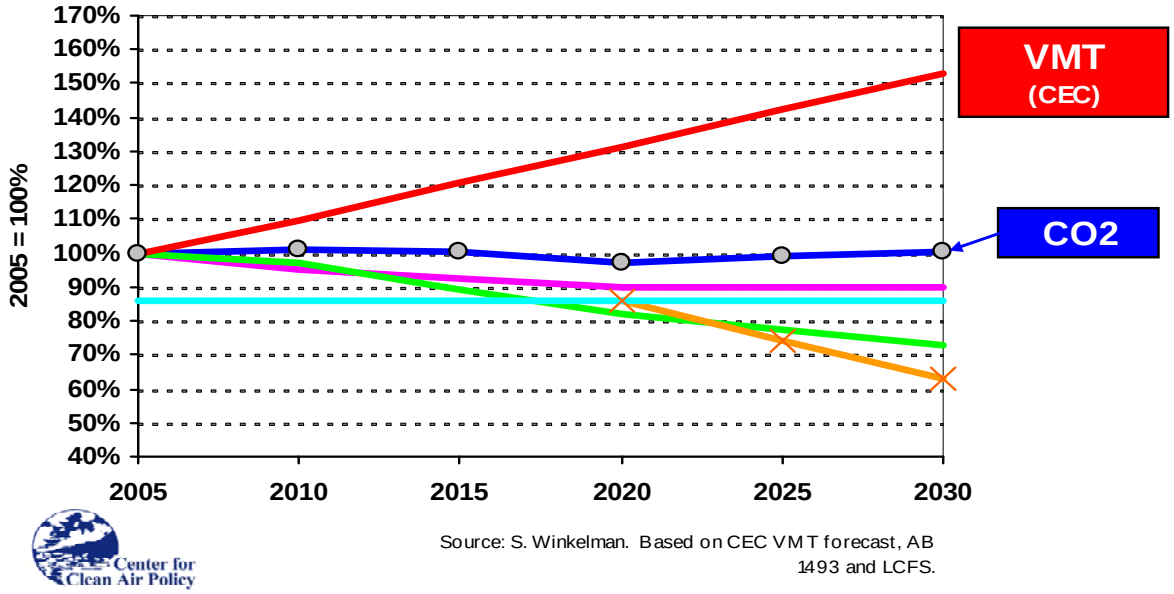
Why 5 MMT isn't Enough

The 2020 Target for Regional Transportation-Related Greenhouse Gases Should Be 11-14 MMT

CARB must set a robust 2020 target for land use in order to put California on the path to deeper emissions reductions needed by 2050.

- We simply can't afford another 10 years of business-as-usual development. If CARB sets a low target for land use, the result may be 10 more years of unsustainable auto-oriented sprawl. This will make it impossible to reach our 2050 targets.
- VMT reductions of approximately 10% by 2020 and 20% by 2030 are needed to keep California on track to reach the 2050 target. CARB's 5 MMT target, a reduction of roughly 4% VMT by 2020, simply won't get us there.
- The graph below illustrates the significance of VMT reduction. The turquoise line represents CARB's goal as set by AB 32, a return to 1990 GHG levels by 2020. It also displays a path to California's 2050 target (80% below 1990 levels – orange line). The chart assumes that the Pavley cleaner car standards (green line) and a Low Carbon Fuel Standard (purple line) completely meet their reduction shares. It is clear that our total transportation CO2 (dark blue line) will fail to reach our 2020 or 2030 targets with unchecked VMT growth.



Source: S. Winkelman. Based on CEC VMT forecast, AB 1493 and LCFS.

The methodology CARB used to generate the current 5MMT estimate is outdated and flawed.

- For a document as important as the AB 32 Scoping Plan, CARB should draw on the broadest possible range of studies and methodologies available to generate their estimate of reductions from the land use sector**.** Instead, they rely on a *single* study (The UC Berkeley report) to generate the 5MMT estimate.

- Even the author of the UC Berkeley report criticizes some of the models in her study: "the results confirm that even improved calibrated travel models are likely to underestimate VKT [vehicle kilometers traveled] reductions from land use, transit, and pricing policies. These models simply are not suited for the policy analysis demands in the era of global climate change."
- The regional model simulations in the UC Berkeley report are widely acknowledged to understate the benefits of dense mixed use development. Shortcomings of this approach include the inability to model trip-chaining behavior (when residents tie several errands into one trip); the total neglect of walk and bike trips; the use of fixed vehicle trip rates by land-use type regardless of location; the failure to consider the effect of building, street, and sidewalk layouts in encouraging walking or transit; and the use of large travel analysis zones that blur land use patterns.[1]
- Finally, CARB's decision to select the midpoint of the UC Berkeley report is unjustified.
    - Given that regional simulations tend to understate the benefits of smart growth, CARB staff needs to justify their decision to use the median range of 4% VMT reduction from that study, by explaining why the midpoint is any more supportable than either of the extremes of the range (2-6%).
    - The UC Berkeley report includes a number of single and double policy simulations that are not representative of California's intended approach to transportation and land use, as outlined in the Proposed Scoping Plan and SB375. In these scenarios, VMT estimates are generated by model simulations that alter a single policy – for example, increasing funding for transit while changing nothing else. Most experts agree that the greatest synergies in VMT reduction are achieved with the combination of land use, transportation and pricing strategies, which is exactly CARB's stated approach. Thus, the single and double policy studies should be excluded from the analysis, which would have the effect of increasing the number.

National Experts find that a target of 11-14 MMT a year is achievable by 2020.

- Rather than basing their estimate on a single study, CARB should examine a more recent scientific analysis by Dr. Reid Ewing and Dr. Arthur C. Nelson, leading experts on smart growth and climate change and the authors of *Growing Cooler*. Unlike the UC Berkeley report, the Ewing Report is based on actual historical data exclusively from California for a 20-year period. It is far more realistic in its projections than the UC Berkeley Report, which includes a series of regional modeling studies from different states and nations with widely differing circumstances.
- The Ewing Report's estimate is *conservative*. While 11-14 MMT may seem high, this estimate can be considered conservative and therefore a safe and reliable estimate for CARB to include in the Scoping Plan for the following reasons:
    - The Ewing Report assumes $2.00 - $2.50 gasoline through 2020 which is very conservative given global trends. VMT will almost certainly decline beyond the levels predicted in the Ewing Report due to higher gas prices. As an example, with the increase in national gas prices to $3.50 in summer 2008, national VMT fell by 5%.

[1] (DKS Associates & University of California [DKS], 2007 These shortcomings are echoed in other recent critiques of modeling systems and practices (Beimborn, Kennedy, & Schaefer, n.d.; Cervero, 2006; Committee for Determination of the State of the Practice in Metropolitan Area Travel Forecasting, Transportation Research Board [TRB], 2007; Johnston, 2004; Walters, Ewing, & Schroeer, 2000).

- The Ewing Report does not include the VMT saved by improving jobs-housing balance *within* regions, a major goal and likely result of SB375's Sustainable Communities Strategies. For example, the Bay Area currently suffers a housing shortage of 400,000 units, requiring many Bay Area residents to find housing in the Central Valley. SB 375 will direct regions to provide enough housing for all economic segments of the population. This will dramatically reduce VMT, over and above what is included in the Ewing Report estimate.
- A study by Holtzclaw and Goldstein (2005) found that infill development can actually reduce VMT of *existing residents* of a community by improving transit and attracting more commercial development. The Ewing Report only accounts for VMT reductions from *new* development without accounting for likely additional VMT reductions from current Californians.

A target of 11-14 million metric tons translates to a very modest reduction in driving.

- 11-14 MMT equals roughly a 10% VMT reduction from a 2020 baseline, or *less than 4 miles per day for the average California driver.* CARB's current target of 5MMT is only a 4% reduction.

	2020
CA Likely Licensed Drivers	27,938,039
Daily VMT (Business as Usual)	988,000,000
VMT per Driver (Business as Usual)	35.36
Daily VMT with 10% reduction	889,200,000
Per Capita VMT with 10% reduction	31.8
Total Daily Miles Reduced Per Driver	3.56

VMT estimates provided by Jeff Weir, CARB staff, based on EMFAC2007 on-road model
Licensed Drivers based on 633/1000 total population (average from 1998-2007), Fed Hwy Admin data.

- When people live in compact, mixed-use communities they drive 30 percent less than residents of sprawl. Residents of NE San Francisco drive 75% less than typical of sprawl (San Ramon), while Manhattan residents drive 89% less, and both continue to grow[2].
- When transit is convenient and reliable, people *choose* to use it. When Bay Area residents both live and work within ½ mile of transit, 42% of them ride it to work.
- 25% of all development on the ground in 2020 will have been built between 2010 and 2020. This presents a tremendous opportunity to improve the design of new development so that it allows people to choose alternatives to driving.

[2] http://www.sierraclub.org/sprawl/articles/campusprogress2006.pdf