Comment on SACOG "Stress Test" Analysis

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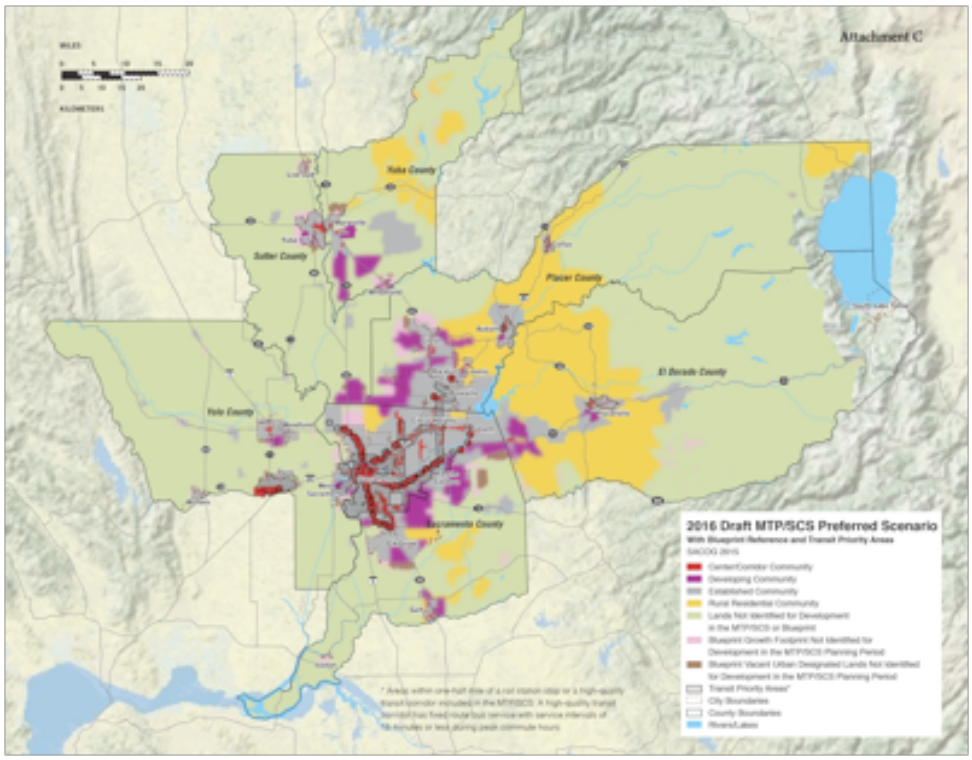
The CA Air Resources board is currently in the process of determining revisions to the regional GHG reduction targets from the light-vehicle sector under SB 375. The big 4 MPOs, including SACOG, MTC, SANDAG, and SCAG, have been asked to undergo "stress tests" to their RTP/SCSs to inform their recommendations for what these targets should be. These four MPOs have requested a very conservative reduction-target increase, totaling 18%. ECOS and PCL support the recommendations made on this topic by ClimatePlan partners, but what follows is solely the author's analysis of the stress tests, focusing on SACOG, and does not represent the opinions of organizations other than ECOS and PCL.

Background on the central strength and weakness of the SACOG MTP/SCS:



I offer the map as a visual reference for the amount of expansion in the 2016 SACOG MTP/SCS.
More than 42% of anticipated growth is greenfield development, indicated in magenta on the map.

This represents both the greatest strength of the plan, as well as its greatest weakness.
It is a poor plan, because all growth could easily be accommodated within the existing urban footprint, if the political will existed—but it is also a great plan because it is so much better than what the locals are actually planning for.

The reality that SACOG faces is that the general plans of the region cumulatively plan for more than twice as much growth: the total build-out of these cumulative General Plans anticipates over 660,000 housing units beyond 2012 stock—well more than twice the MTP/SCS estimate of 285,000.

Jurisdiction/Community Type	Existing Conditions		MTP/SCS		Cumulative General Plans		Difference	
	Total in Year 2012		Total in Year 2036		Total at Build Out		Build Out minus Projected Year 2036	
	Jobs	Housing Units	Jobs	Housing Units	Jobs	Housing Units	Jobs	Housing Units
Region Total	887,965	903,451	1,327,323	1,188,347	2,234,929	1,564,662	907,606	376,315
Center and Corridor Communities	307,652	107,718	459,750	193,885	633,282	236,212	173,532	42,327
Established Communities	527,095	686,075	742,211	764,825	1,018,936	805,215	276,725	40,390
Developing Communities	20,037	31,422	88,922	146,258	365,796	281,782	276,874	135,524
Rural Residential Communities	33,181	78,237	36,441	83,380	64,341	117,802	27,900	34,422
Areas Not Identified for Growth in the MTP/SCS by 2036					152,574	123,650	152,574	123,650

*(Data drawn from SACOG housing forecast: April 9th, 2015 staff report, pg56)

More than half of these new units would be located in previously undeveloped "greenfields," with more than 2 times the growth in SACOG's (magenta) "Developing Community" areas, and 8 times more growth in the (yellow) "Rural Residential" areas.

More than 120,000 planned units are completely outside of the SCS footprint, and this figure does not even include major potential expansion areas that are currently being pursued, including Cordova Hills, the Natomas “North Precinct,” multiple applications to expand the City of Elk Grove, and new proposals to expand Folsom even further south of their recent annexation.

These expansion areas alone could add up to more than 100, 000 additional housing units outside of the SCS. With the very important natural resource considerations in these areas aside, these expansions would be a severe blow to any possibility of successful implementation of the transportation plan as it is conceived.

ECOS, and many others, endorsed SACOG’s preferred scenario as an ambitious compromise to what the locals are doing, despite the fact it could be much better (see stress test analysis below). Only political constraints (and closely related investment priorities) inhibit the development of a better plan, not physical constraints.

As it is, ECOS anticipates that regional population and housing numbers in twenty years will probably be closer to SACOG's projections than that of the jurisdiction's general plans; the question is where will the growth be? With development trends proceeding as they currently are in the region, it is difficult to see how the scenario proposed by the MTP could be implemented, nor how the projected reductions in VMT and corresponding GHG emissions could be achieved. Clearly, if the jurisdictions were to build out their general plans as currently conceived, there would be no way to meet the required emission reductions. Yet, truly, the region is only a few poorly planned peripheral projects away from making the proposed plan impossible to implement.

The 2036 transportation plan that is proposed by the 2016 MTP/SCS Update to meet emission reductions necessarily relies on significantly increased residential densities. The jurisdictions must make a commitment to constrain their growth patterns to meet these densities or the multi-modal transportation system as is currently envisioned for 2036 will never be built.

MPO/SACOG stress test analysis:
ECOS, and many advocates, have urged the MPOs to develop extreme land use/transportation investment scenarios that are politically-unconstrained from their jurisdiction's General Plans, but remain fiscally constrained to current revenue presumptions in an effort to develop a scientific reference point for what is physically possible in improved land use. Further, we hoped to see an illustration of what savings could be made from not building transportation infrastructure for the current, more expansive SCS footprints, and what performance could be gained from folding those savings back into increased investment in existing urban areas.

We recognize that this approach would not be quite applicable to MTC's SCS, but all other MPOs have significant amounts of greenfield development in their adopted plans. Even if considered hypothetical, providing such an analysis of what is possible through increased densities and minimizing (if not eliminating) greenfield development could provide a very powerful reference point for informing ARB's 375 target setting and future VMT reduction efforts. While the analysis that the MPOs have provided in their "stress tests" is informative in many ways, they are far from illustrating this scientific base-line.

For SACOG, it is clear that political constraints, not physical constrains, inhibit the increase of housing density in these existing developed areas. To demonstrate, ECOS did some basic math in our MTP/SCS comments to make rough numerical estimates of the densities that could be achieved by a "what-if" strategy of directing growth solely into already developed portions of their "Centers and Corridors" and "Established Communities." Assuming all anticipated growth is equally divided between these two categories (increase of 142,448 Dwelling Units in each), this strategy would push the gross residential density in Established Communities to 3.1 DU/GrossAcre (4.9 DU/NetResidentialAcre), and 9.4 DU/GA (24.4 DU/NRA) in Centers & Corridors. Even in this extreme all-infill scenario, the densities in Established Communities are still not high values for transit-oriented density; further, those in Centers/Corridors still fall short of densities achieved in both San Francisco and Los Angeles. (I would also note that these numbers represent densities for the area SACOG deems "developable" in the existing footprint—75% of the existing footprint is not developed—when you average the anticipated growth over the total acreage of the existing footprint (roads, parks, etc.) the density is only ***.5 DU/GA***).

Given the tremendous capacity for growth in existing urban areas, nothing less than an all-infill scenario warrants development and analysis for the SACOG region—and a similar analysis would clearly be informative for many of the other regions, particularly in the Central Valley. But SACOG, nor the other MPOs, seem to have chosen to do vigorous LU analysis to this degree in their stress tests.

SCAG chose not to analyze any further land-use intensive strategies because they have already "set out aggressive programs in SCAG's 2016 RTP/SCS," despite the fact the SCS includes 50% greenfield development for their anticipated growth.

SANDAG presumes, also because of the intensiveness of previous land use strategies in their current SCS, that little more can be done; they say with a more aggressive LU scenario only an additional 2% of GHG reductions can be achieved, and that even when coupled with more extreme front-end funding of transit, they still only get the same result. (I find this very surprising, and would be interested in seeing a much clearer illustration of the modeling/methodology used for this conclusion).

MTC is the sole MPO that has already adopted an all in-fill scenario, so it stands to reason that there is

little VMT-reduction performance to be found from more intensive land use. Yet, even still, MTC has indicated that they could get an additional 2% reduction from more aggressive land use strategies with the "Big Cities Scenario" currently being evaluated for their current plan update.

SACOG chose to run their stress tests on the Alternative 3 of their adopted 2016 MTP/SCS, an alternative that still has 37% of growth in greenfield development. This in itself is telling—that, in SACOG's view, even such a conservatively constrained footprint is so politically unviable for their Board that a more aggressive scenario would be a waste of time to analyze. They contend that their board simply will not adopt an SCS land use scenario necessitated by a higher target. Further, they feel that because of these very real political and fiscal constraints, they cannot "legally" adopt such an aggressive SCS, yet, I would argue that it is still worth analyzing.

SACOG's report is clear in its need for 3 things to be able to develop/adopt a stronger plan:

1. Mandates that more strongly require local conformity to the regional Land Use scenario
2. Much greater (new) funding streams for Transit, particularly for operations
3. Significant increases in the cost of driving

The SACOG analysis indicates a potential of 4% of additional GHG reduction in the (very conservative) Alternative 3 LU scenario, but this would also entail, by their estimation, an additional $5 billion in land use-side, transit infrastructure, and operations costs beyond their current plan-. *This is something that warrants a full illustration*.

Again, the conclusions of SACOG's stress test analysis (and that of the other MPOS) are informative in many ways, but they are far from establishing the scientific base-line of what is truly possible from improved land use. Further, the conclusions presented are indeed just conclusions with very little illustration of the analysis/methodology used to inform those conclusions.

Without any real science to go from, it makes any target recommendation a rather arbitrary determination.