To: **CARB Staff**
From: **Simon Mui, Justin Horner, Amanda Eaken, NRDC (smui@nrdc.org)**
Re: **Comments on Transportation Measures in Draft Scoping Plan and Appendices**
Date: **August 1, 2008**
Via: **Electronic submission at** http://www.arb.ca.gov/cc/scopingplan/spcomment.htm

I. Overview

NRDC believes a comprehensive approach for transportation – one that covers vehicles, fuels, and vehicle travel – is the best strategy to ensure that the transportation sector achieves the necessary reductions to allow the state to meet its 2020 and 2050 emissions limits. NRDC supports an overall framework for the transportation sector that includes the following key design elements:

1. Requirements for each of the "three legs of the stool." These include:
    a. vehicle performance standards,
    b. clean fuels standards, such as the low carbon fuel standard, and
    c. standards and measures for VMT reduction;
2. A cap-and-trade program covering transportation fuels.

We are pleased that the Draft Scoping Plan proposes to include these basic elements and we applaud CARB staff for their initial efforts to provide a comprehensive framework. We list our support below for many of the specific measures proposed in the Draft Scoping Plan. However, in certain areas related to VMT reduction measures, we are concerned that these measures play such a small role in the Draft Scoping Plan (Table 22, p. 40), and we strongly urge CARB to ensure that VMT reduction measures play a prominent role in the Proposed Scoping Plan. In particular, we urge CARB to include smart growth, Pay-As-You-Drive Insurance, and expanded public transit in the Proposed Scoping Plan to be released in October, and we provide more detail on these policies below.

II. Measures in the Draft Plan that NRDC Supports

We strongly support the following measures that are included in the Draft Scoping Plan:

A. Pavley I and II vehicle GHG standards [Measure T-1, pp.20-21].

California's adoption of greenhouse gas (GHG) performance standards for vehicles will help ensure the deployment of low-GHG emitting technologies at the necessary scale and timeframe to avoid the most severe climate damages. Over the past several decades, strict vehicle tailpipe emission standards have proven effective for overcoming market barriers and ensuring the rapid deployment of cost-effective technologies.

B. Feebate regulations for light-duty vehicles and medium-duty vehicles [Other Measures Under Evaluation, p. 37].

We strongly support the inclusion of a feebate program as a key strategy in the Scoping Plan *in addition* to the Pavley standards. As outlined in a joint letter from NRDC and other public interest groups to CARB on January 16, 2008, a well-designed feebate program could provide approximately 25% additional emission reductions beyond the vehicle GHG regulations.[1] We urge CARB to make a feebate program a recommended policy in the Proposed Scoping Plan.

C. Vehicle measures that would further reduce tailpipe GHG emissions [Measure T-3, pp. C-25 to C-27].

We also support the adoption of standards that would obtain additional reductions beyond those achieved by the Pavley standards. CARB's proposed inclusion of standards for low rolling resistance tires and low friction engine oils is an important addition to the overall program. As shown in Appendix C, Table 4 of the Draft Scoping Plan (p. C-24), many of these opportunities can be both cost-effective, implemented early, and can result in near-term emission reductions.

[1] Joint Letter to Chairperson Mary Nichols (January 16, 2008), Regarding "Recommended Policy Mechanism for GHG Emission Reductions – Feebates," Natural Resources Defense Council together with 13 other public interest groups and environmental organizations.

D. Low Carbon Fuel Standard [Measure T-2, p.25].

We fully support the inclusion of a low carbon fuel standard (LCFS) as a discrete early action measure. The LCFS ensures that the right market signals are provided early to fuel producers, ensuring that both large GHG emission reductions and petroleum savings are realized.

E. Cap-and-Trade Program including transportation fuels [Table 4, p.17].

We fully support the eventual inclusion of transportation fuels under the Cap-and-Trade Program. The inclusion of fuels in a cap-and-trade program will provide additional incentives for the sector to pursue cost-effective reductions and to innovate.

III. Measures that Should be Included in the Proposed Scoping Plan

NRDC recommends that, in the Proposed Scoping Plan to be released in October, CARB offer more specific details and more aggressive proposals in the following categories:

F. Heavy and Medium-Duty Vehicles [Measure No's T-6, T-7, T-8]

Both medium and heavy-duty vehicle requirements are necessary to ensure that both AB 32 and longer-term GHG reduction goals are met. In general, we support CARB's efforts to establish standards and believe that these can be effectively targeted to improve engine, tractor, trailer, and fleet performance. We appreciate CARB's inclusion of heavy-duty truck emission measures, including the current efforts to develop a regulation to require retrofits and to establish requirements for tractors and trailers based on the U.S. EPA's SmartWay Program (T-6). This is a solid starting point for reducing GHG emissions from the heavy-duty vehicle category.

We also support the idea of heavy-duty vehicle hybridization and engine efficiency measures (T-7, T-8), but were not able to comment due to lack of detail in the Draft Scoping Plan and appendices. In addition, it is unclear from the Draft Scoping Plan and appendices whether CARB is proposing to include medium and heavy duty greenhouse gas performance standards, analogous to the Pavley requirements. We urge CARB to include GHG performance standards for medium and heavy duty vehicles in its Proposed Scoping Plan, to be released in October 2008.

G. Smart Growth

NRDC is very concerned that the Draft Scoping Plan's low target of 2 $MMTCO_2E$ for land use significantly underestimates the sector's potential contribution to the state's 2020 emissions limit, and will not get the state on the path needed for the deep emission reductions necessary by 2050. It is unclear how CARB arrived at this number. The Sacramento Area Council of Governments projects that they alone will achieve nearly 1 $MMTCO_2E$ of reductions through smart growth measures by 2020, and they account for only 6% of the state's population. In addition, an analysis of the four major metropolitan area's regional growth plans by Stanford Economics Professor Jim Sweeney indicates that reductions of 7.7 $MMTCO_2E$ are possible from implementation of these four plans alone, without any supportive policies in place, and not considering reductions possible in the state's other regions.[2] We strongly urge CARB to put in place an aggressive and bold target for land use that will send a strong message to local and regional governments that business-as-usual land use is not acceptable and that we must start designing communities that provide a balance of transportation options and reduce the need to drive. Transportation emissions are the largest source of California's emissions, and they present a large opportunity to achieve emissions reductions.

Further, NRDC is co-sponsor of Senate Bill 375 – an innovative mechanism that begins to create the framework that CARB needs for achieving greenhouse gas emissions reductions from land use. SB 375 directs CARB to set greenhouse gas reduction targets for regions to achieve from better growth patterns. SB 375 wholly relies on CARB to set aggressive targets that will spur regions to plan creatively for the mobility needs of their residents. A low target for land use in the scoping plan would seriously undermine the effectiveness of SB 375. The Draft Plan's proposed target of 2 $MMTCO_2E$ would send a message to Metropolitan Planning Organizations that business as usual planning is acceptable and that the state perceives no need to change land use patterns. Further, SB 375 provides incentives – both financial and regulatory – for implementation of regional plans that help to meet the CARB targets. If the CARB targets are very low, SB 375 essentially will put incentives in place for carbon inefficient growth patterns – contrary to the express intent of the legislation.

In other words, if the Scoping Plan's target underestimates the reductions available from changes in land use, SB 375 will not make up the difference. Rather, SB 375 will incentivize projects that are as un-ambitious as the Scoping Plan's target.

H. Restructure Scoping Plan's Treatment of Land Use

We suggest a restructuring of the Scoping Plan section pertaining to land use. The Draft Plan includes several policies –"under evaluation" including Pay-As-You-Drive Insurance and employer transportation demand management programs. We encourage CARB to create a section in the Proposed Scoping Plan entitled, "Policies to Reduce Vehicle Miles Traveled." This category would include the regional planning framework laid out in the Draft Plan, as well as supportive policies such as Pay-As-You-Drive Insurance, and aggressive investments in public transportation.

NRDC participated extensively in the Land Use Subgroup of the Climate Action Team (LUSCAT) proceedings to help CARB create the regional framework for change in transportation and land use planning, including a number of vital foundational supportive policies. NRDC was especially encouraged by the consensus achieved by the attendees of the Haagen-Smit symposium on land use and climate this spring, reflected in two documents available on CARB's website[3]– the Haagen-Smit Declaration and the Seascape Action Plan. We see that many of these policies are included in the appendices, but we are disappointed that they did not even receive mention in the Draft Scoping Plan. We strongly recommend that the eight point framework reflected on Pages C-44 and C-45 of the appendices be inserted directly into the Proposed Scoping Plan and would like to see more specifics from CARB as to the agencies that will implement these recommendations, timelines for implementation, and sources of funding to be utilized--where appropriate.

We are grateful to the excellent CARB staff for their work on this piece, yet we believe many improvements need to be made immediately in order to put California on track to achieving the state's 2020 and 2050 target.

[3] http://arb.ca.gov/planning/hsmit2008/hsmit2008.htm

I. Pay-As-You-Drive Insurance: 1.3-2.6 MMT

NRDC strongly urges CARB to include Pay-As-You-Drive (PAYD) Insurance (p.38) in the Proposed Scoping Plan, and encourages CARB to prioritize PAYD as a strategy in the transportation sector and reevaluate its potential for CO_2 reductions.

Just as gas prices influence whether or not drivers choose to fill up or take trips, the price of insurance can have a similar effect. Estimates vary, but all analyses of PAYD Insurance point to reductions in VMT. UC Berkeley's Aaron Edlin estimates a potential national VMT reduction somewhere between 9% and 10%,[4] the Victoria Transport Policy Institute's Todd Litman projects VMT reductions up to 10%,[5] depending on how PAYD is implemented, and the Brookings Institution forecasts up to an 8% VMT reduction here in California.[6] NRDC's own analysis, based on a range of VMT reductions from 4%-8% and a modest 50% participation rate among California's lowest mileage drivers, projects a reduction range of 1.3 – 2.6 MMT in 2020.

Together with the environmental benefits of PAYD insurance, there are significant co-benefits from implementing PAYD insurance and reducing VMT. PAYD insurance promotes fairness, as low mileage drivers will no longer subsidize high mileage drivers. It also promotes social equity, as low income drivers (who tend to drive less) will no longer subsidize higher income drivers. Reductions in VMT can also improve public safety by reducing collisions and collision-related injury.

J. Expanded Public Transit:

A safe, convenient and reliable system of public transportation is absolutely essential if California is to reduce light duty vehicle VMT and stimulate compact and carbon-efficient development. The Draft Scoping Plan falls short in its consideration of land use and transportation policy by neglecting the indispensible role public transportation must play in California's continued development.

California's existing public transportation agencies already contribute significantly to reducing transportation-related CO_2 emissions. In 2004, California public

[4] Aaron S. Edlin. "Per-Mile Premiums for Auto Insurance" Economics for an Imperfect World: Essays In Honor of Joseph Stiglitz. MIT Press, 2003.
[5] Todd Litman, "Distance-Based Vehicle Insurance Feasibility, Costs and Benefits Comprehensive Technical Report, Victoria Transportation Policy Institute, 2007.
[6] Jason Bordoff and Pascal Noel, "Pay-As-Drive Auto Insurance: A Simple Way to Reduce Driving-Related Harms and Increase Equity," Brookings Institution, 2008.

transportation reduced CO_2 by 3.5 $MMTCO_2E$ through both the substitution of transit trips for car trips and increased auto efficiency due to less congestion,[7] and recent increases in ridership due to high gas prices promise to provide even greater savings this year.

Expanding public transportation to new routes and increasing the quality and frequency of service on existing routes can deliver even greater savings. A 2007 study for the American Public Transportation Association (APTA) reviewed a sample of new public transportation services and found that 1/3 of new ridership resulted from improvements to existing service and 2/3 came from new routes. Every ten new Transit Passenger Miles displaces approximately 6.76 VMT of car travel. [8]

An additional and perhaps more significant environmental benefit of public transportation is its long-term interaction with land use and development. The availability of public transportation in a neighborhood correlates with reduced household automobile travel *regardless of whether those households even use the available public transportation*. The mere presence of public transportation correlates with households that can also conveniently walk and bike, and, when they choose to drive, drive shorter distances. A study earlier this year by ICF International estimated this "secondary" effect to be roughly twice what public transportation saves in direct emissions.[9] Using the 3.5 $MMTCO_2E$ number above, that results in an *additional* 7 $MMTCO_2E$ in emissions from public transportation. As these are derived from land use, they are also long-term savings.

Due to public transportation's dual role in reducing CO_2 emissions (direct replacement and land use changes) determining how much CO_2 reduction can be expected from improvements to public transportation requires deeper study. However, the Urban Land Institute's *Growing Cooler* gives a conventionally accepted approach that sheds some light on what could be expected. The report gives a best estimate elasticity of VMT with Transit Passenger Miles in urbanized areas of -0.06 (meaning an

[7] US PIRG Education Fund, *The Carbon Boom: State and National Trends in Carbon Dioxide Emissions Since 1990*, April 2007.
[8] ICF International, *Public Transportation and Petroleum Savings in the US: Reducing Dependency on Oil,"* January 2007.
[9] ICF International, *The Broader Connection between Public Transportation, Energy Conservation and Greenhouse Gas Reduction,"* February 2008.

increase of 1% in Transit Passenger Miles results in a 0.06% reduction in VMT). Accordingly, for every 16% increase in Transit Passenger Miles in California's urbanized areas), a 1% VMT reduction (or 1.49 $MMTCO_2E$ at 2020 levels) is expected.

A commitment to public transportation as a distinct source of CO_2 emissions savings must be part of the Final Scoping Plan. Public transportation should not be assumed to be addressed sufficiently in the regional land use recommendation and treatment of public transportation must be explicit within the document. NRDC recommends that CARB:

1) Create a distinct public transportation policy strategy with a goal for increased Transit Passenger Miles. Again, based on the cursory analysis above, a 16% increase in Transit Passenger Miles could provide as much as a 1.49 $MMTCO_2E$ reduction by 2020. NRDC is happy to work with CARB staff and other experts to refine this strategy and any emissions benefits; and

2) Consider both the capital and operational needs of public transportation when determining eligible uses for cap and trade or other CO_2-related revenue. Public transportation funding should be given particular emphasis in the event that transportation fuels become part of a cap and trade regime in California.

Comments on Local Government Actions and Regional Targets (Appendices):

Page C-39 discusses the recommendation that local governments set their own targets to reduce greenhouse gas emissions. We strongly recommend that local governments coordinate and exchange information with regional transportation planning agencies and metropolitan planning organizations prior to setting their own targets. This is particularly important because a regional growth plan may call for a certain city to accommodate a high share of new growth, since growth in that area is proven to result in a low transportation sector carbon footprint. Within a region it may be the case that VMT in certain cities would actually increase under such a plan, if the region determined that such a strategy helped it to achieve its overall VMT/GHG reduction goals. It is important that each city therefore coordinate with the regional agency to avoid conflicting greenhouse gas targets. In addition, we think it is important that the scoping plan state explicitly that CARB shall be responsible for setting regional targets for GHG reductions

to come from cars and light trucks resulting from better land use patterns. The current language is vague with respect to which agency actually sets the target. Because CARB has ultimate responsibility for achieving the AB 32 targets, we believe this authority appropriately rests with CARB, not the regions.

The first paragraph on page C-41 includes the term transportation conservation. Presumably this is meant to refer to a reduction in vehicle miles traveled, but is ambiguous. Please state clearly what is meant here.

The second paragraph on page C-41 makes reference to the 4Ds and defines density as using less open space to house more people. We believe this is an unusual and perhaps inappropriate definition of density. Density should more appropriately be defined as using land for development more efficiently, to accommodate more dwelling units per acre of developed land.

We appreciate that CARB makes the point that land use changes must begin now in order to ensure that we can achieve the deeper reductions in greenhouse gas emissions needed to meet the 2050 targets. We believe it would be instructive to the reader for CARB to include a second column in its Table 2 on page 11, indicating the emissions reductions expected from each sector by 2050.

Page C-43 discusses the process for setting the regional transportation related greenhouse gas targets. We would like to suggest that CARB consider rebound effects on VMT when analyzing the effects of vehicle and fuel changes, and incorporate those effects into its projections for needed reductions in VMT. The last paragraph discusses the need to align local general plans with regional targets. This is clearly essential as regional agencies have no authority to make land use decisions. SB 375 attempts to provide incentives for local agencies to conform their general plans to implement the regional growth patterns. If not supportive of the approach contemplated in SB 375, we would like to see CARB make specific recommendations for incentives for local plans to implement the approaches contemplated by the regions.