



South Coast Air Quality Management District

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150 S. Palm Avenue
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Lytle Creek Ranch Specific Plan **Final Recirculated Portions of the Environmental Impact Report (Final RPEIR)**

The South Coast Air Quality Management District (AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The proposed project includes approximately 2,447 acres of development with 8,407 residences and nearly 850,000 square feet of commercial/industrial land. AQMD staff commented on the Draft Recirculated Portions of the Environmental Impact Report (RPEIR) and has reviewed the responses in the Final RPEIR. The following comments are meant as guidance for the Lead Agency and should be considered prior to certifying the Final CEQA document.

The lead agency relies on a Business-As-Usual (BAU) approach to determine that project Greenhouse Gas (GHG) emissions are consistent with AB 32, and hence less than significant. According to the Final RPEIR the proposed project has approximately 32.7% lower GHG emissions than the BAU project. This reduction is greater than the 28.3% reduction called for in AB 32. As growth from the proposed project was not included in the original AB 32 GHG inventories, AQMD staff inquires how the project's BAU is consistent with the AB 32 BAU.

Further, there are several calculations in the GHG analysis that are either unclear, or potentially incorrect. Correcting these calculations would reduce the presumed reduction in GHG emissions associated with this project. Because AQMD staff cannot confirm if the project GHG emissions are consistent with AB 32 targets, the lead agency should consider implementing additional mitigation or design features to reduce GHG emissions even further. This could include requirements for using solar panels onsite, implementing a Neighborhood Electric Vehicle program across at least a portion of the development, providing electric vehicle charging infrastructure on non-residential portions of the site, and increasing transit availability. Detailed comments are attached to this letter.

The AQMD staff is available to work with the Lead Agency to address these issues and any other air quality questions that may arise. Please Gordon Mize, Air Quality Specialist – CEQA Section, at (909) 396-3302, if you have any questions regarding these comments.

Sincerely,

A handwritten signature in black ink that reads "Ian V. MacMillan". The signature is written in a cursive style with a large initial "I" and "M".

Ian MacMillan

Program Supervisor, Inter-Governmental Review
Planning, Rule Development & Area Sources

Attachment

SBC120615-01
Control Number

1. Business as Usual Scenario

In order to determine the potential significance of Greenhouse Gas (GHG) emissions from this project, the EIR uses a consistency test with the mandates of AB 32. To meet this test, the EIR states that the proposed project needs to have 28.3% lower emissions than the Business-As-Usual (BAU) scenario. As specified in Table 1 of the Climate Change Technical Report in the EIR, the project emissions are approximately 32.7% lower than the BAU scenario. However, AQMD staff is unclear how the BAU scenario matches with the AB 32 BAU scenario. For example, in the AB 32 Scoping Plan, future mobile source emissions are based on statewide fuel usage and VMT growth from Regional Transportation Plans (RTP). As the Draft EIR states that growth from this project is above what was included in the 2008 RTP (Table 3-5), AQMD staff inquires how this project's BAU is consistent with the AB 32 BAU.

2. GHG Mobile Source Calculation Methodologies

Mobile source emissions account for approximately 55% and 64% of total annualized project and BAU GHG emissions, respectively. Thus mobile source emissions are the single largest source of GHG emissions from this project. It is AQMD staff understanding that the EIR determined the reduction in mobile source emissions from BAU to the project scenario using the following methodology.

Step 1. Calculate the number of 'production' trips associated with the project using the sub-regional EVTMM traffic model.

Step 2. Determine the difference between the number of residential trips in the project and BAU scenarios using URBEMIS air quality software.

Step 3. Multiply the BAU/project residential trip ratio determined above with URBEMIS (141% more trips in BAU) by the total 'production' Vehicle Miles Travelled (VMT) derived from the EVTMM traffic model to get the expected 'production' VMT from the BAU scenario.

Step 4. Calculate the mobile source GHG emissions from BAU using emission factors from the state Air Resources Board (minus Pavley standards) and the BAU VMT obtained from above. Project mobile source emissions use the same emission factor (with Pavley standards added) and the VMT from the EVTMM model.

AQMD staff is concerned that the calculations used in this methodology yield results that do not accurately reflect potential project impacts. Detailed comments regarding these concerns are below.

a. Acreage Used in URBEMIS Model

Appendix C of the Climate Change Technical Report contains the URBEMIS model outputs for the project scenario and the BAU scenario used in Step 2 above. In the project scenario, several mitigation measures were added to reflect project specific conditions. These mitigation measures yield a 10.71% reduction in the number of vehicle trips per day. There is an additional reduction in trips that is not explicitly reported in the report due to the density of the development. As described in the URBEMIS Software User Guide, projects with higher densities (dwelling units per acre) have lower trip rates than those with default densities. For example, based on information input into the project scenario, the unmitigated trip rate for 3,409 single family homes is 9.57 trips/dwelling unit (du) using default acreage. The URBEMIS report shows that the default acreage of 1136.3 acres for 3,409 single family homes was overridden by the modeler and a new acreage of 396 acres was used instead. Similarly, the acreage for the 4,998 condo/townhouses was changed by the modeler from a default of 312.4 acres to 211.2 acres. The effect of this change in density provides a 17.54% reduction in trip rate on top of the 10.71% noted above. The combined 28.25% reduction reduces the trip rate from 9.57 trips/du to 6.86 trips/du.

AQMD staff tried to determine the source of the acreage used in the URBEMIS model run, but was unable to find this information in the CEQA document or its appendices. For example, the table below illustrates the different acreages found in the URBEMIS output from the Climate Change Technical Report (CCTR) and acreages compiled by AQMD staff from Table 2-2 of the EIR.

Land Use Type	CCTR acreage	Table 2-2 acreage*
Single Family housing	396.0	618.8
Condo/Townhouse general	211.2	320.6

*Assumes SFR-3 (Single family attached) dwelling units are split proportionally with single family and condo/townhouse.

According to the URBEMIS User Guide, the input acreage “refers to the gross surface of the entire site, including any structures, streets, sidewalks, parking, and landscaping”. Using the low estimate of acreage from Table 2-2 cited in the table above (roadways are not included), the reduction due to density is reduced from 17.54% to only 9.88%. The true combined reduction should therefore be no greater than 10.71% (bike paths, transit, etc.) + 9.88% (density)=20.59%.

Using the Table 2-2 acreage reductions, the difference in the total number of residential trips between BAU and project would change from 141% to 127%. Following the same methodology steps as described above, this difference in reductions results in a final estimate of 90,258 metric tons of CO₂e per year in BAU mobile source emissions. Following this result through to Table 1 of Appendix VI-C of the Final RPEIR, the final BAU emissions would be 145,428 metric tons of CO₂e per year. The reported reduction of 32.7% between total BAU and project emissions would reduce to 28.2%. This is approximately the same as the stated target value of a 28.3% reduction required for consistency with AB 32.

b. Non-Residential Trips Not Included in Analysis

The GHG analysis did not include any non-residential trips, with the conclusory rationale that “new non-residential areas do not necessarily represent growth since people would already be taking these trips. The new non-residential areas will only serve to displace the location of trips.” (Revised CCTR, Section 5.2.3.1). Although current statewide and AQMD guidance may be limited in describing the use of this methodology for GHG’s, the AQMD CEQA Air Quality Handbook (pg. 9-8) recommends that all trips associated with a new development be presumed as new without substantial evidence stating otherwise. While some of the trips associated with non-residential land uses will likely be ‘internal’ trips that come directly from project residences, this correction can be made without assuming that all non-residential trips are internal.

The total non-residential trip percentage from the URBEMIS model runs from the Climate Change Technical Report are 27% for BAU and 32% for the project. While the BAU and project scenarios are supposed to have the same amount of residential and commercial development, the BAU scenario has a higher proportion of total trips dedicated to residential. By removing the non-residential trips for both scenarios, the BAU scenario may overestimate the total number of trips and expected GHG emissions. If the BAU scenario is overestimated, the assumed reduction in GHG’s may also be overestimated.

c. Trip Rates Used in CalEEMod

In the Final RPEIR, an additional analysis was conducted using the newest land use software called CalEEMod. CalEEMod has been designed as a replacement of the older URBEMIS software and first became available in 2011. In the project scenario model run of CalEEMod, all of the residential dwelling units are placed into a single category and given an average trip rate of 5.66 trips/dwelling unit. AQMD staff confirmed that this value is consistent with the traffic study from the EIR. In the BAU scenario model run of CalEEMod, the average trip rate is 7.23 trips/dwelling unit. AQMD staff could not find the origin of this trip rate in any of the EIR documentation and could not recalculate this value from other information. As mobile source emissions are the largest source of GHGs from this project, AQMD staff cannot confirm if the CalEEMod output also yields a less than significant impact.

3. Mitigation Measures

Because it is not clear to AQMD staff if the project exceeds the GHG significance thresholds established in the EIR for this project, the lead agency may want to consider the following additional mitigation measures to reduce greenhouse gas emissions even further.

- Establish a Neighborhood Electric Vehicle (NEV) program through at least a portion of the development. For example, some portions of the development dedicated to senior housing may be more amenable to a NEV network, including one that can access the local serving retail land uses.
- Provide electric vehicle charging and/or alternative fueling infrastructure at each of the major commercial centers in the development.

- Require the use of solar panels on either a specified fraction of the development, or on the largest structures in the development to reduce the need for electricity from fossil-fueled power plants.
- Provide funding to increase the availability of public transit to this community. This could include providing a dedicated commuting shuttle service between several locations in the community and nearby rail stations.