. and B. G. Ferris, Jr. (1973). Exposure to automobile exhaust. I. Prevalence of respiratory symptoms and disease. *Archives of Environmental Health.* 26(6): 313-8. van Vliet, P., M. Knape, et al. (1997). Motor vehicle exhaust and chronic respiratory symptoms in children living near freeways. *Environmental Research. 74(2):* 122-32.

Lung Function Reduction Among Children More Likely if Living Near Truck Traffic

A European study determined that exposure to traffic-related air pollution, 'in particular diesel exhaust particles,' may lead to reduced lung function in children living near major motorways.

Brunekreef B; Janssen NA; de Hartog J; Harssema H; Knape M; van Vliet P. (1997). "Air pollution from truck traffic and lung function in children living near motorways." *Epidemiology.* 8(3):298-303.

Asthma Symptoms Caused by Truck Exhaust

A study was conducted in Munster, Germany to determine the relationship between truck traffic and asthma symptoms. In total, 3,703 German students, between the ages of 12-15 years, completed a written and video questionnaire in

1994-1995. Positive associations between both wheezing and allergic rhinitis and truck traffic were found during a 12-month period. Potentially confounding variables, including indicators of socio-economic status, smoking, etc., did not alter the associations substantially.

Duhme, H., S. K. Weiland, et al. (1996). The association between self-reported symptoms of asthma and allergic rhinitis and self-reported traffic density on street of residence in adolescents. *Epidemiology7(6): 578-82.*

Proximity of a Child's Residence to Major Roads Linked to Hospital Admissions for Asthma

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A study in Birmingham, United Kingdom, determined that living near major roads was associated with the risk of hospital admission for asthma in children younger than 5 yrs of age. The area of residence and traffic flow patterns were compared for children admitted to the hospital for asthma, children admitted for nonrespiratory reasons, and a random sample of children from the community. Children admitted with an asthma diagnosis were significantly more likely to live in an area with high traffic flow (> 24,000 vehicles/ 24 hrs) located along the nearest segment of main road than were children admitted for nonrespiratory reasons or children form the community.

Edwards, J., S. Walters, et al. (1994). Hospital admissions for asthma in preschool children: relationship to major roads in Birmingham, United Kingdom. *Archives of Environmental Health. 49(4): 223-7.*

Exposure to Carcinogenic Benzene Higher for Children Living Near High Traffic Areas

German researchers compared forty-eight children who lived in a central urban area with high traffic density with seventy-two children who lived in a small city with low traffic density. They found that the blood levels of benzene in children who lived in the high-traffic-density area were 71% higher than those of children who lived in the low-traffic-density area. Blood levels of toluene and carboxyhemoglobin (formed after breathing carbon monoxide) were also significantly elevated (56% and 33% higher, respectively) among children regularly exposed to vehicle emissions. Aplastic anemia and leukemia are associated with excessive exposure to benzene.

Jermann E, Hajimiragha H, Brockhaus A, Freier I, Ewers U, Roscovanu A: *Exposure of children to benzene and other motor vehicle emissions*. Zentralblatt fur Hygiene and Umweltmedizin 189:50-61, 1989.