The following document was provided by Jerry Walters, Regional Targets Advisory Committee (RTAC) member, for consideration by the committee.

Suggestions for Building Upon Barry Wallerstein's RTAC Proposal
Submitted 7/20/09 by Jerry Walters

Barry Wallerstein's 7/16/09 Draft SB 375 RTAC Proposal represents a very good summary of key information which the RTAC has taken under consideration, a very clear statement of our objectives, and a very effective presentation and assessment of methods for establishing targets. While I agree with most of what Barry presents, I would like to add my perspective on three important topics that are either not fully addressed or that, in my opinion, should be refined to a degree. These are:

- Criteria for establishing ambitious but achievable targets
- The interim use of a best-management-practices point system in lieu of travel modeling
- Target-setting metrics that equitably account for GHG reduction measures already implemented in some regions and for the relative degree of additional reduction possible in high-growth versus lower-growth regions

Suggestions on each of these topics follow.

Ambitious but Achievable Targets

While Barry thoroughly addresses the challenges involved in analyzing the effectiveness of prospective land use and transportation strategies, he does not describe how we might set aggressive and achievable targets without an existing set of consistent and accurate travel models. I suggest that this can be accomplished, within the tenure of the RTAC, using a combination of:

- an assessment of the land use and transportation strategies contained within each of the existing MPO blueprint plans, and

- consideration of blueprint performance, as modeled by each MPO, but only while applying consistency and reasonableness checks as recommended in Barry's Path 1 methods for establishing targets.

The RTAC determination of ambitiously achievable targets should be based on our assessment of the degree to which the respective blueprints contain strategies known to reduce VMT and resulting GHG. A number of these indicators are included in the ARB staff Preliminary Draft Framework included in the meeting materials for the July 22 RTAC meeting. The listed performance indicators include, for example, the change from base year in regional density, development mix, and transit accessibility. Based on requests by RTAC members for blueprint data at prior meetings and on preliminary information provided by ARB staff at the June 3 RTAC meeting, I would expect that the RTAC will be given the opportunity to review each regional blueprint in the context of these indicators. For example, the June 3 information did not provide enough information from all MPOs to complete the assessment, but it did tell us that:

- Regions with high growth rates (greater than 1.7% per year) project the greatest changes in per capita CO_2 (increased or decreased by 8% or more), while regions with low growth rates (less than 1.0% annually) projected the smallest changes in per capita CO_2 (increase or decrease of less than 2%)

- Regions with good jobs/housing balance (between 1.1 and 1.4 jobs per household) project stable or decreasing per capita CO_2, while those with poor balance project an increase in CO_2 per capita.

- High-growth regions that are expanding at low densities (less than 1 person and job per acre) increased their per capita CO_2 at a substantially greater rate than those growing at higher densities (greater than 1.5 person and job per acre).

To make informed decisions on ambitiously achievable targets, we should want to compare respective regional growth rates in: infill versus greenfield development, large-lot single-family versus small lot and multi-family residential, employment within ½ mile of a transit node, downtown parking costs, transit fares, transit revenue miles, highway lane miles. RTAC review of such information, particularly in the context of testimony we received from Randall Lewis and Betty Deakin on the California market potential for various real estate products, would seem critical to our ability to judge whether regions are setting ambitious but achievable goals through their blueprints.

Once we've seen the evidence on the relative degrees to which the most ambitious and less ambitious regions have adopted sustainable land use and transportation policies, subject to understandable variations in their economies, we can quantify reasonably ambitious targets. **Quantification of the targets would rely, initially, on the known empirical relationships between travel generation and land use: density, diversity, design, destination accessibility, distance from transit, demographics, development scale and demand management** ("8 Ds"). Knowing the research findings on the expected sensitivity of VMT to each of these indicators, the RTAC would also be able to make intelligent assessments of the approximate degree of VMT change that would be expected, and to preliminarily assess whether the MPOs own modeling reasonably reflects the expected degree of change.

Sunset for Point-System Methodology

As Barry notes, the Path 2 BMP approach has several significant limitations, and should be applied only under carefully prescribed guidelines and only until more effective Path 1 modeling can be developed. The BMP limitations are that a point system cannot reliably account for:

- variations among regions, and
- the fact that individual trip reduction measures combine with one another in complex ways.

Regional variations such as demographics, land values, pre-existing infrastructure and transportation programs will affect the trip reduction potential of prospective land use and transportation BMP's. For example, a given increase in bus revenue miles in a rural county would not impact VMT in the same manner as they the same increase in an urban area. Also, a regional plan emphasizing a 40% increase in concentrated development will more effectively reduce short-term growth in trip generation in regions where land values and demographics support higher concentrations and where the regional economy is able to provide improved transit service or increased road pricing.

Furthermore, individual transportation and land use BMPs interact in complex ways. Increasing transit frequencies to downtown will have significantly greater effectiveness when coupled with increasing the cost of downtown parking, than the sum of the effects of increasing transit frequencies alone or increasing parking costs without improved transit options. Therefore, any points prescribed for individual BMPs under Plan 2 would be highly conditional and variable and would, therefore, be too inexact to produce reliable estimates of GHG reduction.

Barry points out a number of important reasons to get the modeling right in the near term, and a number of ways to do so. Allowing for delays to 2014 does not accomplish critical shorter-term needs to improve AQMPs and SIP modeling or updates to the AB 32 Scoping Plan. Willingness to delay also fails to send a strong enough message to State and Federal programs that could assist MPOs (especially small and fast-growing ones) to bring their modeling capabilities and their accountability to air quality targets on course. Barry's recommendations on model performance standards, uniform assumptions and data, and expert technical review, along with model validation against fuel sales, will bring MPO modeling into acceptable conformity in the short term and allow MPOs to take subsequent steps to bring models to state-of-the-practice, as defined in the 2008 CTC guidelines for RTP modeling under AB32 and the 2007 Caltrans report "Assessment of Local Models and Tools for Analyzing Smart-Growth Strategies".

I **recommend that the opportunity to use of the BMP checklist as the sole SB 375 reporting mechanism only for those MPO's that are small, slow growing, and do not have existing travel models.** For others, a BMP checklist could be used for self-assessment of the completeness of their regional strategy packages and for generating preliminary planning concepts for MPOs and member-

jurisdictions. However, SCS/ APS refinement and evaluation should occur through improved modeling, Path 1.

Metrics, Benchmarks and Interregional Equity

As Barry points out, or objectives are to make regional target-setting clear and straight forward as well as equitable. Among the key factors to consider, targets should: give credit to MPOs who have implemented early GHG control actions, take into account differences in regional economies and imbedded infrastructure, apply on a pro-rata basis (per capita or per household) to account for different regional growth rates, and apply as percent reductions to flexibly adjust to changing technology and economic conditions over time. One simple way to accomplish this would be to define the target as a uniform **percentage reduction in GHG per new household**. This would *not* mean that the target is intended to only reduce VMT from the "new" households, as regions will always achieve the greatest benefit from actions that affect travel choices from all residents. However, it would be a device for setting regional targets that would eliminate key forms of potential interregional inequity. It would credit regions for reductions already accomplished through early actions, and would assign higher targets to regions expecting the greatest amount of growth. While GHG should be the primary metric, for simplicity and clarity the following examples compare regional targets only on the basis of VMT.

Example 1: Target Equals 20% Reduction in GHG per New Household
Regions with Same Base-Year VMT per Household but Different Growth Rates

	Region A High Growth	Region B Lower Growth
Base Year Daily VMT per Household	50	50
Base Year Households	100,000	100,000
Base Year VMT	5,000,000	5,000,000
Growth in Households	100,000	50,000
Target-Permitted VMT per New Household (80% of 50)	40	40
Target-Permitted Growth in VMT	4,000,000	2,000,000
Target-Permitted Future VMT	9,000,000	7,000,000
Future Households	200,000	150,000
Target-Permitted Future VMT per Household	45	46.7
Target Reduction in VMT per Household	5	3.3
Relative Reduction in VMT per Household	--	67%

Region B would be required to achieve a reduction in VMT per household, averaged over all households within the region, that is 67% of the average household reduction required in the higher-growth Region A. The results strikes a reasonable balance between a growth-based target allocation and a size-based allocation, in that the 67% falls between the relative Region B household growth rate (50% of Region A), and the Region B relative future size (75% of Region A).

Example 2: Target Equals 20% Reduction in GHG per New Household
Regions with Different Base-Year VMT per Household but Same Growth Rates

	Region A Early Action	Region B Ambient VMT
Base Year Daily VMT per Household	40	60
Base Year Households	100,000	100,000
Base Year VMT	4,000,000	6,000,000
Growth in Households	100,000	100,000
Target-Permitted VMT per New Household (80% Base)	32	48
Target-Permitted Growth in VMT	3,200,000	4,800,000
Target-Permitted Future VMT	7,200,000	10,800,000
Future Households	200,000	200,000
Target-Permitted Future VMT per Household	36	54
Target Reduction in VMT per Household	4	6
Relative Reduction in VMT per Household	67%	--

Early-action Region A would be required to achieve a reduction in VMT per household that is 67% of the average household reduction required in Region B. This provides Region A with a credit for its early success in mitigating travel generation to 67% of the Region B rate per household.

Example 3: Target Equals 20% Reduction in GHG per New Household
High-Growth High-VMT Region vs Mature Region with Lower VMT per Household

	Region A Mature Region	Region B High Growth
Base Year Daily VMT per Household	40	60
Base Year Households	100,000	100,000
Base Year VMT	4,000,000	6,000,000
Growth in Households	50,000	100,000
Target-Permitted VMT per New Household (80% Base)	32	48
Target-Permitted Growth in VMT	1,600,000	4,800,000
Target-Permitted Future VMT	5,600,000	10,800,000
Future Households	150,000	200,000
Target-Permitted Future VMT per Household	37.3	54
Target Reduction in VMT per Household	2.7	6
Relative Reduction in VMT per Household	45%	--

Early-action Region A would be required to achieve a reduction in VMT per household that is 45% of the average household reduction required in Region B. This provides Region A with a credit for its early success in mitigating travel generation to 67% of the Region B rate per household and additional target relief due to its relatively lower growth rate.

The suggested approach has the advantages of reducing the level of additional travel reduction required of regions that have already reduced their VMT per household by the base-year (2005 or 2006), and by placing a higher degree of GHG reduction responsibility on rapidly growing regions whose changes in land use strategies will affect the greatest numbers of households.