Letter 64

Sacramento Area
Council of
Governments

1415 L Street,
Suite 300
Sacramento, CA
95814

tel: 916.321.9000
fax: 916.321.9551
tdd: 916.321.9550
www.sacog.org

SACOG

May 16, 2007

Maywan Krach
Placer County Community Development Resource Agency
Environmental Coordination Services
3091 County Center Drive
Auburn, CA 95603

Dear Mr. Krach:

Attached please find our comments on the Placer Vineyards Specific Plan Second Partially Recirculated Revised Draft EIR. These comments build on our previously comments concerning the transportation impacts of the low density alternative compared to the Blueprint alternative.

We appreciate the fact that the Placer County Supervisors who sit on the SACOG Board have requested the involvement of SACOG staff throughout this process. We also greatly appreciate the unprecedented efforts of County staff and the owners group (applicant) to create a complete Blueprint Alternative in the DEIR so that the Board of Supervisors would have a true policy alternative at this stage of the process. Finally, we appreciate the stated position of the owners group that it is happy to build whichever alternative the Board ultimately approves. A

The SACOG Board has invested substantially in the last several years to enable us to provide our members with state-of-the-art technical information on the interrelationships between land use patterns, travel behavior, and air quality. We hope you find this work helpful in your deliberations. We would, of course, be happy to answer any questions you may have or to provide further information and assistance.

Sincerely,

Mike McKeever
Executive Director

MM:ef
Attachments

S:\SECURED\Mike\Placervineyards051607.doc

INTRODUCTION AND OVERVIEW CONCLUSIONS

The *Placer Vineyards Specific Plan (PSVP) Second Partially Recirculated Revised Draft EIR* (DEIR) contains a new section on greenhouse gas emissions and global climate change. The section rightly points out that Placer Vineyards incorporates many environmentally-friendly features including facilities to encourage pedestrian, bicycle, and transit travel as substitutes for auto travel. The section then goes on to provide a minimal and, in our opinion, only partial and insufficient estimation of the greenhouse gas (GHG) effects of the proposed PVSP.

We believe that a more complete analysis would reverse the DEIR's conclusion that the proposed PSVP would generate less GHG emissions than the Blueprint Alternative. In particular, our analysis concludes the following:

- The DIER analysis is incomplete, since it does not fully and adequately compare the impacts of the proposed PVSP and the Blueprint Alternative; among other things, the DEIR does not fully analyze the impacts of, or attempt to mitigate, the reductions in proposed housing and jobs in the PVSP project, when compared to the Blueprint alternative from a transportation and air quality perspective; in particular, the DEIR does not analyze the housing and jobs increases elsewhere in the region as a result of the PVSP.

- The DIER analysis of GHGs also inadequately and improperly assumes a fixed value for CO2 per VMT, which does not account for congestion-related speed changes or for changes in VMT due to non-project "route-shifting" to bypass congestion. B

- The DIER concept of basing non-travel-related GHG emissions as an assumed percentage of travel-emissions is oversimplified, and the concept contains no documented rationale and/or sources;

- A re-allocation of housing and jobs was evaluated for two alternatives to estimate GHG emissions: the PVSP and the Blueprint Alternative. SACOG believes that a more rigorous approach, applying the SACOG regional travel model SACSIM (a state-of-the-art travel model), and the California Air Resources Board emissions model, EMFAC2007 (developed and applied for all on-road vehicles emissions and analysis in California), should have been undertaken for the Blueprint Alternative, as well as for two alternative scenarios that would result from the reduced housing and jobs in the proposed PVSP, one alternative locating the displaced housing and jobs within unincorporated Placer County and one alternative locating the displaced housing and jobs in the sub-region; SACOG has applied this more rigorous analysis and reached a number of important conclusions:

    1. The Blueprint Alternative has the fewest vehicle-related GHG emissions of the scenarios tested. Hence, the proposed PVSP generates more GHGs as compared to the Blueprint Alternative – which directly contradicts the conclusions of the DEIR;

2. The VMT per household and auto share of all trips increases within the proposed PVSP area, Placer County, and the region as a direct result of the lower density land use pattern and reduced propensity to use alternative modes as a result;

3. Travel-related emissions from the EMFAC2007 model show that the land use scenario in the proposed PVSP generates more emissions overall when compared to the Blueprint Alternative, when the "displaced" dwelling units are reallocated within either Placer County or the sub-region to maintain the regional control totals – as compared to the Blueprint Alternative for the Placer Vineyards area; and

4. Dwelling-based GHG emissions, based on different dwelling types and emission factors are the lowest with the Blueprint Alternative and increase with the other scenarios while holding the regional control totals constant.

- In conclusion, a more-rigorous technical analysis of the PVSP project, consistent with the intent and goal of AB 32, reveals that the Blueprint Alternative would have the fewest overall GHG emissions when compared to PVSP land use plan and taking into account the regional control totals for future development.

State Requirement for Projects to Undergo Global Warming Analysis

The Global Warming Solutions Act of 2006, commonly referred to as Assembly Bill 32 (AB 32), begins with a statement that global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. AB 32 effectively classifies greenhouse gas (GHG) emissions, the primary cause of global warming, as an environmental threat subject to the provisions of the California Environmental Quality Act (CEQA).

SACOG's Interest in Placer Vineyards

As the federally-designated metropolitan planning organization (MPO) for the Sacramento region, the Sacramento Area Council of Governments (SACOG) is responsible for preparing a Metropolitan Transportation Plan (MTP) in cooperation with the 22 cities and six counties in the greater Sacramento region. Under memoranda of understanding, long-range transportation plans in El Dorado and Placer Counties also are incorporated into the MTP.

The presently adopted MTP, MTP 2025, is in the process of being updated, as required every four years by federal law. The draft revised MTP, MTP 2035, likely will be adopted by the SACOG Board of Directors in the fall of 2007. MTP 2035 will be the first MTP for the Sacramento region to proactively link land use, air quality, and transportation needs.

Air Quality Conformity and the MTP

Federal law requires the MTP to conform to air quality goals for the region, to satisfy financial constraints such that all proposed projects can be reasonably funded, and to undergo extensive public review. State law further requires the MTP process to include environmental analysis, documentation and review.

The SACOG region currently is an ozone nonattainment region in terms of air quality and is subject to emissions budgets established in the Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-Of-Progress State Implementation Plan (ROP/SIP). The region's MTP is designed and evaluated to bring the region within and to maintain the emissions budgets established by the SIPs. Should the region not meet the emissions target budgets specified in the SIP, a transportation funding "lockdown" by the federal agencies would result. The consequences of this "lockdown" would include, among other potential actions, the cessation of any capacity increasing transportation projects in the region.

A fundamental component of the MTP 2035 is the land use assumption(s) for the region – since land use patterns and form drive travel behaviors and the resulting emissions (including GHGs). The 2035 MTP land use allocation is strongly influenced by the Blueprint growth principles. It reduces the future per-capita demand for automobile travel through a combination of compact, centrally-located development, improved neighborhood design, and the promotion of alternative (that is, non-auto) modes of travel. If this reduction in demand is not achieved, either through Blueprint-like development patterns or through some other mechanism, the region may be unable to stay within the emissions budgets to be specified in the SIPs. The worst case consequence would be the possibility of a transportation funding "lockdown" among other actions.

REGIONAL GROWTH AND THE BLUEPRINT METHODOLOGY

To understand the reasoning behind the Blueprint Alternative for Placer Vineyards, it is first necessary to understand the concept of regional control totals, how these were developed for the Blueprint Project, and their importance to the MTP planning process.

Methodology

One of the earliest stages of the Blueprint process was to develop a forecast for regional employment and population growth in five-year increments from 2000 to 2050. SACOG commissioned the Center for the Continuing Study of the California Economy (CCSCE) to develop employment projections, and DB Consulting to develop a corresponding set of demographic projections. CCSCE's employment projections used a top-down approach that examined job creation and loss in the nation and in California, and then evaluated the region's competitive position by industry. These forecasts made use of the Bureau of Labor Statistics job-by-industry projections, which in turn were based on projections of consumption, investment, government spending, exports, growth in productivity, and other factors. Three levels of job growth (high, medium, and low) were developed using a range of assumptions on

the share of California's job growth that would come to the Sacramento region. The SACOG Board selected the medium scenario as the basis for future planning.

The demographic projections were based on historical trends in population, housing, and household growth. The trend analysis covered births, deaths, migration, changes in household composition, and labor force participation rates by age, gender, and ethnicity. The results were the estimated size of the labor force for future years in five-year increments. These projected labor force participation figures were compared to the employment projections and the two figures were reconciled by adjusting the migration assumptions.

SACOG Adoption of the Forecasts

CCSCE's 2050 forecasts were used as regional control totals in the Blueprint Vision Study that was adopted by SACOG's Board of Directors in December 2004. In December 2005, the Board of Directors adopted an update from CCSCE of these population, housing, and employment forecasts for five-year intervals as regional control totals for the MTP 2035 study.

Complementary State Programs

The Caltrans Climate Action Program discusses Regional Blueprint Planning as an important measure to reduce GHGs, a conclusion that directly contradicts the DEIR. The Caltrans program also estimates cumulative savings that would result from the implementation of Blueprint planning, a conclusion that is also inconsistent with the DEIR.

Implications for the Placer Vineyards Analysis

SACOG's regional population and economic forecasts are based on the best available data using industry-accepted forecasting methodologies. *The key implication of these forecasts is that the growth in the regional population is exogenous to the decisions made for any individual land development.* In other words, changes in land use plans must respect the regional control totals; reductions in development in one part of the region will be offset by increases somewhere else because the primary causes of population and employment growth will not have changed. Even if the control totals turn out to be slightly high or low, due for example to an economic downturn or upturn, this would not alter the fact that future regional population and employment is not a function of the entitlements given to any specific project. Reductions in development in one part of the region would still need to be offset by increases somewhere else and vice versa.

The Placer Vineyards analysis is, therefore, incomplete in that the reduction in the number of households in the project site, when compared to the Blueprint Alternaive, is not offset by increases in the assumed number of households in other parts of the region.

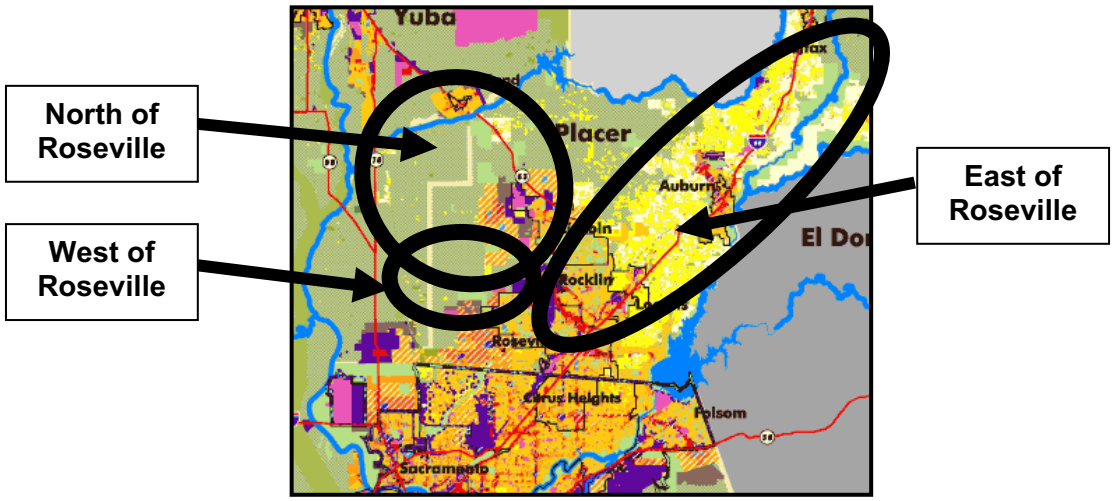
The alternatives do not offer a truly legitimate comparison because the total number of households in the region varies substantially from scenario to scenario. To complete the analysis, the total number of households covered by the much lower-density PVSP project must be made equal to the number covered by the higher-density alternative. In other words, a

complete environmental analysis of the proposed PVSP must evaluate the impacts, including transportation and air quality, of displacing the housing and jobs, assumed for the PVSP area in the Blueprint, to other locations in the region. This approach is presented in the next section.

STRATEGIC OVERVIEW OF DEVELOPMENT AREAS IN UNINCORPORATED PLACER COUNTY

For planning purposes, the potential growth areas of unincorporated Placer County can be grouped into three areas; the area west of Roseville, the area east of Roseville along the I-80 corridor, and the area north of Roseville along the SR-65 corridor (see Figure 1). The consensus of local and regional planners is that the bulk of growth in Placer County is likely to be distributed among these three areas.

Figure 1: Major Development Areas in Western Placer County



Comparing the Major Development Areas in West Placer County

The area west of Roseville is closest to the existing regional employment center in downtown Sacramento. It is also closest to the regional job center of Roseville/Rockln, and the future job centers in McClellan Park, Metro Airpark, and South Sutter County. Even more importantly, it has easy access to these centers via surface streets so that commute trips need not add to congestion on the freeways. It is also best situated for future extensions of high-capacity transit service since the extensions would be short and pass through relatively dense passenger catchment areas; these transit extensions are identified in the draft fiscally-constrained MTP 2035.

The area north of Roseville, extending into Yuba County, has easy access to the industrial northwestern portion of Roseville. Access to other job centers, however, would be via the

congested SR-65/I-80 route, or by routes passing through the area west of Roseville. Transit extensions would also have to pass through the west area to reach this area.

The area east of Roseville is furthest from regional employment centers, and commute trips would rely heavily on I-80 and other heavily-congested roads such as SR-49. Extensions of high-capacity transit service to this area would be much more costly than extensions to the other areas and would attract fewer passengers due to lower densities. Thus, with the possible exception of regional rail, high-capacity transit options in this area are not envisioned or likely.

From a strategic regional transportation standpoint, the most efficient development pattern would concentrate the majority of new residents of Placer County in the area west of Roseville, with most of the remainder going to the area north of Roseville, and as few as possible east of Roseville. This would be optimal both from the standpoint of the new residents' own travel convenience, and also in terms of minimizing their impact on the traffic conditions faced by other people in the region.

What's at Stake for Placer County

Placer County is one of the areas whose future is most subject to change depending on how well the Blueprint Vision growth principles are achieved. Figure 2, the Base Case Scenario for 2050, shows the forecast impact on Placer County of a continuation of current growth patterns. The entire I-80 corridor from Roseville to Colfax would be covered with over twenty thousand (20,000) new large-lot single-family and rural residential dwellings. Residential development would also cover the area between Antelope and Wheatland. In contrast, the Blueprint Preferred Alternative for 2050 land use plan (Figure 3) would reduce the conversion of new acreage in unincorporated Placer County to urban uses by 80%-90% through more compact development and greater use of infill and redevelopment sites. This would also provide for greenbelts north and west of Lincoln. (Both Figures 2 and 3 are from SACOG documentation as part of the MTP 2035 and Blueprint processes.)

The transportation implications of major land use reallocations away from the Blueprint Preferred Alternative are threefold:

- Any major deviation away from the Blueprint land use scenario and towards lower-density development practices, will have significant effects on the freeway system;
- The regional air quality implications of this land use pattern change (from the Blueprint Preferred Alternative) are adverse; and
- Increased congestion on the freeway system will adversely affect goods movements and tourism-related traffic in the I-80 corridor.

The following section addresses the technical aspects of these impacts.

Figure 2: Base Case Land Use Scenario for 2050

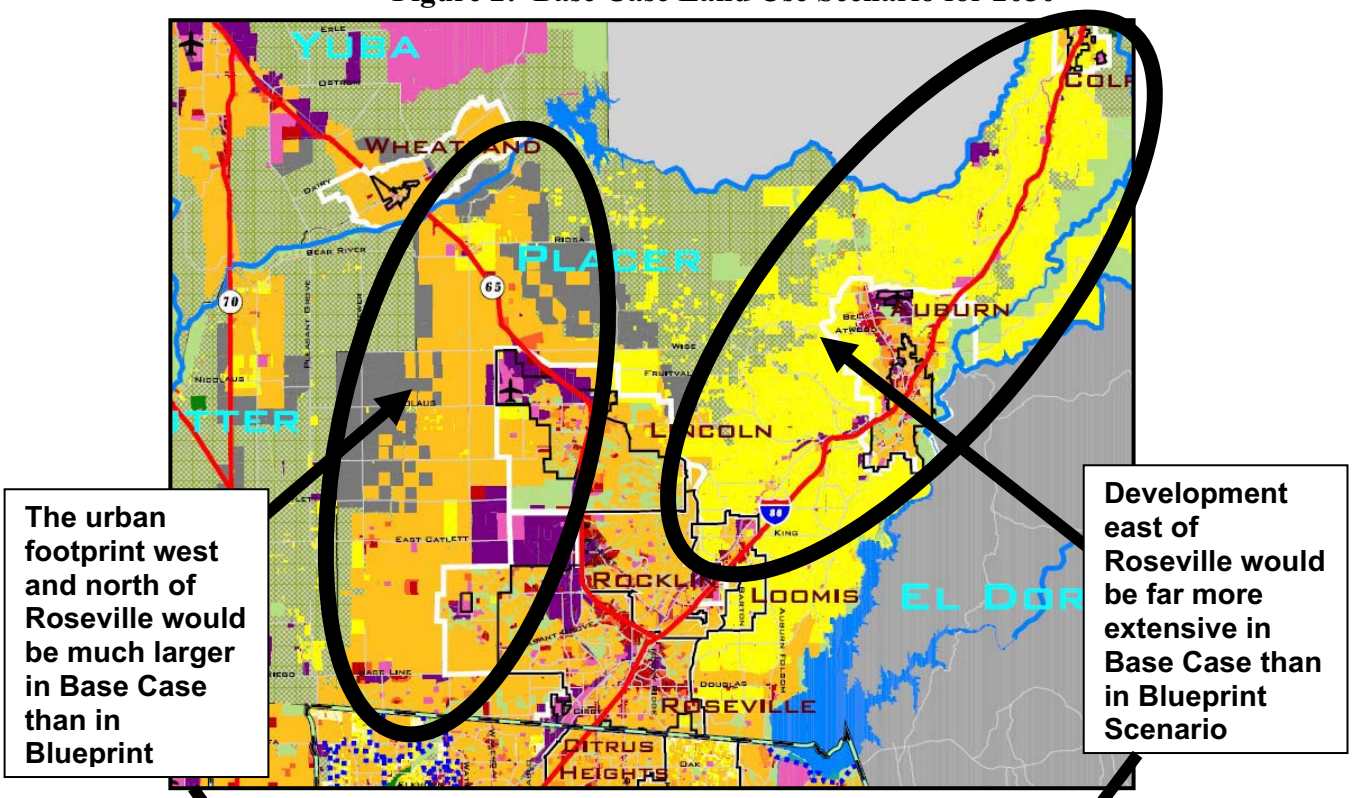
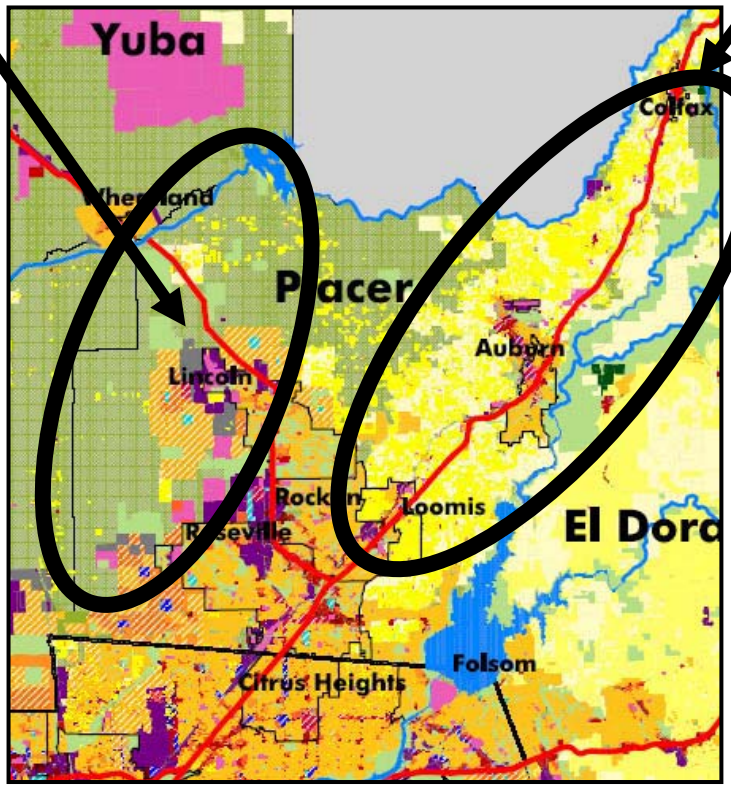


Figure 3: Blueprint Preferred Alternative for 2050



METHODOLOGY FOR EVALUATING GHG EMISSIONS

Alternatives to Be Compared

As stated earlier, the alternatives used in the analysis must maintain consistency in terms of the regional total population, housing, and employment to adequately and accurately address the impacts of GHG and climate change. This consistency needs to extend to the major subcomponents of the projections as well.

For example, since the characteristics of travel and dwelling unit "generation" of GHGs is a function of not only the location but the form of development (e.g., rural residential versus transit-oriented), the household projections must maintain a consistent set of demographic characteristics and income categories while the employment projections must be consistent in the number of jobs of each type in the region. To adequately analyze GHG impacts, the methodology should test at least three land use scenarios. Moreover, the analysis needs to utilize the regional travel demand and emission models as the technical tool for comparison. The alternatives in this analysis are substantially, but not exactly, the same as the proposed project alternatives in the DEIR. The MTP 2035 projections cannot exactly track each development proposal in the region as changes are inevitably made prior to project approval.[1]

Consistent with the discussion above, SACOG analyzed the following three scenarios:

- *Project with Blueprint Alternative* – This alternative would follow the Blueprint Preferred land uses for the PVSP project area and for the overall region (referred to as the "Blueprint Alternative").

- *Project with Placer Co. Unincorporated Alternative Sites* – This alternative would feature the PVSP proposed land uses on-site, while maintaining the same total number of jobs and households as the Blueprint Alternative within the same jurisdiction. This consistency would be achieved by adding or subtracting households and jobs from likely alternative development sites within the same jurisdiction (Placer County). The physical configuration of development (density, neighborhood design, etc.) would be consistent with the character of the alternate locations. For example, if four-person households in the alternate location were distributed 10%/70%/20% among rural residential houses, single-family houses, and multi-family dwellings respectively, then the incremental number of four-person households should follow the same distribution.

- *Project with Sub-Regional Alternative Sites* – This alternative would also feature the Placer Vineyard's project's proposed land uses on-site (PVSP), while maintaining the same total number of jobs and households as the Blueprint Alternative. However, in this

[1] As we recorded the two Placer Vineyards alternatives in our geographic information system and prepared them for modeling, we ended up with approximately five percent more housing units in each of the two alternatives. This does not change our conclusions due to the fact that it is a small difference and preserves the magnitude of the change in housing units between the two alternatives.

case consistency would be achieved by adding or subtracting households and jobs from likely alternative development sites within the same sub-region, but not necessarily within the same jurisdiction. For example, a plausible location in a neighboring jurisdiction may be used as the alternate site. The physical configuration of development (density, neighborhood design, etc.) would be consistent with the character of the alternate location.

Placer Vineyards Draft EIR Methodology for Estimating GHG Emissions

The GHG emissions estimation methodology used in the *Placer Vineyards Specific Plan Second Partially Recirculated Revised Draft EIR* consists of estimating the vehicle-miles of travel (VMT) generated by the project by multiplying the expected number of project-related vehicle trips (VT) by an assumed average trip length. The VMT figure was then multiplied by an assumed average CO_2 emission rate (366 grams/VMT) to produce the vehicle-related CO_2 emissions. Total CO_2 emissions were then found by factoring vehicle emissions up by 2.5 (150% increase) based on the assumption that vehicle emissions represented 40% of average total CO_2 emissions.

There are several inadequacies with this approach:

- The project-related (PVSP) trips do not include the trips associated with residents and businesses that must be located elsewhere if the density of Placer Vineyards is below that described in the Blueprint Plan. The comparisons between the alternatives will therefore be flawed because they do not use consistent regional control totals for population and employment;

- Use of a fixed value for CO_2 emissions per VMT ignores the effect of speed on CO_2 emissions; specifically the fact that CO_2 emissions per VMT are substantially higher at low speeds than at moderate speeds (see Figure 4 below). This will tend to under-state the GHG impact of alternatives that lead to more congested traffic conditions;

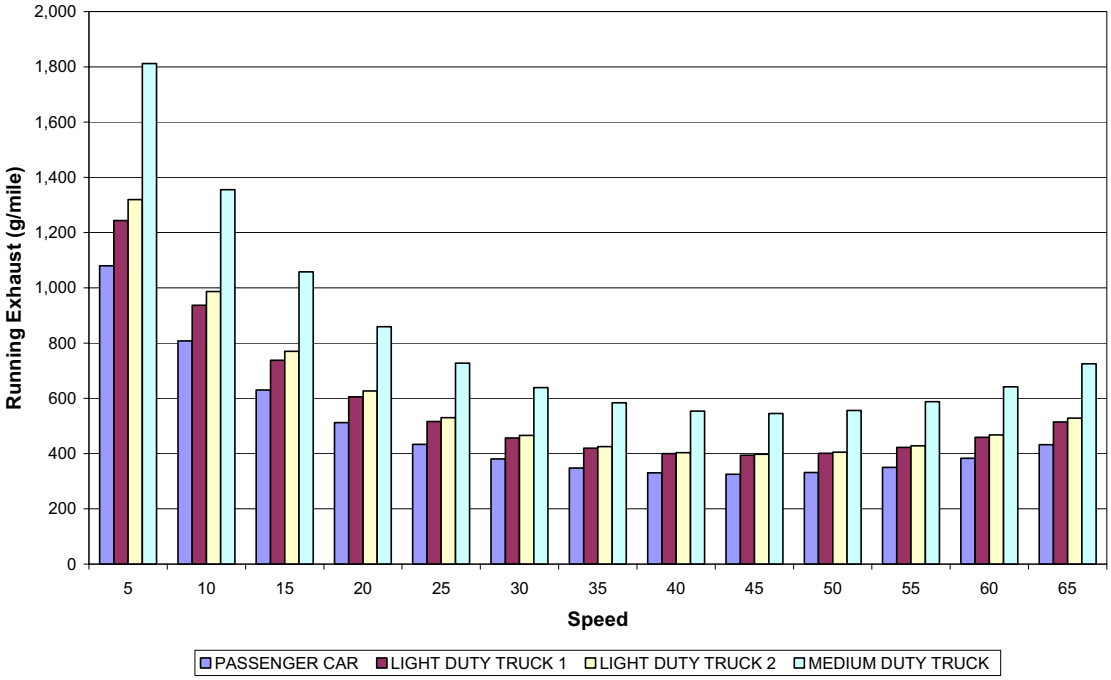
- The methodology apparently takes no account of the relative impact of the different project alternatives on the traveling speeds of other motorists. If the low-density alternative would relocate future residents to places where they would worsen congestion for others, as we believe would be the case, then the increase in the GHG emissions of non-project traffic must also be considered. There may also be some route shifting of non-project traffic to avoid project-related congestion, which would be another source of increased GHG emissions.

- There is no accounting for the changes in VMT which may or may not occur with the necessary re-allocations of land uses from the Placer Vineyards project (PVSP) to other areas in the region or resulting from "route-shifting" of non-project traffic to avoid project-related congestion which may occur. Thus the projection of GHG emissions is understated.

- Basing non-travel-related emission as an assumed percentage of travel-related emissions is overly simplified. Moreover, the *Placer Vineyards Specific Plan Second Partially Recirculated Revised Draft EIR* notes that GHG emissions by dwellings depend upon the type of dwelling. Even if the plans for future dwellings in the project site are only approximate, they are still sufficient to estimate the difference in GHG emissions per unit between dwellings in a relatively dense community and dwellings in a low-density alternate site.

Figure 4:

EMFAC 2007 CO2 Emission Rates, Selected Vehicle Types, Year=2006



Given the methodological and technical tool weaknesses in the approach used in the DEIR, a more rigorous methodology is needed to properly evaluate the differences in GHG emissions of the PVSP and to be responsive to the goals and intent of AB 32.

Recommended Methodology for Estimating GHG Emissions

In light of the foregoing, it is recommended that a GHG analysis in the SACOG region have the same aggregate number of jobs, housing units, and demographics for all three alternatives. Refer to the description of the three scenarios in the section "Alternatives to Be Compared."

Each scenario's land use assumptions would then be input into the regional travel demand model, in this case SACSIM for analysis. The model would be run to produce forecasts of person trips, VMT, and VHT generated by each of these alternatives. These model runs would

cover all trips including, for example, any increase in VHT imposed on travelers not residing in the project area, including through trips.

Estimates of vehicle-related GHG emissions would then be calculated using the EMFAC2007 model for relating vehicle emissions to travel miles and speeds as SACOG presently does for the MTP and the air quality conformity analysis.

The analysis should also provide figures for the percentage of residences located in transit, bicycle, and pedestrian supportive environments. This will enable policy-makers to give due consideration to the flexibility of the proposed project in the event of future changes in the transportation situation.

Finally, the housing-related emissions should be estimated by multiplying the number of dwellings of each type by the average annual GHG emissions for that type of dwelling (as opposed to using a simple factoring method as was done in the PVSP). An analysis was then undertaken and is presented in the next section.

SACOG undertook this analysis and it is presented in the next section.

RESULTS OF ANALYSIS OF PLACER VINEYARDS USING THE PREFERRED METHODOLOGY

This more rigorous methodology was applied to the PVSP and, as documented herein, the results were quite different from those stated in the DEIR. The details of the analysis and results are given in the following sections and tables.

Alternatives Compared

We compared three alternatives, each of which fully accounted for the households and jobs found in the project area in the Blueprint Alternative.

- *Project with Blueprint Alternative* – This alternative allocated twenty-one thousand (21,000) households to the PVSP area. A majority of the residences would be single-family detached houses, but there would also be several thousand attached residential dwellings.

- *Project with Placer Co. Unincorporated Sites* – This alternative followed the land use allocation in the in PVSP. This resulted in the "displaced" households being allocated to other sites in unincorporated Placer County. For the sake of comparison, the households were allocated as 79% of these units to the area east of Roseville, 20% to the area north of Roseville, and 1% to unincorporated areas west of Roseville but outside the PVSP project area. Households allocated to the alternate sites were assumed to be in rural residential dwellings consistent with character of the alternate sites.

- *Project with Sub-Regional Alternative Sites* – This alternative also followed the proposed low-density land use within the Placer Vineyards site, but the "displaced" households were allocated to sites in the City of Lincoln, the City of Wheatland, and unincorporated Yuba County as well as other parts of unincorporated Placer County. The physical configuration of development (density, neighborhood design, etc.) was consistent with character of the alternate sites and so included a mix of all four major housing types. Households were not allocated to Roseville and Rocklin because those jurisdictions will be virtually built out in the 2035 time frame.

Comparison of Results for Vehicle-Based GHG Emissions

There are two key findings from the comparison of the scenarios:

- The Blueprint Alternative has the fewest vehicle-related GHG impacts of any scenario, by all three measures of effectiveness.

- The PVSP alternative affects the GHG emissions generated by other travelers in addition to those in either just the PVSP area or in Placer County alone. Both Placer County residents and residents outside of Placer County experience increases in both congested VMT and additional hours of travel from the low density proposed PVSP alternative (Table 1).

Travel patterns for the Blueprint, Placer Co. Unincorporated, and Sub-Regional Market Allocation alternatives were evaluated using SACOG's new "SACSIM" travel demand model. SACSIM is an activity-based travel demand model, which means that the unit of analysis for the model is the person, not a large "traffic analysis zone" as with older travel demand models. This approach allows for travel patterns of specific households and residents to be isolated and compared from one alternative to another, with other factors like household demographics controlled.

The SACSIM travel model is a state of the art model that for the first time enables a comprehensive analysis of land use and demographic factors that are fundamental to travel demand. Travel is derived from persons' need to complete their daily activities like work, shopping, school, etc. Land use development patterns and demographics characteristics of households are the primary factors in setting these activity patterns. The model was designed and developed using extensive local input[2] and national research.[3]

[2] "Land Use and Transport Modeling Design Report, prepared for the Sacramento Area Council of Governments," December 27, 2001, DKS Associates, Mark Bradley Research and Consulting, HBA Specto, Inc., and John L. Bowman, Ph.D.

[3] "Passenger Travel Demand Forecasting," Chandra R. Bhat and T. Keith Lawton, Transportation Research Board Committee on Transportation Demand Forecasting, 2000. To mark the approach of the new millennium, the Transportation Research Board committees mounted a special effort to capture the current state of the art and practice and their perspectives on future directions in their respective areas of focus.

Table 1 provides a tally of travel characteristics for the approximately 21,000 households located in the Placer Vineyards area in the Blueprint Alternative. Also included are tallies of the same 21,000 households for the other two alternatives. This table allows for comparison of travel characteristics of an identical set of households, allocated to different areas. Compared to the Blueprint Alternative:

- Both alternatives generate fewer transit trips. On a mode share basis, transit shares drop from 1.4% of all trips for the Blueprint Alternative to less than one percent for both alternatives.

- Both alternatives generate fewer bike and walk trips. On a mode share basis, bike and walk trips drop from 6.5% to 4.5% (for the Placer Co. Unincorporated Alternative) and 4.1% (for the Sub-Regional Market alternative).

- Both alternatives generate more VMT. Weekday VMT increases from and average of 43.1 miles per day to 55.3 miles per day (for the Placer Co. Unincorporated Alternative) or 52.8 miles per day (for the Sub-Regional Market Alternative).

The total effects on travel can be split according to: 1) changes to households remaining in the Placer Vineyards area; and 2) changes to households reallocated to other areas. Changes to households within Placer Vineyards are generated by having lower density development pattern, which reduces both the attractiveness of non-motorized travel, and makes providing productive transit service more difficult. Changes to reallocated households are generated by lower density and accessibility in the reallocation areas, compared to the Blueprint Alternative with Placer Vineyards at 21,000 households.

Changes on the order of magnitude of reallocating several thousand households from a base of 21,000 households clearly will have effects which go well beyond just the 21,000 households. System-wide effects are generated by: 1) distributional effects of reallocating households; and 2) the effect of increasing congestion caused by the changing travel patterns of the reallocated households. Distributional effects of the reallocations are generated by longer commutes for some workers, and longer trips for other non-work purposes like shopping, school, etc. System-wide congestion effects are generated if new travel patterns result in "over capacity" roadways, which affect not just travel generated by the re-allocated households, but all travelers on that roadway. Table 2 provides a tally of these more system-wide effects for all households within Placer and Yuba Counties:

- Total regional by city household-generated VMT increases by 2.1% from the Blueprint Alternative for the Placer County Unincorporated Alternative, and 3.4% for the Sub-Regional Market alternative.

- Regional congested VMT, or all VMT on roadways where demand exceeds capacity, increases by 1.4% from the Blueprint Alternative for the Placer County Unincorporated Alternative, and 9.3% for the Sub-Regional Market alternative.

Table 1. Regional (6 County) Travel Statistics for Placer Vineyards Households (Including Reallocation)

Travel Statistic	Blueprint Alternative	Placer Co. Unincorp. Alternative			Sub-Regional Market Alternative		
	All HH's in PV Area	HH's Remaining in PV Area	HH's Allocated to Other Areas	All HH's	HH's Remaining in PV Area	HH's Allocated to Other Areas	All HH's
Households	21,367	13,162	8,205	21,367	13,138	8,048	21,186
Percent of Daily Person Trips							
Transit	1.4%	1.1%	0.3%	0.8%	1.0%	0.2%	0.7%
Bike+Walk	6.5%	4.7%	4.2%	4.5%	4.7%	3.0%	4.1%
Private Auto	91.0%	93.1%	94.0%	93.5%	93.1%	95.3%	93.9%
Number of Daily Person Trips							
Transit	2,923	1,427	190	1,617	1,311	160	1,471
Bike+Walk	13,678	6,064	3,147	9,211	6,209	2,273	8,482
Private Auto	190,887	120,271	71,139	191,410	122,770	71,737	194,507
Number of Daily Person Trips per Household							
Transit+Bike+Walk Trips /HH	0.78	0.57	0.41	0.51	0.57	0.30	0.47
Vehicle Miles Traveled / HH	43.1	49.8	64.1	55.3	48.6	59.7	52.8
Daily Vehicle Miles Traveled	921,021	656,117	526,069	1,182,186	638,358	480,138	1,118,496

Source: SACOG, May 2007.

Table 2. Household and Travel Changes in Placer and Yuba Counties

Statistics by County	Blueprint Alternative	Placer Co. Unincorp. Alternative			Sub-Regional Market Alternative		
		Total	Diff from Blueprint	% Ch.	Total	Diff from Blueprint	% Ch.
Households in …							
Placer County	220,090	220,090	0	0%	217,295	-2,795	-1.3%
Yuba County	51,856	51,856	0	0%	54,472	2,616	+5.0%
Both Counties	271,946	271,946	0	0%	271,767	-179	-0.1%
Daily Vehicle Miles Traveled for All Households by Place of Residence in…							
Placer County	11,857,656	12,166,042	308,385	+2.6%	12,114,318	256,662	+2.2%
Yuba County	3,016,545	3,027,791	11,246	+0.4%	3,268,059	251,514	+8.3%
Both Counties	14,874,201	15,193,832	319,631	+2.1%	15,382,377	508,176	+3.4%
Daily Congested VMT for All Households by Place of Residence in…							
Placer County	1,362,336	1,383,836	21,500	+1.6%	1,487,827	125,490	+9.2%
Yuba County	247,750	249,176	1,426	+0.6%	270,760	23,010	+9.3%
Both Counties	1,610,086	1,633,013	22,927	+1.4%	1,758,587	148,501	+9.2%

Source: SACOG, May 2007.

The increase in congested VMT is more pronounced for the Sub-Regional Market Alternative, because the reallocation of households includes areas with greater congestion in the Blueprint Alternative. The reallocation of households in the Placer Co. unincorporated alternative includes more areas with very low congestion levels in the Blueprint Alternative.

The SACSIM results were input into the EMFAC2007 Emissions Model to calculate the likely vehicle-related GHG emissions for each of the three scenarios. EMFAC2007 is the latest version of the California Air Resource Board's (CARB) efforts to provide a comprehensive analytical tool for on-road vehicle emissions. The model includes vehicle testing data and research by CARB and the U.S. Environmental Protection Agency, and the latest CARB vehicle emissions rules on future emissions rates. The EMFAC model has official approval of both CARB and USEPA. The results are shown in Table 3 below:

Table 3: Travel-related CO_2 Emissions Results from EMFAC2007

Alternative	Daily CO_2 Emissions (Tons per Day)	Daily Increase from Blueprint (Tons per Day)	Annual Increase from Blueprint (Tons per Year)
Blueprint Alternative	37,200		
Placer Co. Unincorporated Alternative	37,410	210	63,000
Sub-Regional Market Alternative	37,610	410	123,000

Source: *SACOG EMFAC Model Runs, May 2007*

To put these CO_2 emission reductions into context, consider that one gallon of gasoline produces 22 pounds of CO_2 and the regional average vehicle miles traveled per household in 2035 is expected to be 48 miles per day. Assuming that the average fuel economy is 25 miles per gallon, the 210 tons of CO_2 reduction equates to 9,940 households and the 410 tons of CO_2 reduction equates to 19,400 households. In other words, by relocating the approximately 7,000 dwelling units to these other locations, you actually create additional GHG emissions equal to between 9,940 and 19,400 households. These figures demonstrate the particular importance of achieving compact development in this particular location.

These results show that a more rigorous analysis of transportation-related GHG emissions would alter the analysis and rankings of the Placer Vineyards alternatives, with the result that the Blueprint Preferred Alternative has fewer GHG impacts than the proposed PVSP project alternative as described in the DEIR.

Comparison of Results for Dwelling-Based GHG Emissions

Dwelling-based emissions for each scenario can be compared using the average per-unit Btu consumption from the Energy Information Administration[4] in conjunction with the number of units of each type in each scenario. The results for the three scenarios are shown in Table 4 below.

[4] Total Energy Consumption in U.S. Households by Type of Housing Unit, 2001. 2001 Residential Energy Consumption Survey: Household Energy Consumption and Expenditure Tables

Table 4: Dwelling-Based Btu Consumption

	Number of Units	Total Btu Consumption
Blueprint Alternative Total	22,688	2,147,240
Placer Co. Unincorporated Alternative Total	22,960	2,341,698
As a % of Blueprint		109%
Regional Sub-Market Alternative Total	22,272	2,228,450
As a % of Blueprint		104%

Source: *Calculation using HH units in SACSIM and Btu factors provided by AQMD, May 2007*

As can be seen from Table 4, there are significant differences in energy usage, and thus GHG emissions, for different types of dwellings. Attached units consume 78 Btu each compared to 107 Btu per detached unit. The Blueprint Preferred Alternative, which incorporates the highest percentage of low-emission dwelling types, would produce less dwelling-related GHG emissions than the other alternatives tested.

Table 5 compares residential densities of the proposed PVSP and the Blueprint Alternative with existing residential densities in the cities of Rocklin and Roseville, and with all of the other proposed major housing projects in southwest Placer County. The proposed PVSP ranks as one of the lowest density proposed projects in the area, lower in density even than the existing housing stock of the city of Roseville. (Note: These are "net" densities, inclusive of residential parcels and local streets.)

Table 5.
Comparison of Net Residential Densities in Southwest Placer County

Project Name	Residential Density (Dwelling Units/Acre)
City of Rocklin *(Existing Housing Stock)*	4.4
Placer Vineyards Specific Plan	5.4
City of Roseville *(Existing Housing Stock)*	5.6
Placer Vineyards Specific Plan (Blueprint Version)	8.6
Sierra Vista Specific Plan	8.6
Regional University & Community Specific Plan	10.0
Placer Ranch Specific Plan	10.4
Creek View Specific Plan	11.7

***Source**: Cities of Rocklin and Roseville densities from SACOG 2005 housing unit estimates, Placer Vineyards densities from Placer Vineyards Specific Plan Revised EIR (March 2006), Sierra Vista and3 Creek View Specific Plan densities from City of Roseville (May 2007), Regional University and Placer Ranch Specific Plan from project applicants (May 2007).*

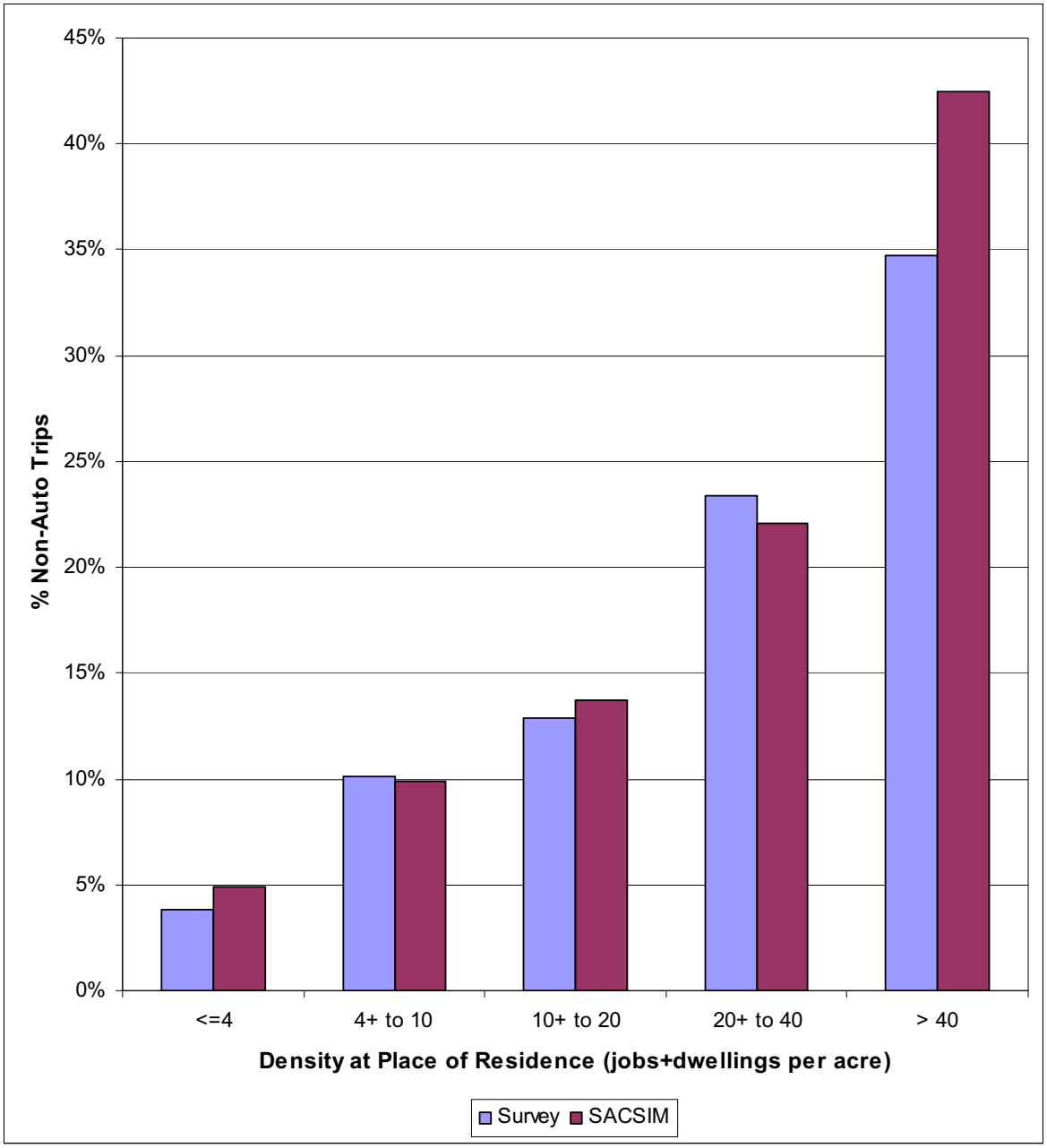
Figures 6 and 7 illustrate two important relationships between travel and density, using the SACSIM travel model. The SACMET model, due to the nature of the model outputs, cannot provide this analysis. These figures compared SACSIM model output to information on travel behavior from the *Year 2000 Household Travel Survey*[5]. The comparisons to the Household Travel Survey were prepared in order to validate the sensitivity and reasonableness of SACSIM in predicting differences in travel behavior correlated to land use characteristics at a person's place of residence. Density is defined as the number of jobs plus dwellings per acre at place of residence.

Figure 6 shows the relationship between mode of travel and density at place of residence. The survey data show the expected relationship, with propensity for non-auto travel means (i.e. walking, bicycling, or walking to transit) increasing as the density at place of residence increases. SACSIM captures this correlation. At the lowest density range (less than 4 jobs+dwellings per acre at place of residence) non-auto trips make up less than 5 percent of all trips. For households residing in areas with 40 or more jobs+dwellings per acre at place of residence, non-auto trips make up more than 30 percent of all trips.

[5] This survey was conducted by SACOG in Year 2000. Results are reported in "2000 Sacramento Area Household Travel Survey" (NuStats, November 2000) and "Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey" (DKS Associates, July 2001). SACOG has prepared a "post-Census" analysis of the survey, which has not yet been documented; this post-Census analysis re-weighted/expanded the Household Survey to match key Census control totals by county within the SACOG region. All figures in this Appendix are based on the "post-Census" weighting of the Household Survey.

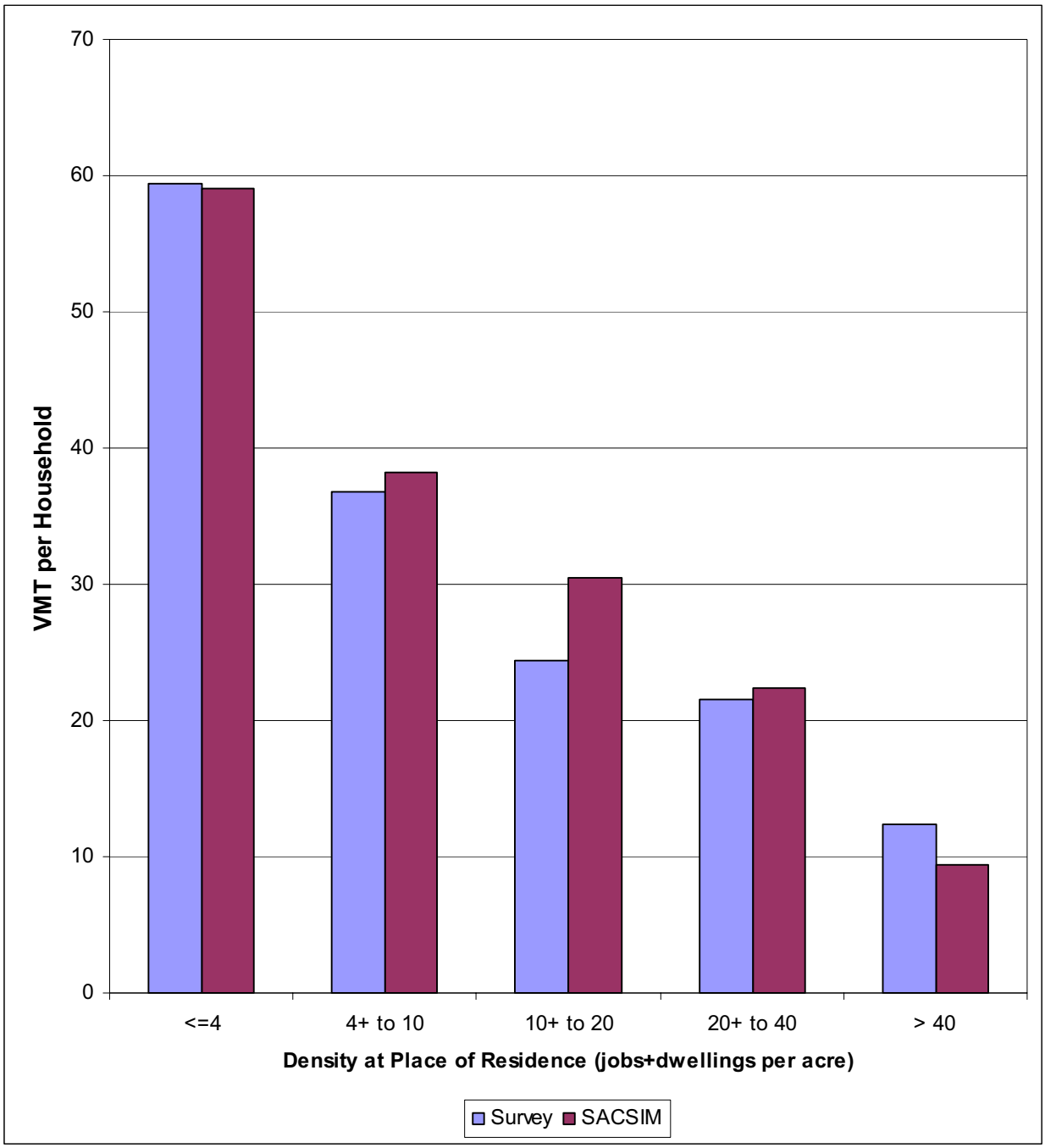
Figure 7 shows a similar relationship between VMT and density at place of residence. The survey data show that as density at place of residence increases, the vehicle mileage generated by a household decreases sharply. Households at the lowest density range (less than 4 jobs+dwellings per acre) generate more than 50 VMT per weekday. Households in areas with 40 or more jobs+dwellings per acre generate 10 VMT or less per day.

Figure 6. Propensity for Non-Auto Travel and Density at Place of Residence Year 2000 Household Travel Survey and SACSIM Model Output



Source: SACOG, May 2007.
Notes:
/1/ "Total Density at Place of Residence" = (Jobs w/in ¼ mi + Dwellings w/in ¼ mi) / Acres w/in ¼ mi.
/2/ "% of Trips by Bike, Walk or Transit" = all trips not requiring private automobile. Transit includes only walk-access (i.e. no park-and-ride or kiss-and-ride). Includes all trips by residents of households, even those not based from the household.

Figure 7. VMT per Household and Density at Place of Residence
Year 2000 Household Travel Survey and SACSIM Model Output



Source: SACOG, May 2007.
Notes:
/1/ "Total Density at Place of Residence" = (Jobs w/in ¼ mi + Dwellings w/in ¼ mi) / Acres w/in ¼ mi.
/2/ "VMT Per Household" = estimate of total miles of vehicle travel by all household members for an average weekday, based on density range at the place of residence.

CONCLUSIONS

The GHG analysis used in the *Placer Vineyards Specific Plan Second Partially Recirculated Revised Draft EIR* was incomplete in that it did not maintain regional control totals for population and employment, and therefore, did not properly account for the GHG emissions of households and businesses that would be forced to locate elsewhere if the low-density proposed PSVP were selected. In addition, the GHG analysis for non-travel-related emissions was oversimplified and did not properly account for the reduced emissions that would occur if a denser alternative was selected.

A more rigorous GHG analysis, as described herein, is necessary to fully analyze the feasibility of the Blueprint Alternative, and to fully compare the Blueprint Alternative to the proposed PVSP. In the absence of this more rigorous analysis, the DEIR also fails to adequately analyze whether the Blueprint Alternative would reduce the air quality impacts, particularly GHG, below that caused by the proposed project. The DEIR also fails to analyze the Blueprint Alternative densities as mitigation measures for the proposed project's impacts. As demonstrated herein, the Blueprint Preferred Alternative in fact would have fewer GHG emissions impacts than the lower-density proposed PVSP described in the DEIR. This result is not dependent on which of the likely alternative locations the households not accommodated in Placer Vineyards area would move to; both locations are worse than Placer Vineyards, though the local alternative appears to be somewhat worse than the sub-market alternative.

In light of these new findings, it is recommend that the Placer County Board of Supervisor reconsider its choice of alternatives for the Placer Vineyard Specific Plan, and also require that a more-rigorous and thorough GHG analysis such as the one described herein be performed on this and future specific plans to meet the goals and intent of CEQA and AB 32.

APPENDIX

SACSIM OVERVIEW

Figure 1 shows the major components of the SACOG's new travel demand forecasting model. The model is known as the Sacramento Regional Travel Simulation Model (SACSIM)[6]. A population synthesizer (PopSyn) creates a population database which is used later in the model. The database is comprised of person record, drawn from actual Census PUMS households from the Sacramento Region. The population dataset is consistent with regional residential, employment and school enrollment forecasts in quantity, location, and key demographic variables like age and income. Population datasets are generated for each forecast land use alternative, and are treated as inputs files for testing transportation network alternatives. The population dataset can be directly modified (e.g. changing locations of specific households, changing income or age characteristics, etc.) to test the effects of different land use forecasts or demographic trend assumptions.

Long term choices (work location, school location and auto ownership) are simulated for all members of the population. The Person Day Activity and Travel Simulator (DaySim) creates a one-day activity and travel schedule for each person in the population, including a list of their tours and the trips on each tour.

The trips predicted by DaySim are aggregated into trip matrices and combined with predicted trips for airport passenger ground access, external trips and commercial traffic into time- and mode-specific trip matrices. The network traffic assignment models load the trips onto the network. The model iterates until convergence is achieved (i.e. trip tables, traffic volumes, and level-of-service matrices used as inputs for long term choice models are similar to the same tables, volumes, and matrices emerging from the model after assignment). Feedback goes to the long-term choice models, so characteristics of transportation (e.g. changes to road or transit networks) affect things like work location and auto ownership choices.

As shown here, the regional population and employment forecasts, as well as future transportation networks, are treated as exogenous inputs. Currently, these land use forecasts datasets are generated as scenarios within the Place^{3}s land use model. Place^{3}s builds up the regional forecast datasets from parcel-level land use data. For each forecast year, regional control totals are established by SACOG Board-adopted growth allocations and demographic trend assumptions[7,8]. Ultimately, it is anticipated that the travel forecasting model will be embedded in PECAS, the regional economic and land development model, so that the long range PECAS forecasts will depend on the activity-based travel forecast of DaySim.

[6] The "simulation" should not be confused with a traffic operations simulation. The simulation is of the activities and travel behavior of a population database of individual persons (or "synthetic" population), fully consistent with the regionally adopted growth forecasts and Blueprint land use vision.
[7] The SACOG Board adopted Year 2005 to Year 2035 growth allocations in December 2006 for use in updating the region's Metropolitan Transportation Plan.
[8] The SACOG Board adopted long range demographic forecasts in September 2005 for use in regional transportation planning.

SACSIM was developed and estimated using parcel/point[9] land use input data, and is the first regional travel demand model which uses this level of input data. The parcel-level land use data, combined with the population synthesis approach, provides an unprecedented level of model sensitivity and detail regarding representation of land use and its effects on travel behavior. The model was designed and developed with the full intention of capturing land use and transportation inter-relationships which are masked or missed altogether in models based on traffic analysis zones (TAZ's).

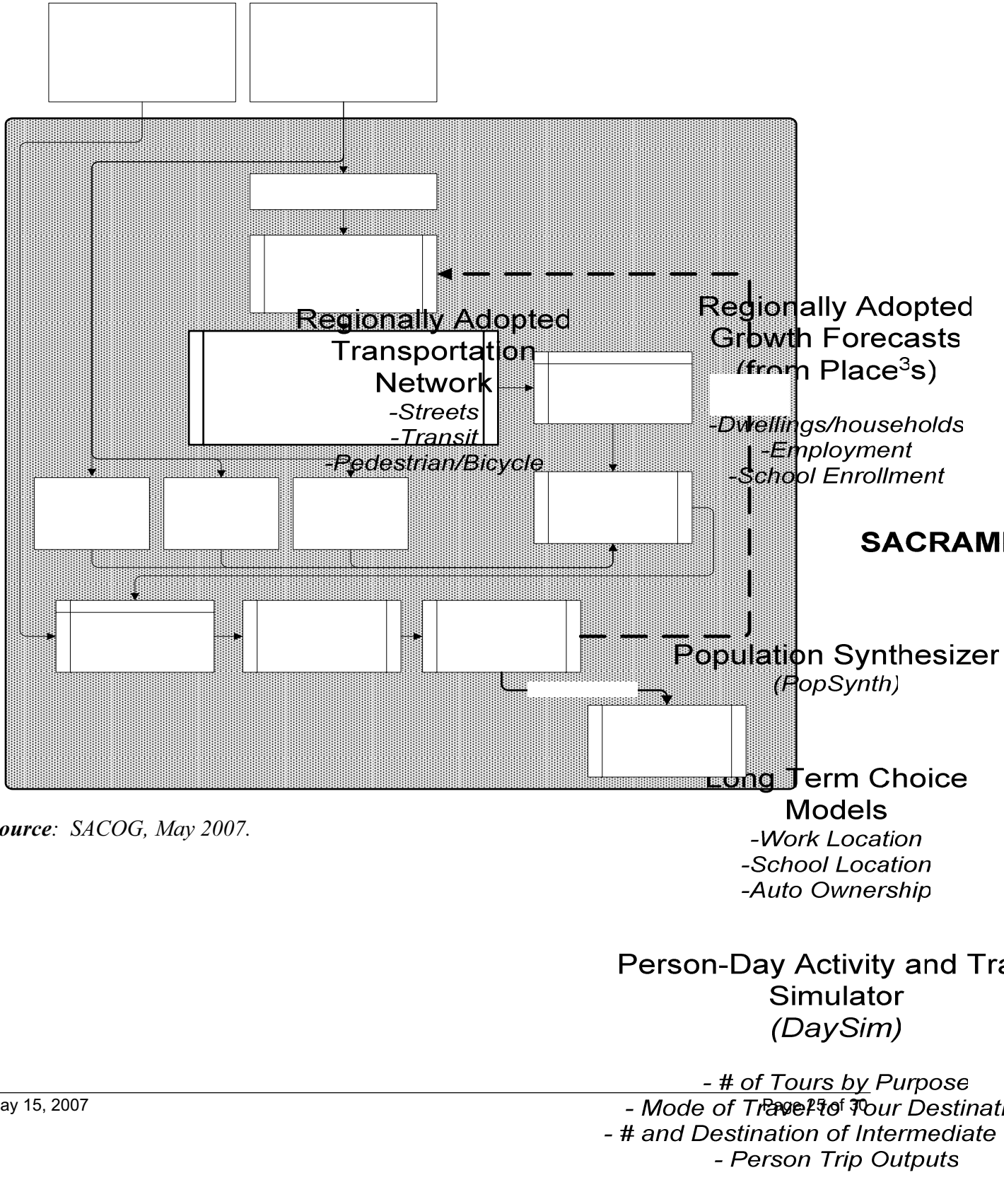
Some unique variables included in SACSIM at parcel or point level are:

- Households and population
- Employment by sector (retail, office, manufacturing, medical, service, government, etc.)
- K – 12 school enrollment
- University enrollment
- Street pattern / connectivity
- Distance to nearest transit station/stop
- Number of paid, off-street parking spaces

These variables are utilized in SACSIM as parcel/point values (i.e. quantity and type of use on that parcel). The variables are also utilized as "buffered" parcel/point values (e.g. the quantity and type of a use within ¼ or ½ mile of a parcel).

[9] Parcels (which include an outline of a specific property) are converted to "points" for use in SACSIM, with one point per parcel, for computational efficiency.

Figure 1. Sacramento Regional Travel Simulation Model



***Source**: SACOG, May 2007.*

SACSIM COMPARISON TO SACMET

SACMET (Sacramento Regional Transportation Demand Model) is the so-called "4-step", TAZ-based travel demand model developed by SACOG in 1994, and used for metropolitan transportation planning and analysis since that date. SACMET has been used for several Metropolitan Transportation Plan (MTP) updates, New Starts rail project evaluations, and major corridor studies. Additionally, cities and counties within the SACOG region have based their local travel demand models to a large extent on SACMET. This includes the travel model that was used in the DEIR.

Key differences are:

- Level of detail in land use input data
    - SACSIM = parcel level (650,000 parcels, average size = 0.8 acres)
    - SACMET = zones (1528 zones, median zone size = 390 acres)
- Representation of proximity of land uses
    - SACSIM = parcel-to-parcel distances;
    - SACMET = zone-to-zone averages for all parcels within a zone
- Demographic variables for input data
    - SACSIM includes household size, age, income, gender, employment status, education status, at person level.
    - SACMET includes a cross-classification of households by # persons, # workers, and income class at zone level
- Treatment of travel
    - In SACSIM, travel is treated as an outcome of activities (work, school, shopping, etc.). Activity patterns are generated at person-level, with all activities internally consistent (e.g. if someone takes transit to work, they take transit home, etc.). Shifts in time of travel occur as peak period congestion levels change.
    - In SACMET, travel is equivalent with trips, and trips are generated directly by land uses by zone. There is no guarantee of internal consistency.
- Level of detail on model output data
    - SACSIM allows for isolation of all travel generated by households in a given area, regardless of where that travel occurs. Travel characteristics can be

correlated to area types, and the effects of demographics (e.g. household size, income, etc.) explicitly controlled.

- SACMET allows for isolation only of number of trips generated by zones, without reference to who generates the travel (e.g. trips from a particular zone might be generated by residents, employees, or both, with no means of identifying the actual "source" of the travel).

The Transportation Research Board's committee on travel demand forecasting has undertaken as part of its mission efforts to improve travel models and forecasting. A recent paper, *Passenger Travel Demand Forecasting,* was produced by the committee as its contribution to a special effort to capture the current state of the art and practice and its perspectives on future directions. A portion of that report is reproduced here. The SACSIM model was designed and developed to address the needs outlined in the paper.

A1C02: Committee on Passenger Travel Demand Forecasting
Chairman: T. Keith Lawton

Passenger Travel Demand Forecasting

CHANDRA R. BHAT, *University of Texas, Austin*
T. KEITH LAWTON, *METRO Transportation Department, Portland, Oregon*

This paper addresses the importance of travel forecasting, the general direction of emerging forecasting methods, the importance of integrating land use and transportation forecasting, and this committee's relationship to other committees at the Transportation Research Board (TRB).

In particular, the movement from trip-based to activity-pattern or activity-scheduling methods of modeling is emphasized. This includes the explicit treatment of tours and scheduling of tours, leading to the emergence of trips as linked elements within a tour. A tour is defined as the linked trips that take a traveler from home to a series of activities and back to home. The importance of substitution of in-home for out-of-home activities is also addressed. There are many different approaches that can be developed, including process models. The committee also addresses the move from an aggregate approach to a microsimulation of individual and household behavior. This is probably a necessity for activity-based models.

This report discusses the committee's role as a bridge between research and practice. It shows directions for immediate future research and discusses proposals for relationships between this committee and other TRB committees.

INTRODUCTION

Since the beginning of civilization, the viability and economic success of communities have been greatly determined by the efficiency of their transportation infrastructures. The need for efficient transportation and land-use systems has never been more critical than it is today. There are serious concerns in many areas about the high levels of traffic congestion, mobile-source emissions, the sustainability of our growth patterns and travel, and the related adverse impacts on regional and national productivity. Aware of the serious consequences of traffic congestion and mobile-source emissions, most metropolitan areas are moving to coordinate and streamline their transportation systems, with a growing awareness of the role of urban form and land-use arrangement. Constraints on the availability of financial resources to maintain and expand the existing infrastructure and concerns about the environmental impacts of transportation investments have added to the need for a systematic evaluation of alternative plans associated with transportation infrastructure provision. The environmental impacts that need consideration have expanded beyond direct air and water quality to the impact on urban form and density.

To make informed transportation infrastructure planning decisions, planners and engineers have to be able to forecast the response of transportation demands such as in the

attributes of the transportation system, built environment, and the people using the system. Travel demand models, which are used for this purpose, should therefore incorporate realistic representations of individual and household activity and travel decision making. As we move into the next millennium, this need for realistic representation of decision making behavior is particularly acute for at least two reasons. First, rising traffic congestion and associated air quality problems, combined with the limited effectiveness and increasing lack of financial and environmental viability of investment-based capital improvement strategies, has led to a shift toward shorter-term demand management policies. That is including alternate work schedules, telecommuting, and congestion pricing. The complex nature of responses to such demand management strategies can only be anticipated through incorporating realistic behavioral decisions in demand modeling. Second, as there are substantial shifts in household structures and individual and household sociodemographics, (for example, more single-parent households, more single-individual households, aging of the population, etc.), the activity and travel needs of the future will be considerably different. Forecasting these activity-travel needs for transportation planning purposes can be achieved only through incorporating realistic representations of behavior. Behavioral representation also provides a clear picture of the functioning of urban areas (for example, the spatial characteristics of intra-urban labor markets) and has the potential to identify or resolve the differential quality of transportation services associated with different segments of the population. The need for realistic behavioral representations in travel demand modeling has been well acknowledged in the literature for some time. However, practice in the field has not reflected this need until recently. In particular, travel-demand models, for the most part, continue to use individual trips as the unit of analysis. These models were developed primarily to evaluate alternative major capital improvements and, in part, have their form driven by the computing constraints of the 1960s. Because of their many simplifying assumptions and narrow “individual-trip” perspective, they are unable to examine the potentially complex behavioral responses to demand management actions. For example, in a multi-stop tour from home consisting of grocery shopping and a social visit, the traditional approach fails to recognize that the travel mode for all trips (home to shop, shop to visit, and visit to home) will be the same. The travel mode chosen will depend on various characteristics of all three trips (and not any one single trip) and, consequently, these trips cannot be studied independently. Similarly, the location of a stop in a multi-stop tour is likely to be affected by the location of other stops on the tour. Such multi-stop tours are becoming increasingly prevalent and ignoring them in travel analysis implies discarding a critical element in the individual’s organization of time and space.

The limitation of traditional trip-based travel demand models has led to the emergence of an activity-based approach to studying travel behavior. The activity-based approach views travel as a derived demand; derived from the need to pursue activities distributed over space and time. The conceptual appeal of this approach originates from the realization that the need to participate in activities is the basic reason for travel. By placing primary emphasis on activity participation and focusing on sequences or patterns of activity behavior (activity schedule), with the whole day or longer periods of time as the unit of analysis, a more realistic model of people’s adaptation to a changing travel environment can be achieved. Such an approach can address congestion-management issues through an examination of how people modify their activity participation, (for example, will individuals substitute more out-of-home activities for in-home activities in the evening if they arrived early from work because of a work schedule change?).

There have been several studies recently emphasizing and demonstrating the virtues of the activity-based travel approach. Some metropolitan planning organizations (MPOs) are already embracing this new approach and the efforts to develop comprehensive activity based model systems to replace the traditional four-step trip-based methods. Many other MPOs realize the need to switch to an activity-based modeling system in the near future. Although it is beyond the scope of this paper to review these developments and efforts, there is no question that activity-based methods are gaining momentum in the travel demand modeling profession. There are already several applications of these methods to develop synthetic activity-travel patterns for forecasting and to assess the impact of transportation control measures (TCMs) on traffic congestion and air quality. Thus, it is probably fair to state that activity-based studies have gone past the usual cliché of promoting a better understanding of human activity-travel behavior to application for purposes of forecasting and policy analysis. Much of this transition toward activity methods has occurred within the past five years or so, and the stage is set for further development and implementation of such methods by planning agencies as we move into the next millennium. It is in this pivotal and critical setting that we next discuss the past and intended future role of the TRB Committee on Passenger Travel Demand Forecasting.

LETTER 64 MIKE MCKEEVER, EXECUTIVE DIRECTOR, SACRAMENTO AREA COUNCIL OF GOVERNMENTS (SACOG)

Response 64A: Commenter states that SACOG has attached comments on the global climate change component of the Second Partially Recirculated Revised Draft EIR. The County appreciates SACOG's expertise in the area of Sacramento regional growth and development and its efforts to provide the County and the public with information. The County will consider SACOG's comments in its decision making process. The County notes that the attached paper does not provide a typical point-by-point critique of the County's analysis, but rather presents an alternative methodology to performing the analysis of greenhouse gas emissions (GHG). As such, in order to provide a meaningful response, the paper must be considered in its entirety rather than being broken into multiple comments and responses. The following response (Response to Comment 64B) describes the rationale for the County's chosen approach and addresses any differences in approach presented in the SACOG paper.

Response 64B: SAGOG's preferred method of analyzing GHG emissions from the Placer Vineyards Specific Plan ("Base Plan") and the Blueprint Alternative is a legitimate method of analysis and is informative for certain purposes. Nothing in SACOG's analysis, however, demonstrates that the County's methodology for analyzing GHG emissions, as contained in the Second Partially Recirculated Revised Draft EIR, does not fully comport with CEQA.

Consistent with long-standing CEQA principles, the County's starting point in calculating GHG emissions for both the Base Plan and the Blueprint Alternative was an assessment of how the two scenarios would compare to "existing conditions." According to CEQA Guidelines Section 15125(a), "[a]n EIR must include a description of the physical conditions in the vicinity of the project, as they exist at the time the notice of preparation is published ... This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant ..." (See *Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 149 Cal.App.4th 892, opn. mod. 2007 Cal.App. LEXIS 714.) The requirements of CEQA "ensur[e] that the evaluation of impacts normally will do what common sense says it should do and what the EIR's more important audience, the public, will naturally assume it does: compare what will happen if the project is built with what will happen if the site is left alone." (*Ibid*.) Here, the baseline physical conditions of the project site at the time the Notice of Preparation was published was primarily undeveloped grazing land with a few stands of native and non-native trees and agricultural lands. Approximately 150 residences are located primarily in the northwest corner of the Specific Plan area.

What are commonly called the "the project-specific" (as opposed to cumulative) impact analyses contained in the Second Partially Recirculated Revised Draft EIR appropriately use this physical condition as the baseline. SACOG's analysis, on the other hand, is based on future employment and population growth that it forecasts to occur in the greater Sacramento region through the year 2050. In other words, the baseline of SACOG's analysis is a projected future regional population forecast. For purposes of its project-specific analyses, the County did not use such a future regional forecast as baseline conditions because doing so would have departed from the standard CEQA approach. (See, e.g., *Environmental Planning and Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 352; *Christward Ministry v. Superior Court*

(1986) 184 Cal.App.3d 180, 186-187.) Nevertheless, the County agrees with the concept that the Blueprint Alternative will cumulatively result in fewer greenhouse gas emissions *per capita* than would occur under the Base Plan.

The County's approach differs from SACOG's mainly in that SACOG assumes that, if the Board approves the Base Plan rather than the Blueprint Alternative, the additional housing units that *would have been built on-site* under the Blueprint scenario *will be built somewhere else at a location more distant from regional job centers*, with the result that the overall region would experience a net increase in vehicle miles traveled, and thus a net increase in GHG emissions. The County does not believe that SACOG's assumption is the only rational and reasonable assumption to use under these circumstances. The County believes that equally plausible scenarios could have the roughly 7,500 residential units in question not being built at all in the region, or being built in areas that, instead of being distant from job centers, are just as close or even closer than Placer Vineyards to such centers. Because of the speculation needed to predict 2050 conditions, the County chose to utilize the more traditional CEQA approach, which is to assume that no one can credibly identify the ultimate location of the "lost" residential units.

Under the Blueprint Alternative, as compared with the Base Plan, densities for residential, commercial, and public/quasi-public land uses are more similar to those found in SACOG's Blueprint Plan, with its emphasis on very high densities. The Blueprint Alternative is based on the SACOG principles, adopted in December 2004, which include: (1) transportation choices; (2) mixed-use development; (3) compact development; (4) housing choice and diversity; (5) use of existing assets; (6) quality design; (7) natural resource conservation. (Revised Draft EIR, p. 6-39.)

The Blueprint Alternative would implement the above-stated principles in part by increasing residential densities within the Specific Plan area. The Blueprint Alternative proposes construction of 21,631 residential dwelling units compared with 14,132 dwelling units under the proposed project (a 53% increase). Density in residential-only areas, excluding Commercial Mixed-Use development that includes residential dwelling units, would increase in the Blueprint Alternative. As with the proposed project, the Blueprint Alternative would cluster most high-density residential uses around the Town and Neighborhood Centers. This clustering also aids in furthering the above-stated principles by putting more residents within walking distance of mixed-use development and public transit. The increased densities would also further the economic viability of the Town and Neighborhood Centers by increasing the absolute number of residents within walking distance of these places.

The County recognizes the Blueprint Alternative may be environmentally superior to the Base Plan in several impact areas on a future *per capita* basis, including air quality, jobs/housing balance and transportation. Absent, however, any known land use restrictions which would govern the opportunity to build the approximately 7,500 units (constituting the difference in unit numbers between the Base Plan and the Blueprint Alternative), there is no basis to conclude that the total overall potential impacts will be less if the County should adopt the Blueprint Alternative.

In addition to providing an alternative analysis of GHG emissions under the Base Plan and Blueprint Alternative, the comment letter raises concerns about the methodology used by the Second Partially Recirculated Draft EIR to estimate GHG emissions under both alternatives. The following addresses each of the commenter's concerns.

The commenter asserts that the Draft EIR's analysis of GHGs inadequately and improperly assumes a fixed value for CO_2 per VMT, which does not account for congestion-related speed changes or for changes in VMT due to non-project "route-shifting" to bypass congestion. Significantly, there exists no adopted methodology, emission factors, or air quality model at this time, to assess climate change impacts under CEQA. Nevertheless, in the interest of full disclosure, the approach taken in the Draft EIR exercises reasonable due diligence to disclose emissions using the information that was available at the time the analysis was prepared.

The CO_2 emission factor used to quantify GHG emissions from vehicle trips in the units grams/mile is based upon average vehicle fuel economy as set by the Corporate Average Fuel Economy (CAFE) standards. This includes assumptions that different vehicles would reach optimum performance/efficiency at different speeds. The optimum speed for most vehicles to perform at maximum efficiency is approximately 45 miles per hour (mph). Congestion and associated low speed travel, leads to higher emissions of GHGs, as does travel at high speeds. Nonetheless, this emission factor assumes that vehicles would travel at a range of speeds, by incorporating a Speed Correction Factor (California Air Resources Board 2002). Perhaps there are more detailed emission factors available that would apply to the analysis (i.e., those as contained in EMFAC 2007); however, due to lack of adopted guidance or methodology, the approach developed for the PVSP GHG analysis uses a reasonable emission factor and provides a reasonable estimate for mobile-source CO_2 emissions. If a detailed analysis of specific roadway segments and travel speeds were to be completed for the Base Plan and Blueprint Alternatives, it would not be anticipated that the results would differ substantially from those of the existing approach. The emission factor used is based on current standards, and does not take into account new legislation (AB 1493) that would place more stringent GHG emission standards on vehicles sold in California.

The commenter further asserts that it is inappropriate to base non-travel-related emissions on an assumed percentage of travel-related emissions. This proportionality came from the statewide 2005 emissions inventory (CEC 2006), as included in the Second Partially Recirculated Revised Draft EIR. The exact types and masses of emissions from the project area were not known at the time the analysis was prepared, due to lack of project-specific information, including behavioral parameters specific to the project's residents, lack of guidance for developing assumptions, and lack of adopted GHG emission factors for energy consumption from homes. Thus, the above-mentioned proportionality was used to conservatively estimate emissions where better information was not available at the time of analysis. There is greater evidence supporting the assumption that this project would be similar to the statewide average than in support of the assumption that the project would be dissimilar (e.g., the project's energy would be supplied by the same grid as the majority of the state, etc.). In addition, the project's ratio of non-mobile to mobile-source emissions from other pollutants (e.g., ozone precursors) is in line with other projects similar in nature. It is possible that emission factors have been developed on a per home basis since the time this analysis was prepared, but those emission factors would likely also be

based on statewide averages, resulting in a similar outcome. Nonetheless, there is no adopted methodology available from the California Environmental Protection Agency, the California Air Resources Board, or the Placer County Air Pollution Control District describing which emission factors should be used. CEQA does not preclude the development of a new methodology in order to disclose an impact, which was done in this case. Finally, even if more detailed emission factors were available for this type of plan-level analysis, the magnitude of the result would still be large (substantial); thus, the impact conclusion would remain significant and unavoidable for both alternatives. For these reasons, no change to the EIR is necessary.

Finally, on the subject of SACOG's activity-based travel forecasting model (SACSIM), SACSIM could not be employed for the Placer Vineyards environmental impact analysis because it was not available until well after all the transportation related analysis had been completed and documents had been circulated for the Placer Vineyards Specific Plan EIR. The Revised Draft EIR was released in March 2006. A Partially Recirculated Revised Draft EIR, which included substantial revisions to the traffic analysis, was released in July 2006. The Second Partially Recirculated Revised Draft EIR was released in March 2007. This last recirculated Revised Draft EIR did contain some traffic analysis, but it was focused on a.m. peak hour impacts in Placer and Sacramento counties.

Although the SACSIM regional travel forecasting model system was developed by SACOG in 2005 and 2006, it was not available for initial forecasting purposes until March 2007. The 2005 SACSIM roadway and transit networks and the land-use files were developed in 2005-2006 and the 2005 SACSIM model was validated in 2006. However, SACOG did not release the future (2035) parcel based inputs for use by outside agencies and consultants until about January 30, 2007. SACOG was still constructing and modifying future (2027/2035) roadway and transit networks in February 2007. At this time, the networks and land-use inputs for intermediate horizon years (e.g. 2015, 2020, 2025, and 2030) still have not been released.

ENDNOTES

California Air Resources Board. 2002. Proposed Methodology to Model Carbon Dioxide Emissions and Estimate Fuel Economy. Available: <http://www.arb.ca.gov/msei/onroad/downloads/pubs/co2final.pdf>. Accessed in January 2007.

California Energy Commission. 2006a. *Inventory of California Greenhouse Gas Emissions and Sinks:1990 to 2004.* (Staff Final Report). Publication CEC-600-2006-013-SF. Available: <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>. Accessed in January 2007.

CENTER *for* BIOLOGICAL DIVERSITY *Because life is good.*

VIA ELECTRONIC MAIL

May 16, 2007

Maywan Krach
Placer County Community Development Resource Agency
Environmental Coordination Services
3091 County Center Drive
Auburn, CA 95603
E-mail: mkrach@placer.ca.gov
Fax: (530) 745-3003

Re: Placer Vineyards Specific Plan Revised Draft EIR, PEIR-T20040651, SCH #1999062020 Specific Plans, Amendments to the Placer County General Plan & Dry Creek West Placer Community Plan, Rezoning, Development Agreement

These comments are submitted on behalf of the Center for Biological Diversity ("Center") on the Placer Vineyards Specific Plan Revised Draft EIR, PEIR-T20040651, SCH #1999062020 Specific Plans, Amendments to the Placer County General Plan & Dry Creek West Placer Community Plan, Rezoning, and Development Agreement (hereinafter the "project"). The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 35,000 members throughout California and the western United States, including Placer County. A

As an initial matter, the Center hereby requests an extension of the public comment period on the Draft EIR for a period of 30 days in order to provide it and other members of the public with adequate time to fully consider and comment on the extensive changes proposed. While the Center hopes the County will grant this request, some of our initial concerns follow.

The Placer Vineyards Specific Plan will result in the construction of over 14,000 homes over a 20 to 30-year time frame and will have a population of approximately 33,000 people, 274 acres of commercial uses, 641 acres of quasi-public (public facilities/services, religious facilities, schools, and major roadways) land uses, and 919 acres of park and open space land. Under the *Blueprint Land Use Plan* scenario, the Placer Vineyards unit count is increased to approximately 21,631 dwelling units (7,499 additional dwelling units) and approximately 58,000 people. A new section discussing climate change was included in the revised Draft EIR, identifying greenhouse gas emissions and climate change impacts as a new significant and unavoidable impact. The revised Draft EIR also proposed mitigation measures in relation to the newly identified impact. However, the County's analysis of greenhouse gas emissions and climate change impacts, mitigation measures, and alternatives remains flawed in many respects. B

Tucson • Phoenix • San Francisco • San Diego • Los Angeles • Joshua Tree • Silver City • Portland • Washington, DC
PO Box 7745 • San Diego, CA 92167 *tel:* (619) 224-3400 *fax:* (619) 224-3700 *www.BiologicalDiversity.org*

First, the County has not conducted an adequate inventory or projected inventory of greenhouse gas emissions from the project. At a minimum, a greenhouse gas inventory for the project must include all "[d]irect or primary effects which are caused by the project and occur at the same time and place" and "[i]ndirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems." 14 Cal.Code Regs § 15358(a)(1), (2). Thus, the EIR should include emissions from, for example: construction vehicles and machinery; manufacturing and transporting building materials; heating, cooling, lighting, and other energy demands of commercial, residential and other uses of the project site; water supply for the project; vehicle trips and transportation emissions generated by the project, used for moving raw materials, finished products, supplies, or people; emission from agricultural or other processes on site; fugitive emissions such as methane leaks from pipeline systems and leaks of HFCs from air conditioning systems; and off site waste disposal. This list is not exhaustive. C

While some of these sources of greenhouse gases were noted in the revised EIR, others were not. Further, those that were mentioned were not adequately analyzed. The Draft EIR states that "[a]lthough the CCAR provides a methodology for calculating GHG emissions, the process is designed to be applied to a single or limited number of entities or operations where detailed information on emissions sources is available (e.g., usage of electricity and natural gas, numbers and types of vehicles and equipment in a fleet, type and usage of heating and cooling systems, emissions from manufacturing processes). Information at this level of detail is not available for the Placer Vineyards project." This statement is unacceptable. D

The fact that the ultimate uses of the 98 acres of Business Park land use could vary substantially depending on "the type and amount of office and commercial uses that are developed," and the "approximately 13,400 residences could vary substantially based on numerous factors, such as the sizes of homes, the type and extent of energy efficiency measures that might be incorporated into each home's design, the type and size of appliances installed in the home, and whether solar energy facilities are included on any of the residences" is not a legal justification for failing to disclose and analyze the project's emissions. DEIR at 4.13-11. If the range of potential types of design and operational is that uncertain, either a range of possibilities must be assessed as alternatives, or the project description must be honed. In no event can the County avoid the analysis required by CEQA by failing to provide the details now or only by providing these critical details after the CEQA process is completed. E

Similarly, it is inappropriate to assume that the project's sources will track those of the state of California in general. *See, e.g.,* DEIR at 4.13-13 ("Making the general assumption that the proportion of transportation-sector emissions from the Placer Vineyards project at buildout would be similar to the statewide results for 2004, overall CO_2 emissions from the Placer Vineyards project would be approximately 523,000 tons per year."). As noted above, the specific information about the energy demands, air pollution, and greenhouse gas pollution of the project are discernable now and must be disclosed with as much detail as possible, even if this means disclosing the emissions from a range of alternative design and operational parameters. F

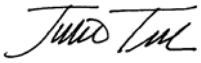
Not only does the draft EIR fail to adequately disclose and analyze the project's greenhouse gas emissions, but it also fails to mitigate these impacts to the extent feasible as required by CEQA. While the DEIR concludes that the Project's greenhouse gas emissions will be significant (DEIR at 4.13-15), it then concludes they will be "unavoidable" without ensuring that all feasible mitigation measures and alternatives were adopted and considered. Its "mitigating factors" are largely couched with voluntary or aspirational terms and fall far short of CEQA's requirement to avoid or reduce significant project impacts to the maximum extent feasible. *See* DEIR 4.13-15 through 4.13-18. G

As with any other significant impact, agencies must mitigate or avoid significant greenhouse gas emissions and climate change impacts of projects they carry out or approve. Pub. Res. Code § 21002.1(b). An EIR must include "feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy." 14 Cal. Code Regs. § 15126.4(a)(1); *see also* Pub. Res. Code § 21000(b)(3)(an EIR must include a separate section discussing "Mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy."). CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." Pub. Res. Code § 21061.1. In the determination of economic feasibility, the economic cost of the project's greenhouse gas emissions must be taken into consideration. The draft EIR states that the "proposed Specific Plan contains the following goals and policies that will tend to reduce GHG emissions in the Specific Plan area," but most of the goals and policies listed are not enforceable, mandatory, or effective. *See* DEIR at 4.13-5 through 4.13-10. H

Finally, while it is commendable that the Draft EIR acknowledges that climate change may impact the reliability of the state's water supply, its significance analysis and conclusion (DEIR at 4.13-26) are not supported by substantial evidence. Furthermore, the Draft EIR should also have acknowledged the many other impacts of climate change on additional resources in the area, including biological resources. I J

The Center looks forward to a revised Draft EIR that addresses the above comments and provides the level of analysis and mitigation required by CEQA. Also, please add the Center to your mailing list for this project. Thank you for this opportunity to comment on the Placer Vineyards Specific Plan Revised Draft EIR. K

Sincerely,



Julie Teel, Staff Attorney

LETTER 65 JULIE TEEL, STAFF ATTORNEY, CENTER FOR BIOLOGICAL DIVERSITY

Response 65A: Commenter describes the commenting organization and requests a 30 day extension of the Second Partially Recirculated Revised Draft EIR comment period. The Second Partially Recirculated Revised Draft EIR was available for comment by agencies and other interested persons for a full 45 days, in accordance with CEQA. The Second Partially Recirculated Revised Draft EIR focused on a limited number of issues and contained significantly fewer pages than a typical project EIR. It is also significant that this is the fourth review period established for the CEQA component of the Placer Vineyards Specific Plan. All the established review periods have been for 45 or more days and cumulatively have exceeded six months in length. For the above reasons, the County is not persuaded that an additional review period is warranted.

Response 65B: The commentator states that the County's analysis of GHG emissions and climate change impacts, mitigation measures, and alternatives remains flawed in many respects. The County disagrees. See Responses to Comments 65C through 65J.

Response 65C: The commenter notes that the GHG inventory done for the Placer Vineyards Specific Plan is not exhaustive, and should include GHG emissions from all possible sources, direct and indirect, as a result of the project. The comment includes this passage: "Examples of emission sources that are not directly quantified include: construction vehicles and machinery; manufacturing and transporting building materials; heating, cooling, lighting, and other energy demands of commercial, residential, and other uses of the project site; water supply for the project; vehicle trips and transportation emissions generated by the project used for moving raw materials, finished products, supplies, or people; emissions from agricultural or other processes on the site; fugitive emissions such as methane leaks from pipeline systems and leaks of HFCs from air conditioning systems; and offsite waste disposal."

In other words, this comment argues that the County's analysis should have included emissions from what might be called the full life cycle of the project – from the milling of trees for wood for framing materials to be used in the construction of homes in the project area to the manufacture and transport of goods that might be sold in stores in the retail areas within the project site. Unfortunately, most of this information is simply not available for PVSP or indeed for any project subject to CEQA. Thus, any attempt to quantify emissions to the extent suggested by the commenter would include a great deal of speculation, and would be of little or no practical value. (See CEQA Guidelines, Section 15145.) More to the point, however, common CEQA practice, for good reason, has never included attempts to generate some of the kinds of information demanded. For example, the request for quantification of the emissions from "manufacturing and transporting building materials" assumes that the County and its consultants have knowledge of, or could obtain knowledge of, all of the following: (i) the specific wholesale or retail suppliers of all of the building materials that various home builders and other construction companies will use during the lengthy build-out period for the project; (ii) the identities of the specific mills or manufacturers that will sell their products to these unknown wholesale or retail suppliers; (iii) the geographic areas within North America or other continents from which the raw materials for these mills or manufacturers originate; and (iv) the quantities of building materials of various kinds that will be used during the build-out period. At present, the

County has absolutely no way of knowing whether the lumber products to be used over the next 20 years or so will be produced in Canada, the Pacific Northwest, the Southeastern United States, or somewhere else (e.g., Siberia or Southeast Asia). Nor can the County reasonably ascertain the locations of the mills the raw lumber will be turned into building materials.

Additional factors making impossible – or, at the least, unreliable -- the kind of "cradle to grave" analysis proposed by the commenter are the following: (i) the strong possibility that, over the next 20 years, the manufacturers and transporters of building materials may well be subjected to direct regulation of their GHG emissions; (ii) the possibility that the construction industry may gradually or suddenly substitute new, less environmentally damaging materials for some of the GHG-intensive materials currently in use; and (iii) and the possibility that, particularly in California, where AB 32 is now the law, new fuels and power sources may replace some or all of those currently in use to the extent that such current energy sources emit unacceptable levels of GHGs.

With respect to leakage rates from natural gas pipeline infrastructure and HFC leakage from improper care of air conditioning equipment, these sources are not specific to this project, and, additionally, leakage rates would be negligible relative to the contribution of CO_2 from vehicle trips.

Where the County could plausibly produce quantitative information in support of its analysis, the County has done so. Its analysis includes an attempt to quantitatively include the non-speculative sources of emissions by using the statewide emissions inventory's relative contributions of GHG emissions from different sectors. For example, assuming that energy consumption factors for this development would be similar to the statewide average, the calculated value of CO_2 emissions from transportation was extrapolated using proportionality to the emission inventory data. This is a conservative attempt to report the direct GHG emissions that would occur from the project. Given the very recent enactment of AB 32 (fall of 2006), there is no accepted methodology or air quality model available for quantification of CO_2 emissions from development projects. The County and its consultants, using their professional expertise and judgment, have therefore done their best to devise their own methodology, which is intentionally conservative because of the newness of the science at issue. The analysis in the Second Partially Recirculated Revised Draft EIR represents a sophisticated good faith attempt to quantify and disclose emissions using the information that is available.

Notably, although it is certainly true that some of the activities mentioned by the commenter indeed do result in GHG emissions, the quantities at issue would be relatively minor relative to the operational emissions associated with the project, because the lifetime of the project is an order of magnitude larger than the duration of construction of the project.

In summary, although indirect, offsite emissions would occur as a result of the project, reliable quantification of such sources, beyond what has already been set forth in the Second Partially Recirculated Revised Draft EIR, is simply not possible to obtain. It is true that crude and questionable assumptions could used in the kind of analysis the commenter is seeking, but the County is unwilling to generate numbers solely for the sake of generating numbers, when the numbers might bear little or no relation to reality – to the extent that "reality" 20 years hence is

even possible to ascertain with any accuracy in the present. Had the County concluded that GHG emissions would be less than significant, either before or after mitigation, the "missing analysis" would be of greater importance than it is here, where the County honestly and forthrightly concluded that, even with all feasible mitigation, GHG emissions would be significant and unavoidable. It is inconceivable that, even with the kind of (speculative) analysis demanded by the commenter, this bottom line conclusion would change. Furthermore, the County lacks any power to address many of the emissions of concern to the commenter, occurring, as they do, in other states or countries, and involving manufacturing and milling activities outside of Placer County. Thus, it is very unlikely that any additional feasible mitigation would be derived from what the commenter regards as "missing analysis."

Response 65D: This comment states that the analysis' assertion that the CCAR methodology for quantifying GHG emissions does not apply to the PVSP project "is unacceptable." However, this statement is, in fact, correct; the CCAR methodology does not apply to the proposed project; rather, the CCAR methodology applies to stationary sources or similar entities, which will be required to report emissions to the CCAR in the future. This methodology does not apply to a specific plan or any type of similar development project.

Response 65E: The commenter states that "[t]he fact that the ultimate uses of the 98 acres of Business Park land use could vary substantially depending on 'the type and amount of office and commercial uses that are developed,' and the 'approximately 13,400 residences could vary substantially based on numerous facts, such as the sizes of homes, the type and extent of energy efficiency measures that might be incorporated into each home's design, the type and size of appliances installed in the home, and whether solar energy facilities are included on any of the residences' is not a legal justification for failing to disclose and analyze the project's emissions." The commenter mischaracterizes the basis for which the Second Partially Recirculated Revised Draft EIR explained that that ultimate land use could vary depending on several factors, such as those cited by the commenter. The section cited by the commenter is intended to explain why the methodology for calculating GHG emissions provided by California Climate Action Registry is not appropriate for estimating GHG emissions from the Project. The section cited by the commenter does not assert that an analysis of GHG emissions cannot be performed for the project or that the project's contribution to GHG emissions cannot be disclosed. (Second Partially Recirculated Revised Draft EIR 4.13-11.) Indeed, the Revised Draft EIR does provide a quantitative impact assessment of the amount of GHG emissions that would result from build-out of the Project. (Second Partially Recirculated Revised Draft EIR 4.13-11 through 4.13.15.)

To the extent that the commenter may be contending that the analysis is insufficient under CEQA because the applicants and the County do not yet possess final design information for each proposed future residential, office, business park and other proposed developments, the commenter makes an unreasonable request. In suggesting that "the project description be honed" in order to eliminate some of the flexibility and uncertainty inherent in the proposed Specific Plan, the commenter misapprehends the relationship between CEQA and the Planning and Zoning Law. The commenter's request is tantamount to a demand that local agencies change the nature of planning in California. Like a general plan, a specific plan for an area the size of Placer Vineyards is a long-term growth blueprint premised on the notion that, while certain uses are favored in certain areas, the precise uses and the size and extent of those uses only become

known over time as market forces shape the specific proposals that landowners bring forward for County consideration. Due to the size and complexity of development within the Specific Plan area, there is no formal project phasing plan. The pattern and design of development of the project therefore will ultimately depend on factors such as shifts in market demand, changing long-term development goals, and the need to provide infrastructure to the Specific Plan area. (See Revised Draft EIR, page 3-34.)

In other words, the County cannot "hone" the project description without attempting to change the nature of specific plans, which are planning tools clearly favored by the Legislature. (See Government Code Section 65450 et seq.) CEQA, as enacted by the Legislature, does not trump or obliterate other statutes also enacted by the Legislature. Rather, the precise manner in which CEQA is applied depends on the nature of the project approval at issue. The kind of precision in a project description appropriate for, say, a conditional use permit, is not appropriate for a long-term plan such as the Placer Vineyards Specific Plan. This legal principle is clearly reflected in CEQA itself, contrary to the implication from the commenter's assertions. The degree of specificity required under CEQA corresponds to the degree of specificity involved in the underlying proposed Specific Plan. (CEQA Guidelines Section 15146.)

Because the details of the final design of development proposed by the Specific Plan are not known and will very likely vary over time as the project is built out, it is not possible to determine the precise amount of GHG emissions that would ultimately result from project build-out. Nevertheless, as explained by the Second Partially Recirculated Revised Draft EIR, the analysis provides a general estimate of the impacts of the project on GHG emissions based on the best information available to the County. The analysis contained in the greenhouse gas emissions and global climate change section, Section 4.13 of the Second Partially Recirculated Revised Draft EIR, is based on the best available information and reflects the best professional judgment of environmental, climatology and air quality professionals with considerable experience in this area. No change to the EIR is necessary. Even if the County were able to achieve the level of precision sought by the commenter, the results would not change the County's ultimate conclusion that the project's impacts on climate change are significant and unavoidable.

Response 65F: This comment asserts that it is inappropriate to assume that the project's emissions would track those of the state of California. Although the exact types and masses of emissions from the project are not known at this time, this challenged assumption was used as a conservative estimate where better information was not available. There is greater evidence supporting the assumption that this project would be similar to the statewide average than in support of the assumption that the project would be dissimilar. For example, the project's electricity supply would come from the same grid as the majority of the state, in which approximately 80% of the power comes from in-state power generation facilities, many of them renewable, while 20% comes from out of state generation facilities. (See also Response to Comment 65C, paragraph 2.) It is possible that emission factors have been developed on a per home basis since the time this analysis was prepared, but those emission factors would likely also be based on statewide averages, resulting in a similar outcome. Nonetheless, there is no adopted methodology available from the State of California, the California Environmental Protection Agency, the California Air Resources Board, or the Placer County Air Pollution

Control District describing which emission factors should be used. Under such circumstances, CEQA does not prohibit a lead agency and its expert consultants from developing a new methodology in order to disclose an impact, which was exactly what was done in this case. In fact, such original technical work is necessary in the absence of widely accepted technical methodologies, provided that the resulting analysis is not unduly speculative. Finally, even if more detailed emission factors were available for this type of programmatic analysis, the magnitude of the result would still be large; thus, the impact conclusion would remain significant and unavoidable.

To the extent that the commenter may be contending that the analysis is insufficient because the applicants and County do not yet possess final design information that would ultimately occur in the Specific Plan area, the County responds that such information is not necessary for CEQA compliance purposes. See Response to Comment 65E.

Response 65G: The commenter asserts that the Revised Draft EIR fails to mitigate the impact of greenhouse gas emissions to the extent feasible. The commenter states that the draft EIR's "mitigating factors" are largely non-mandatory and fail to avoid or reduce the project's impact on global climate change to the maximum extent feasible. Notably, many of the *mitigating factors* listed in the Revised Draft EIR are not mitigation measures and are identified to inform the public and decision-makers of the components already proposed for the project that would tend to reduce the project's contribution to global climate change. To the extent that the commenter may be contending that the *mitigation measures* included in the Revised Draft EIR are inadequate, the County disagrees for the reasons described below.

Mitigation Measures 4.13-1a through 4.13-1l cross reference mitigation measures proposed in the Revised Draft EIR and the first Partially Recirculated Revised Draft EIR. The mitigation measures crossed referenced in Section 4.13 provide a menu of individual mechanisms that would reduce air-quality, traffic, and waste disposal impacts and have the concurrent co-benefit of reducing greenhouse gas emissions. Mitigation Measures 4.13-1a through 4.13-1j cross reference mitigation measures that will reduce air quality impacts. The County agrees that Mitigation Measure 4.13-1j, cross referencing 4.8-3h is not written in mandatory language. This is because Mitigation Measure 4.8-3h deals with activities undertaken by School Districts, which are entities independent of the County that the County cannot require to mitigate GHG impacts or any other impacts.

Contrary to the commenter's assertion, nearly all other mitigation measures designed to lessen the project's impact on global climate change are written in mandatory language and the commenter is encouraged to review the full text of the cross-referenced measures as well as the text of the new mitigation measures identified in the second Partially Recirculated Revised Draft EIR.

The extent to which the proposed mitigation measures are general in nature is simply a reflection of the early stage in the development process for which the draft Placer Vineyards Specific Plan is proposed. The specificity of an EIR's discussion of mitigation measures should be proportionate to the specificity underlying the project. (*Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351, 376.) If the proposed Specific Plan is adopted, the County

will have opportunities in the future, in processing future tentative subdivision maps, use permit applications, and similar entitlement requests, to translate some of the broadly framed specific plan level mitigation measures into more detailed, site-specific measures. The County will also have the opportunity, as the years pass, to keep abreast of the latest science on climate change as it considers future site-specific approvals. In addition, as the statewide implementation of AB 32 progresses, it is very likely that development within Placer Vineyards, like development elsewhere in California, will be subject to new regulatory requirements and mandates developed by the Air Resources Board.

The commenter asserts that the mitigation measures do not mitigate the project's impact on global climate change to the extent feasible; however, the commenter provides no specific examples of additional feasible mitigation measures not undertaken by the County. Because the commenter's concern is only general in nature, it is not possible to provide a more specific response than has been provided here. For additional responses to comments concerning the proposed mitigation measures for the project's incremental contribution to global climate change, see responses to Comment Letter 59.

Response 65H: Commenter quotes various sections of CEQA relating to the requirement to mitigate significant environmental impacts and then concludes that the *goals and policies* cited by the EIR are not enforceable, mandatory or effective. This comment apparently mixes considerations that may be germane to the Specific Plan (i.e. goals and policies) with those that may be relevant to the Revised Draft EIR (i.e. proposed mitigation measures), making it difficult to discern which topics presented by the commenter are CEQA-related and which ones are not. To the extent that the commenter is concerned about the mitigation measures included in the Revised Draft EIR, see Response to Comment 65G and responses to Comment letter 59. With respect to the goals and policies cited by the EIR, these goals and policies were listed in the Revised Draft EIR as evidence of components of the proposed Specific Plan that would tend to reduce GHG emissions in the specific plan area, and not as mitigation measures as required by CEQA. The commenter is encouraged to voice any specific concerns it has regarding the goals and policies proposed in the Draft Specific Plan to the County during the Board of Supervisors' upcoming public hearing on the proposed Specific Plan (currently scheduled for July 16, 2007).

Response 65I: The commenter states that the significance analysis and conclusion regarding climate change impacts on the water supply reliability are not supported by substantial evidence. The County disagrees. Section 4.13.4 of the Revised Draft EIR provided an extensive discussion of the projected nature, extent and timing of future water supply effects on California's and the Central Valley's water supply that are projected to accompany global climate change, as well as uncertainties associated with such projections. The impact analysis was based on current scientific understanding of the effects of global climate change on California's and the Central Valley's water supply, as well as the best information available on the ability of the project's proposed water supply to adapt to such changes. The commenter provides no examples of inadequacies in the draft EIR's analysis of global climate change impacts on water supply; therefore, it is not possible to provide a more specific response to commenter's concerns.

Response 65J: The commenter asserts that in addition to the effects of global climate change on water supply, the EIR should have acknowledged impacts that climate change may have on

additional resources, including biological resources. Page 4.13-14 of the Second Partially Recirculated Revised Draft EIR explains that multiple adverse environmental effects are attributable to global climate change, including extirpation or extinction of plant and wildlife species.

Response 65K: For the reasons explained in Responses to Comments 65B through 65K and responses to Comment letters 59, 64 and 56, a revised Draft EIR is not necessary. Perhaps the commenter is unaware of the extraordinary steps Placer County has taken to ensure more-than-sufficient public review for the project. Not only did the County revise and republish, in early 2006, the entire draft EIR, which was originally circulated in late 2004. The County also issued a (first) Partially Recirculated Revised Draft EIR in the summer of 2006. The project area has been identified for development since 1994, when the County published its current General Plan. The CEQA documentation for the project runs to thousands of pages, and has included a 60-day public review period for the first draft EIR, a 45-day public review period for the Revised Draft EIR, a 45-day public review period for the (first) Partially Recirculated Revised Draft EIR, and yet another 45-day public review period for the Second Partially Recirculated Revised Draft EIR. The project was the subject of several Planning Commission workshops and public hearings, and will be subject to more workshops and a hearing before the Board of Supervisors. The County, in short, has gone to enormous lengths to ensure full compliance with CEQA and an abundance of public input.

The County will add the Center for Biological Diversity to its mailing list for the Placer Vineyards Specific Plan project.

Letter 66

From: Jim O"Brien
To: Maywan Krach;
Subject: Placer Vineyards Specific Plan EIR
Date: Wednesday, May 16, 2007 4:50:23 PM

Hello,

I am writing in regards to the Environmental Impact Report (EIR) for the Placer Vineyards Specific Plan.

If this project were to be constructed it would add a significant amount of traffic to Watt Ave. near the Placer County/Sacramento County border near where I live with my wife an 3 year old son. I am very concerned about the additional air pollution that this increased traffic would bring to my area. The reason I am concerned is because two recent medical studies have shown that traffic pollution can cause a significant decrease in lung function in children and can cause respiratory problems in adults. A

I would like to see how the EIR addresses the issue of traffic pollution on the health of people who live near the roads and highways that would impacted by the additional traffic brought by the Placer Vineyards project. Below is the text from the two articles on these medical studies which was published by Reuters.

Sincerely,

Jim O'Brien
8509 Forsythia Way
Antelope, CA 95843
Ph. (916) 349-2509
e-mail: jim@horizonprovideo.com

Living near busy street ups breathing problems
Wed Dec 27, 2006 1:24PM EST

NEW YORK (Reuters Health) - The closer people live to a main road, the more likely
they are to suffer from respiratory symptoms such as breathlessness and wheezing, a
new study from Switzerland shows.
"These findings from a general population provide strong confirmation that

living near
busy streets leads to adverse respiratory health effects," Dr. Lucy Bayer-Oglesby, of
the University of Basel, and colleagues write in the American Journal of Epidemiology.
While outdoor air pollution -- especially tiny particles that can be breathed deep into the
lungs--is known to be hazardous to people's health, to date no researchers have looked
at how proximity to main roads affects respiratory symptoms in a general population,
Bayer-Oglesby and her team note.
To investigate, they looked at data from a two-part study of air pollution and lung
disease. It involved 9,651 randomly selected men and women aged 18 to 60 who
enrolled in the study in 1991, 8,047 of whom re-enrolled for the second phase of the
study in 2002.
People's risk of having attacks of breathlessness increased by 13% for every 500-meter
segments of main street located within 200 meters of their home. The risk of such
attacks among people who had never smoked fell by 12% for each additional 100
meters between their homes and a main street.
Individuals whose homes were within 20 meters of a busy road were 15% more likely to
regularly have phlegm in their breathing passages, while they were 34% more likely to
have wheezing with breathing problems.
The effects of traffic on respiratory health were stronger for men and for people who
had never smoked.
The effects of living near main streets were weaker in 2002 than in 1991, which may
have been due to stricter requirements on auto emissions, the researchers note.
"Living close to main streets or in a dense street network increases the risks for certain
respiratory symptoms in adults, particularly for asthma-related symptoms such as
attacks of breathlessness and wheezing and for bronchitic symptoms such as regular
cough and phlegm," they conclude.

SOURCE: American Journal of Epidemiology, December 15, 2006.

Traffic pollution can stunt lung development: study
Fri Jan 26, 2007 1:51PM EST

LONDON (Reuters) - Traffic pollution can prevent the lungs of children who live near
busy roads from developing properly, making them more likely to suffer respiratory and
heart problems later in life, U.S. researchers said on Friday.
They found that children who had lived within 500 yards (500 meters) of a highway from
the age of 10, had significantly less lung function by the time they reached 18 than
youngsters exposed to less traffic pollution.
"Someone suffering a pollution-related deficit in lung function as a child will probably have
less than healthy lungs all of his or her life," said James Gauderman, of the University
of Southern California.
The lead author of the study, published online by The Lancet medical journal, said
reduced lung function in later life was known to be a risk factor for respiratory and
cardiovascular disease.
The researchers studied the effects of traffic pollution on 3,600 children living in
southern California over an eight-year period.
Each year they carried out tests to measure how much, and how quickly, the children
could exhale after taking a deep breath. They also recorded the distance the youngsters
lived from freeways and other busy roads.
Children who were otherwise healthy but who lived close to main roads had a significant
decrease in lung function.

LETTER 66 JIM O'BRIEN

Response 66A: Commenter is concerned about air pollution caused by increases in traffic and its effects on nearby homes. The commenter also attached two newspaper articles discussing the subject. As explained in the Second Partially Recirculated Revised Draft EIR, pursuant to CEQA Guidelines Section 15088.5, subdivision (f)(2), Placer County, in preparing this Supplemental Final EIR, is only required to respond to comments received during the recirculation period for the Second Partially Recirculated Revised Draft EIR that relate to the chapters or portions of the Revised Draft EIR that were revised and recirculated. The Second Partially Recirculated Revised Draft EIR specifically provided, "[*t]he partial recirculation is not an opportunity to re-submit comments on previously published topics, or add additional comments on previously published topics*" (Second Partially Recirculated Revised Draft EIR, page 1-13). Although CEQA does not require the County to respond to comments on the Second Partially Recirculated Revised Draft EIR that address topics not covered in the partially recirculated document, the County is nevertheless responding to such comments for purposes of informational disclosure.

The subject of the project's effect on air quality was fully disclosed in Section 4.8 of the Revised Draft EIR. The subject is specifically addressed by Impact 4.8-4 (Revised Draft EIR page 4.8-40) and found to be less than significant. The two locations studied nearest the commenter's residence were Watt Avenue and Elkhorn Boulevard and Watt Avenue and Baseline Road. Although Revised Draft EIR Table 4.8-9 shows that the Baseline Road/Watt Avenue location is in current conformity with standards, the table also shows that the Watt and Elkhorn Boulevard intersection (on which the project would have a relatively negligible impact) does not currently meet the 8-hour standard. However, as explained on page 4.8-41 of the Revised Draft EIR, this result is probably due to the conservative nature of the modeling. Table 4.8-9 indicates that both locations would be in conformity with State and federal ambient air quality standards under cumulative conditions. As is also pointed out in one of the newspaper articles attached by the commenter (*Living near Busy Streets ups Breathing Problems*), "(t)he effects of living near main streets were weaker in 2002 than in 1991, which may have been due to stricter requirements on auto emissions…" In other words, the quality of the air near major roadways is improving due to technological advances in vehicular emissions controls, which is reflected in the cumulative condition for Placer Vineyards.

Associated with this improving air quality are recent mandates to reduce diesel fuel particulate emissions. The commenter is referred to Final EIR Response to Comment 15S for additional background on this subject.