CITIZENS PLANNING ASSOCIATION OF SANTA BARBARA COUNTY, INC.
916 Anacapa Street, Santa Barbara, CA 93101
phone (805) 966-3979 • toll free (877) 966-3979 • fax (805) 966-3970
www.citizensplanning.org • info@citizensplanning.org

17 January 2008

Chair Myers & Commissioners
Planning Commission
City of Santa Barbara

Sent via email to:
Planning Commission Secretary < *pcsecretary@santabarbaraca.gov*>

RE: Proposed Updates for the Conservation Element's Air Quality Chapter[1]

Dear Chair Myers & Commissioners,

The Citizens Planning Association's General Plan Update Committee is committed to assisting the City with a General Plan Update that protects, preserves, and enhances the unique qualities of Santa Barbara. We're pleased that our input to date has received positive reception, and we appreciate this opportunity to provide you with further input at this time.

Two weeks ago, at your January 3rd meeting, our Committee Chair, Sheila Lodge, mentioned our hope to report on air quality concerns at the *Creating a Healthy Community* forum on January 19th. Please accept this letter as our contribution to the forum discussion, and as proposed updates for the Conservation Element's Air Quality Chapter.

A. Summary Remarks

Clean air may well be the most important natural resource for both human health and planetary life. We believe that Santa Barbara should do more than it does to protect its limited share of this precious resource.[2] We recommend, therefore, that the Air Quality Chapter of the city's Conservation Element (first adopted in 1979 and last amended in 1994) be updated both against the general background of climate change and with the following two particular concerns in mind:

1. The South Coast's air quality is less thoroughly monitored now than it was between 1988 and 2000.[3]

2. The number and sophistication of scientific studies demonstrating air pollution's health impacts have greatly increased in recent years but the implications of new findings -- for example, about the health risks involved with residing too close to heavy stop-and-go city traffic -- have not yet been brought to bear on land use decisions.[4]

To be sure, the proposed update can build upon the existing document's fine coverage of numerous topics. These include the topographic and meteorological features that limit Santa Barbara's "holding capacity" for pollutants and the financial consequences of air pollution affecting the community. We should also strive to reach the 1994 update's two primary goals: "Maintain air quality above Federal and State ambient air quality standards" and "Reduce dependence on the automobile." But at least two additional goals deserve to be considered for inclusion: "Develop means for site-specific monitoring of air quality in different parts of the city" and "Coordinate land use policies with site-specific considerations of traffic-generated air pollution."

B. Further Discussion

In terms of the pollutants for which state and national standards have been established, Santa Barbara County's over-all air quality is respectable but needs improvement.[5] Furthermore, air quality in the county as a whole is one thing; air quality at specific locations is quite another. For example, our downtown area's officially estimated background cancer risks due to air pollution are far worse than the corresponding risks in other parts of the county.[6]

It is easy to see why this should be so. The City of Santa Barbara (along with the City of Goleta and some adjacent unincorporated areas) is "in the eye of the storm" when it comes to the combined impact of motorized sea, air, and ground transportation -- three major sources of air pollution which mainly rely on fossil fuels and produce both green house gasses and toxic particulate matter.

To be sure, federal or state legislation is needed to set more rigorous emission standards for air and ground transportation, and international agreements must be reached for lessening the pollution levels caused by cargo shipping. Yet it is up to local officials

1. to regulate (or at least influence) the kind and amount of traffic affecting local roadways, and

2. to ensure that residential buildings and other sensitive receptor locations like schools, daycare centers, and nursing homes are sited at a safe distance from freeways and heavily traveled traffic corridors.

For both kinds of governmental intervention it is essential to have site-specific information about traffic-related air pollution within the city. At present, however, there is no way to gather sufficiently accurate detailed information, in part because only one monitoring station operates in the entire city.[7]

Recent research has established clear links between heavy traffic and the health of "sensitive receptors" (e.g., children, seniors, pulmonary patients) in the population. In particular, numerous studies have demonstrated the increased probability for the occurrence of both asthma and retarded lung development in children residing near highways and city arterials. Ways must thus be found to spot check or reliably estimate the health risks associated with particular city locations before they are approved for residential development or other sensitive land uses.

We believe that the city's updated Conservation Element should continue to stress the need for promoting modes of transportation other than the use of motor vehicles with single occupancy. The improvement of sidewalks, bike paths, and street lighting, as well the offering of various incentives for ride sharers and bus riders, should indeed remain an integral part of our efforts to improve air quality. We also believe, however, that strong added language is needed to caution against land use decisions which place dense residential developments near freeways or too close to our most heavily traveled surface streets without (a) improved site-specific monitoring of current conditions and (b) reliable forecasts of the resulting public health risks in the locations under consideration.

The siting of dense residential developments downtown and along traffic corridors has sometimes been advocated on the assumption that increasing urban density (unlike increasing suburban sprawl) might decrease air pollution. The validity of that assumption has not been proven.[8] Furthermore, most advocates of urban densification tend to overlook the complex relationship between population density and traffic-generated air pollution.[9] Consider two examples:

(1) It may be true that the typical household located in a higher density area generates fewer trips than the number of trips that would be generated by the same household if it were located in a lower density area. BUT: The denser area would generate more trips by dint of being inhabited by more households, and the first and last miles of the additional trips (as well as many "cold starts" of automobile engines) would be concentrated within the dense area itself. The resulting congested traffic would especially impact public health in densely populated areas where, due to the presence of taller buildings and the absence of sufficiently generous setbacks, air pollution takes longer to dissipate.

(2) It may also be true that people living in a high density area will often rely on alternative modes of transportation, especially if walking and biking are made safe and public transportation is provided in numerous directions and with convenient frequency. BUT: People who live and/or work in a densely populated area are exposed to its polluted air even as they try to derive health benefits from the outdoor exercise afforded by biking or walking. While such exercise may help to diminish the health risks posed by excessive weight gain and obesity, the benefits are often coupled with the respiratory and cardiovascular harm done by air pollution.[10]

In the light of the foregoing considerations, we urge that the updated Air Quality chapter of the Conservation Element

(1) address both the pertinent advantages and disadvantages of further increasing the residential density in areas of heavy traffic, and

(2) insist that any such increase in density be made contingent on adequate air quality monitoring of the sites proposed for high-density residential development.

C. Conclusion

As mentioned and justified above, we propose that two new goals relating to air quality be added to the city's Conservation Element:

Goal #3: Develop means for site-specific monitoring of air quality in different parts of the city, and

Goal #4: Coordinate land use policies with site-specific considerations of traffic-generated air pollution.

If encouraged by the response of city planners and the public to this recommendation, we will amplify the two new goals into a proposed set of policies and implementation strategies comparable to the policies and implementation strategies associated with the two existing goals of the Conservation Element's chapter on Air Quality.

Thank you for your thoughtful consideration of this input.

Sincerely,

Naomi Kovacs
Executive Director

Encl. Exhibit A: Selected abstracts since mid-2005 on traffic, air pollution, and public health

CC: Santa Barbara City Council
Dave Gustafson, Director, Community Development Department
Bettie Weiss, City Planner
John Ledbetter, Principal Planner
Jan Hubbell, Senior Planner
Terry Dressler, Director, SB County Air Pollution Control District

NOTES

[1] Acknowledgements: Much of the information referenced below is derived from the Santa Barbara County Air Pollution Control District's excellent website at <http://www.sbcapcd.org>. We are particularly indebted to the agency's director Terry Dressler who gave a presentation to CPA's Comprehensive Planning Committee on August 27, 2007, and sent numerous e-mail responses to our questions both before and after that date. Mr. Dressler's e-mails excerpted below were cc'd to Mayor Marty Blum and Council Member Roger Horton who were instrumental in initiating the most valuable contact between Mr. Dressler and CPA.

[2] http://coolcities.us/ is a good source of information about what some other cities are doing to "curb global warming, save taxpayer dollars, and create healthier cities."

[3] For details, see e-mail of 9/6/2007 from Mr. Terry Dressler, Air Pollution Control Officer, Santa Barbara County Air Pollution Control District (APCD): "The California Air Resources Board (ARB) monitored for toxic air contaminants at the Carrillo Street ambient air monitoring site between 1988 and 2000, when that station was closed because ARB lost their lease. The monitoring was conducted as part of a wide network throughout California. When the current air monitoring station was established at the Canon Perdido Street site, ARB did not install air toxics monitoring. We have not been informed as to why ARB has chosen to cease monitoring for air toxics in Santa Barbara. In the monitoring conducted from 1988-2000, the following toxic air contaminants were monitored: acetaldehyde; benzene; 1,2 butadiene; carbon tetrachloride; chlorobenzene; chloroform; meta-Dichlorobenzene; ortho-Dichlorobenzene; para-Dichlorobenzene; ethyl benzene; ethylene dibromide; ethylene dichloride; formaldehyde; methyl chloroform; methyl ethyl ketone; methyl tertiary-butyl ether; methylene chloride; perchloroethylene; styrene; toluene; trichloroethylene; meta-xylene; meta/para-xylene; ortho-xylene; para-xylene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; dibenz(a,h)anthracene; indeno(1,2,3-cd)pyrene; aluminum; antimony; arsenic; barium; beryllium; bromine; cadmium; calcium; chlorine; chromium; cobalt; copper; hexavalent chromium; iron; lead; manganese; mercury; molybdenum; nickel; phosphorus; potassium; rubidium; selenium; silicon; strontium; sulfur; tin; titanium; uranium; vanadium; yttrium;zinc; zirconium."

[4] See another Dressler e-mail, dated 8/10/2007: "Currently the APCD and most local air pollution control districts use the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective* (April 2005) in advising jurisdictions on local land use decisions." A sampling of pertinent research abstracts, too recent to be considered in the *Handbook*, is provided in Exhibit A (separately submitted). One of the studies cited there, "Traffic, Susceptibility, and Childhood Asthma" by Rob McConnell et al. (*Environmental Health Perspectives*, May 2006), is directly relevant to the question whether Santa Barbara should site new residential developments within 75 meters (about 82 yards) of traffic corridors because (1) the study's pool of 5,341 children included a group from the city of Santa Barbara, and (2) residential proximity not only to freeways but also to other "major roads" (i.e., surface arterials) was included in the examined data. According to the article's Abstract (p. 766): "residence within 75 m from a major road was associated with an increased risk of lifetime asthma, prevalent asthma, and wheeze," and "the higher risk of asthma near a major road decreased to background rates[only] at 150-200 m from the road."

[5] According to the Santa Barbara County Air Pollution Control District's website (under Air Quality click on Attainment Class): "Santa Barbara County is considered in attainment of the federal eight-hour ozone standard, and in attainment of the state one-hour ozone standard. We do not meet the state eight-hour ozone standard or the state standard for particulate matter less than ten microns in diameter (PM10); we do meet the federal PM10 standard. There is not yet enough data to determine our attainment status for either the federal standard for particulate matter less than 2.5 microns in diameter (PM2.5) or the state PM2.5 standard, although we will likely be in attainment for the federal 2.5 standard.

[6] According to the same website (under Air Quality click on Air Toxics > Significant Risk Facilities > Putting Risk into Perspective): "Among the largest contributors of air toxics are cars and trucks. […] The estimated background cancer risks due to air pollution for some selected areas of Santa Barbara County are as follows:

Downtown Santa Barbara:	223 cancer cases per million
Santa Maria:	98 cancer cases per million
Gaviota:	47 cancer cases per million
Lompoc:	40 cancer cases per million"

[7] This situation is a long-standing cause for concern. For some reason, the website version of the existing General Plan's Conservation Element only lists goals and policies but not the numerous implementation strategies relating to air quality. Please note, however, that Implementation Strategy 4.4 reads: "Encourage cooperation between City and County jurisdictions to develop additional air quality stations to obtain better information regarding air quality" (*City of Santa Barbara General Plan Update 2030: Conditions, Trends, and Issues,* August 2005, p.188 of 350). Given the high cost of installing and operating fully-fledged monitoring stations, such alternatives as the ad-hoc monitoring of key pollutants at selected locations might, and ought to, be explored especially because APCD's monitoring stations indicate higher degrees of pollution in urbanized areas but offer no significant details about the kind of pollution involved. See Mr. Dressler's e-mail of October 19, 2007: "Our monitoring equipment does not measure the toxicity of particulates; it measures the concentration of particulates in the air. On an annual average basis, we measure slightly higher concentrations of PM10 in our more urbanized areas. We only measure PM2.5 in Santa Maria and Santa Barbara and we measure slightly higher concentrations of PM2.5 in Santa Barbara."

[8] See Mr. Dressler's presentation of August 27, 2007, to CPA's Comprehensive Planning Committee: "To date, circulation analyses have failed to demonstrate that increased urban density, achieved by so-called smart growth principles, has really reduced car and truck traffic (except when density approaches Manhattan-type levels and is coupled with excellent public transportation)." Quoted from the minutes of the meeting, kindly edited and approved by the author. It is also noteworthy that a recent expert study of the subject states as the very first sentence of its abstract: "The debate concerning the impacts of urban land use density on travel in general, and on residential vehicle use and fuel consumption in particular, lacks reliable quantitative evidence." See Thomas F. Golob and David Brownstone, "The Impact of Residential Density on Vehicle Usage and Energy Consumption" (Working Paper UCI-ITS-WP-05-1, Institute of Transportation Studies, University of California Irvine, February 18, 2005.)

[9] By contrast, some discerning critics of sprawl are aware that exchanging sprawl for urban densification could yield "paradoxical" results: "On a regional scale, less driving would lead to less pollution, an improvement that would be especially marked for regional-scale pollutants such as ozone. But on a very localized scale -- alongside a street in a particular neighborhood -- greater traffic density could increase exposure to pollutants, especially locally scaled pollutants such as particulate matter and air toxics." Howard Frumkin, Lawrence Frank, and Richard Jackson, *Urban Sprawl and Public Health: Designing, Planning, and Building for Healthy Communities* (Washington D.C.: Island Press, 2004), p.77. The following quote from the same book (p.76) indicates the need for rigorous site-specific monitoring of air quality in Santa Barbara: "Investigators in several countries carefully measured pollutant levels alongside streets and in homes to determine the exposures associated with traffic. One study, in Amsterdam, found that people who live near busy streets (defined as carrying more than 10,000 vehicles per day) were exposed to two-to-threefold higher levels of 'black smoke' (a measure of particulate matter), NOx, and carbon monoxide, compared to people who lived near a less busy street." To compare: Upper State Street carries more than 30,000 vehicles per day.

[10] See, for instance, Christopher C. Daigle et al, "Ultrafine Particle Deposition in Humans during Rest and Exercise," *Inhalation Toxicology* (2003), 15:539-552, and J.E.Sharman et al, "Cardiovascular Implications of Exposure to Traffic Air Pollution during Exercise," Q J Med (2004) 97:637-643.