

## **Catalog of States Climate Mitigation Actions, ©EESI/CCS, 2006**

Prepared by The Center for Climate Strategies (CCS) based on actions undertaken or considered by US states.

### **Tables of State Level Climate Mitigation Actions:**

<b>Table</b>	<b>Sectors Covered</b>
<b>3</b>	<b>Transportation and Land Use (TLU)</b>

**Key to Future Rankings of Options in the Tables that Follow:**

<b>Potential Emission Reductions <u>1/</u></b>	<b>Potential Cost or Cost Savings <u>1/ 2/</u></b>
<b>High (H):</b> At least 1 Million Metric Tons (MMT) carbon dioxide equivalent (CO <sub>2</sub> e) per year by 2020 (~1% of current MT emissions)	<b>High (H):</b> \$50 per Metric Ton CO <sub>2</sub> e (MTCO <sub>2</sub> e) or above
<b>Medium (M):</b> From 0.1 to 1 MMT CO <sub>2</sub> e per year by 2020	<b>Medium (M):</b> \$5-50/MTCO <sub>2</sub> e
<b>Low (L):</b> Less than 0.1 MMT CO <sub>2</sub> e per year by 2020, or 1 MMT CO <sub>2</sub> e by 2050	<b>Low (L):</b> Less than \$5/MTCO <sub>2</sub> e
<b>Uncertain (U):</b> Not able to estimate at this time	<b>Uncertain (U):</b> Not able to estimate at this time
<u>1/</u> Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.	
<u>2/</u> Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.	

**Definition of “Priorities for Analysis”:**

- **High:** High priority options will be analyzed first.
- **Medium:** Medium priority options will be analyzed next, time and resources permitting.
- **Low:** Low priority options will be analyzed last, time and resources permitting.

**Table 3 - Transportation and Land Use (TLU)**

<b>Option No.</b>	<b>GHG Reduction Policy Option</b>	<b>Priority for Analysis</b>	<b>Potential GHG Emissions Reduction</b>	<b>Potential Cost or Cost Savings</b>	<b>Ancillary Impacts, Feasibility Considerations</b>	<b>Notes</b>
<b>TLU-1</b>	<b>PASSENGER VEHICLE GHG EMISSION RATES</b>					
<b>TLU-1.1</b>	<b>VEHICLE TECHNOLOGY</b>					
1.1.1	Tailpipe GHG Emission Standards: California Clean Car		H	L		Often called “Pavley” after the California legislative sponsor.
1.1.2	ZEV/LEV-2 Implementation		L	L-M		
1.1.3	R&D on Low-GHG Vehicle Technology (e.g., fuel cell)		L	U		
1.1.4	Add-on Technologies (Low Friction Oil, Low-Rolling Resistance Tires)		M	L		
1.1.5	Hybrid Buses		U	U		
1.1.6	Support new CAFÉ standards		U	U		
<b>TLU-1.2</b>	<b>VEHICLE OPERATION</b>					
1.2.1	Enforce Speed Limits		M	M		
1.2.2	Vehicle Maintenance, Driver Training		L	U		
1.2.3	Transportation System Management (Intelligent Transportation Systems)		L	L		
1.2.4	Driver Feedback Technology with Pay-as-you-drive Insurance		U	U		Provides feedback on driving habits.

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
1.2.5	Adopt a statewide per-capita VMT goal		U	U		
1.2.6	Require "Tune Up services to include tire pressure checks"		M	L		
1.2.7	School Bus idling restrictions		L	L		
1.2.8	School Education Programs		U	U		
1.2.9	Enforcement of auto anti-idling reduction requirements		L	M		
<b>TLU-1.3</b>	<b>INCENTIVES &amp; DISINCENTIVES</b>					
1.3.1	Procurement of Efficient Fleet Vehicles		L	L-M		
1.3.2	Feebates (state-specific or regional)		L-M	L		
1.3.3	CO <sub>2</sub> -based registration fees		L-M	L		
1.3.4	Tax Credits for Efficient Vehicles		L	L		
1.3.5	Vehicle Scrappage		L	L-M		
1.3.6	Emission-Based Tolling (discount for clean vehicles)		U	U		This is an incentive to replace light-duty vehicles sooner

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
<b>TLU-2</b>	<b>LAND USE AND LOCATION EFFICIENCY</b>					
<b>TLU-2.1</b>	<b>GENERAL</b>					
2.1.1	Adopt statewide growth management plan & GHG cap guiding conforming regional transportation & land use plans/programs that meet state-determined GHG budgets and VMT per capita targets		U	U		
2.1.2	Ensure state policies and capital funding programs evaluate GHG implications to be a model for climate-friendly and energy efficient development patterns		U	U		
2.1.3	Shape public and private investment to maximize GHG reductions and growth management, including Indirect Source Rule to hold development accountable for GHGs, Transfer of Development Rights, Open Space Protection, Coastal Zone Management, Adequate Public Facilities initiatives		U	U		

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
2.1.4	Provide technical/financial support to local/regional agencies, enhancing technical tools, capacity, and fund Blueprint Planning Grant program		U	U		
2.1.5	Modify & fund reforms of state and local tax and zoning/building codes and policies to support GHG reductions and implementation of State growth plans		U	U		
2.1.6	Ensure Maryland Congressional delegation works for Federal highway, transportation and land use related legislation/programs supporting timely climate change action		U	U		
<b>TLU-2.2 INCREASING LOW-GHG TRAVEL OPTIONS</b>						
2.2.1	Make full use of CMAQ funds—with application reviews considering GHG reductions		L	L		
2.2.2	Improve Transit Service (frequency, convenience, quality)		M	M		

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
2.2.3	Transit Marketing and Promotion, (including individualized transit marketing)		M-H	L		
2.2.4	Bike and Pedestrian Infrastructure		L	L		
2.2.5	Expand Transit Infrastructure (rail, bus, BRT)		M	M-H		
2.2.6	HOV lanes		L	H		
2.2.7	Enhance Current “Fix-it-First” Policy		L-M	L		Repair before expansion
2.2.8	Transit Prioritization (signal prioritization, HOV lanes)		L	L-M		
2.2.9	Telecommute, Live-Near-Your-Work and Tele-education		L	L		
2.2.10	Car sharing		L	L		
2.2.11	E-Commerce		L	L		
2.2.12	CO2 conformity type Program capping CO2 emissions in some form of a mobile budget.		U	U		If the region/ state doesn't hit the budget then transportation dollars swing from road construction to transit
2.2.13	Park and Ride lots		U	U		
2.2.14	Expansion of MARC and other transit services		U	U		
2.2.15	Guaranteed Ride Home for transit users		U	U		

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
2.2.16	Telecommuting support and incentives		U	U		
<b>TLU-2.3</b>	<b>INCENTIVES &amp; DISINCENTIVES</b>					
2.3.1	Commuter Choice/Parking Cash Out		H	L		
2.3.2	VMT Tax		H	M		
2.3.3	Pay As You Drive Insurance		H	L		
2.3.4	Increased Fuel Tax (w/ targeted use of revenue towards travel alternatives)		M	L		
2.3.5	Location-Efficient Mortgages		L	L		
2.3.6	Congestion Pricing (or tolls) (w/ targeted use of revenue towards travel alternatives)		L-M	L		
2.3.7	Parking Pricing, excise tax, and/ or Supply Restrictions		H	L		
2.3.8	Transit Repositioning		M	U		
2.3.9	Transit Pricing Incentives		M	L		
2.3.10	VMT/GHG Offset Requirements for Large Developments		L-M	L		
2.3.11	Benefits for Low GHG Vehicles (preferential parking, use of HOV lanes)		L	L		
<b>TLU-2.4</b>	<b>FUEL MEASURES</b>					
2.4.1	Low-GHG Fuel Standard (e.g., renewable)		L-M	L		Also known as a low-carbon fuel standard

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
2.4.2	Low-GHG Fuel for State Fleets (e.g., CNG, biodiesel)		L	L		
2.4.3	Biofuel expansion (biodiesel, CNG, LPG, cellulosic ethanol)		L-M	L		
2.4.4	Alternative Fuel Infrastructure Development		L	L		
<b>TLU-3</b>	<b>FREIGHT</b>					
<b>TLU-3.1</b>	<b>VEHICLE TECHNOLOGY</b>					
3.1.1	Vehicle Technology Improvements (e.g., aerodynamics)		H	U		
3.1.2	R&D on Low-GHG Vehicle Technology		L	U		
3.1.3	Black carbon control technologies (e.g., use of particulate traps, other complementary technologies)		U	U		Black carbon can affect climate by absorbing sunlight, heating the air, and thereby altering large scale atmospheric circulation and the hydrologic cycle.
3.1.5	Facilitate Adoption of New Clean Technologies--Rail and Marine Engines		U	U		
<b>TLU-3.2</b>	<b>VEHICLE OPERATION</b>					
3.2.1	Freight Logistics Improvements/GIS		L-M	L		
3.2.2	Enforce Speed Limits		M	M		
3.2.3	Improve Traffic Flow		L	M		
3.2.4	Increased Size & Weight of Trucks		L	L		

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
3.2.5	Increase the Number of Rest Areas		L	L		
3.2.6	Pre-clearance at Scale Houses		L	L		
3.2.7	Truck Stop Electrification		M	L		
3.2.8	Enforce Anti-Idling		M	L		
3.2.9	Clean Freight Operating Improvements		L	M		Example: particulates from freight, including coal train coal dust.
<b>TLU-3.3</b>	<b>INCREASING LOW-GHG TRAVEL OPTIONS</b>					
3.3.1	Intermodal Freight Initiatives		L-M	L		
3.3.2	Feeder Barge Container Service		L	U		
3.3.3	Increase Rail Capacity, and Address Rail Freight System Bottlenecks		U	U		
<b>TLU-3.4</b>	<b>INCENTIVES &amp; DISINCENTIVES</b>					
3.4.1	Procurement of Efficient Fleet Vehicles (public, private or other)		L	L-M		
3.4.2	Incentives to Retire or Improve Older Less Efficient Vehicles		L	L-M		
3.4.3	Maintenance and Driver Training		L	U		
3.4.4	Increased Emission-Based Truck Tolls or Highway User Fees		L-M	L		
<b>TLU-4</b>	<b>INTERCITY TRAVEL: AVIATION, HIGH SPEED RAIL, BUS</b>					
4.1	High-speed Rail		L-M	H		

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
4.2	Integrated Aviation, Rail, Bus Networks (planning, governance, and investment)		M	M-H		
4.3	Aircraft emissions		L	L		
4.4	Airport Ground Equipment		L	L		
<b>TLU-5</b>	<b>OFF-ROAD VEHICLES (CONSTRUCTION EQUIPMENT, OUT-BOARD MOTORS, ATVS, ETC)</b>					
5.1	Incentives for Purchase of Efficient Vehicles/Equipment		L	L-M		
5.2	Improved Operations, Operator Training		L	U		
5.3	Maintenance Improvements		L	U		
5.4	Increased Use of Alternative Fuels or Low Sulfur Diesel		L	U		
5.5	Adopt Green Port strategy (Port land-side: Clean-up Port Dwelling and Cargo Handling Equipment Operations)		U	U		
5.6	Low Carbon fuel (offroad and recreational marine)		U	U		
5.7	Locomotive idling reductions		U	U		
5.8	Inclusion of Idling reduction requirements		U	U		
5.9	Diesel Cranes at the Port – Electrification or other GHG reducing alternatives		U	U		

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
5.10	"Shore Power" at Port sites		U	U		