Attachment 1: Description of Emissions Reduction Measure Form

Title: *Transit and Related Transportation Measures*

Type of Measure (check all that apply):

☑ Direct regulation	☐ Market-based compliance
☐ Monetary Incentive	☐ Non-monetary incentive
☑ Voluntary	☐ Alternative Compliance Mechanism
☐ Other Describe:	

Responsible Agency: California Air Resources Board or other agency as specified.

Sector:

☑ Transportation	☐ Electricity Generation
☐ Other Industrial	☐ Refineries
☐ Agriculture	☐ Cement
☐ Sequestration	☐ Other Describe:

2020 Baseline Emissions Assumed (MMT CO2E):

Percent Reduction in 2020: See below.

Cost-Effectiveness ($/metric ton CO2E) in 2020: See below.

Description:

Improve Transportation Models to Reflect Benefits of Smart Growth

Despite a demonstrated interaction between transportation and land use, these elements have historically been treated as independent of each other in many transportation models used to inform planning decision making. Many models treat land use patterns as a fixed input and do not have the capacity to vary land use outcomes based on different transportation investments. In addition, many models assume similar transportation outcomes for a variety of land use patterns – based on the trip generation rates provided by the Institute for Transportation Engineers, and fail to take into account the likely variation in trip length and mode for different land use patterns. This type of planning fails to take into account research such as a new book published by the Urban Land Institute suggesting that residents of compact walkable neighborhoods with transit drive 20 – 40 % fewer miles than residents of sprawl.

CARB should support the stakeholder process already underway at the California Transportation Commission – and the approach embodied in SB 375 – to direct the regions to update their models through the Regional Transportation Plan (RTP) guidelines. The largest Metropolitan Planning Organizations (MPOs) should be using integrated land use and transportation models; the smaller MPOs should at least improve their models with post processors to be sensitive to

density, diversity (i.e. mixed use) and design. (NRDC will forward a copy of the CTC Modeling workgroup recommendations once finalized). In addition, CARB and Caltrans should improve their own modeling capabilities and provide technical assistance to local agencies who are seeking to improve their models.

Transit

Transit provides a critical role in directly attracting travelers, especially from congested corridors at congested times of the day. Also very importantly, transit provides a transportation alternative that is critical in facilitating the effectiveness of measures such as road pricing, parking controls, land use improvements, etc. However the success of transit depends on a variety of factors, including travel time, vehicle headways, reliability of service, transfer timing and coordination, clear maps and route information, vehicle capacity and real time information, among other factors. In collaboration with the California Transportation Commission, Caltrans should develop guidelines for highly operational public transit systems and prioritize state spending and recommend prioritizing local and regional funding to agencies that pledge to adopt these guidelines. In addition, dedicated state funding for transit operations and maintenance is vital to convince local and regional transit agencies to invest in these systems.

State Transit Oriented Development (TOD)/Transit Village Program

A Bay Area study found that when people both live and work within ½ mile of transit, 42% choose this mode to commute, whereas only 4% of those who neither live nor work near a transit stop choose this mode. It is vital to provide as many opportunities as possible to live in close proximity to transit: thus the land immediately surrounding transit stops and stations is a precious resource and should be treated as such, with special policies to incentivize high density, mixed use, pedestrian and bicycle amenities and reduced parking requirements in these locations.

The Office of Planning and Research and the Business, Transportation and Housing Agency should create a special Transit Oriented Development (TOD) technical assistance program to gather critical success factors and case studies from existing TODs and provide expertise and guidance to local and regional agencies seeking to improve transit ridership. This effort should explore the opportunity to create Transit Oriented Development Corridors (similar to Empowerment or Enterprise Zones) with tax, priority funding and technical assistance offered to projects in these areas. The state could inventory all state owned lands near major transit facilities and identify opportunities to use these parcels to encourage development at transit centers.

Develop a Complete Streets Program

Many of the policies discussed to reduce transportation sector GHG reductions contemplate enabling and encouraging motorists to reduce driving. In order for these policies to be effective, it is vital that they be accompanied by policies that ensure that alternative modes – i.e. walking, bicycling and taking transit are not only feasible, but safe, enjoyable and convenient. Inducing commuters to walk or bike requires improved infrastructure – sidewalks, crosswalks, bike facilities (particularly at transit), and traffic calming. This is the goal of AB 1358 (Leno) – the

2007 Complete Streets bill. Unfortunately the Senate Appropriations Committee failed to move this bill before the end of the legislative session, but it may be taken up again in 2008. The bill would require local governments to consider and accommodate all users, not just those who travel by car, in the planning and development of their local highways and public transportation systems.

In collaboration with the Business, Transportation and Housing Agency, the Office of Planning and Research should consult with bicycle and pedestrian and public transit planners and local planning and transportation agencies, to develop a statewide "complete streets" program in the spirit of AB 1358 and identify funding to implement that program. Specifically, the Office of Planning and Research should amend their guidelines for the development of local general plans' circulation elements to include "routine accommodation of all users of the transportation system."

Telecommuting

Many policies discussed to address climate change involve substantial lead times and infrastructure costs. Conversely, telecommuting can deliver near immediate results at minimal costs. While the theoretical emission reduction benefits of telecommuting are great, legitimate concerns exist about the additional discretionary trips employees working from home may take, as well as the unintended consequence that telecommuting policies may encourage employees to locate further and further away from their places of work. Still, the Business, Transportation and Housing Agency should further study the costs and benefits telecommuting can provide, and, if appropriate, develop a policy that provides incentives or requires companies to offer telecommuting options to employees.

Guaranteed Ride Home

Guaranteed Ride Home Programs can encourage carpooling and transit usage by providing a back-up means to return home in case of emergency. Many are concerned that without their own private vehicle at work, they will not have transportation in case of unexpected overtime, early departures for family sickness or emergencies and similar situations. A limited number of times annually participants are eligible for alternative transportation – including taxi fare where appropriate – to provide this back-up transportation.

The Business, Transportation and Housing agency should explore legislation to mandate or provide incentives to employers to provide a Guaranteed Ride Home Program.

Emissions Reduction Calculations and Assumptions:

NRDC is committed to working with CARB throughout the scoping plan process to develop further detail on these policy recommendations, to prioritize the policies, and evaluate the emission reductions and economic costs and savings associated with the policies. In the interim, a number of resources estimate the degree of VMT and GHG reductions that are possible with adoption of these transportation policies.

- Johnston (2006) estimates that expanding transit and supporting it with land use intensification around light rail stations can reduce emissions by approximately 5%.[i]
- Cowart (2007) estimates the potential to reduce commute VMT by up to 3.4% with implementation of telecommuting, noting that those who telecommute are disproportionately longer-distance commuters.[ii] He also cites a study that found compressed work weeks could reduce commute trips by 7 – 10%.
- Littman (2007) finds transit can reduce VMT by 3 – 9%.[iii]
- The Center for Clean Air Policy's Transportation Emissions Guidebook provides in depth guidance on analyzing costs and benefits of particular policy options.[iv]

Cost Effectiveness Calculations and Assumptions:

The cost-effectiveness of any particular measure depends upon the degree to which it is implemented, details specific to the region of implementation, such as the existing built environment, and whether complementary measures are enacted. Without more specifics on the details of adoption, it is difficult to provide cost estimates at this time.

Implementation Barriers and Ways to Overcome Them:

One of the Climate Action Team's key recommendations is to educate the public regarding the link between transportation and climate change and the the related environmental, financial, economic and strategic security issues. State websites can be information clearinghouses for educating the public about how to reduce their impacts. The Climate Action Team has indicated that it plans to pursue a public education campaign about GHG emissions and solutions.

Public perception of mass transit as a "last resort" alternative stands in the way of transit's adoption and effectiveness. A history of public transit running unreliably must be overturned by a commitment to high quality, attractive, on- time, reliable service. Transit agencies should strive to treat riders as customers with a variety of competing options.

Potential Impact on Criteria and Toxic Pollutants:

All of the measures described above are designed to encourage shifts to other transportation choices, such as ride-sharing/carpooling, an alternative mode (public transportation, walking, or cycling), trip-chaining (combining trips or errands), or closer destinations. As such, many of these measures should reduce peak period driving and decrease emissions of criteria pollutants.

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[i] Johnston, R., "Review of U.S. and European Regional Modeling Studies of Policies Intended to Reduce Motorized Travel, Fuel Use and Emissions. August 2006. Davis, CA.

[ii] Cowart, B. "Improving Transportation Choices." Natural Resources Defense Council. December 2007. Washington, D.C. Forthcoming.
[iii] Littman, T. "Win - Win Emission Reduction Strategies: Smart Transportation Strategies Can Achieve Emission Reduction Targets And Provide Other Important Economic, Social and Environmental Benefits." www.vtpi.org
[iv] http://www.ccap.org/images/guidebook/CCAP_Transportation_Guidebook_Part1.pdf