

## **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> |

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

| 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-1</b>   | <b>PASSENGER VEHICLE GHG EMISSION RATES</b>  |                       |                                   |                                |   |   |
| <b>TLU-1.1</b> | <b>VEHICLE TECHNOLOGY</b>  |                       |                                   |                                |   |   |
| 1.1.1          | Legislate Tailpipe GHG Emission Standards: California Clean Car                        |                       |                                   |                                |   | Often called “Pavley” after the California legislative sponsor. |
| 1.1.2          | Legislate ZEV/LEV-2 Implementation   |                       |                                   |                                |   |   |
| 1.1.3          | Fund R&D on Low-GHG Vehicle Technology (e.g., fuel cell)                               |                       |                                   |                                |   |   |
| 1.1.4          | Encourage/mandate add-on Technologies (Low Friction Oil, Low-Rolling Resistance Tires) |                       |                                   |                                |   |   |
| 1.1.5          | Require adoption of hybrid engine buses  |                       |                                   |                                |   |   |
| 1.1.6          | Require GHG emission stickers for automobile sales                                     |                       |                                   |                                |   |   |
| 1.1.7          | Fund infrastructure for plug-in hybrids  |                       |                                   |                                |   |   |
| <b>TLU-1.2</b> | <b>VEHICLE OPERATION</b>   |                       |                                   |                                |   |   |
| 1.2.1          | Enforce Speed Limits – speed cameras and police  |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation Chapter 6.9 b</i>             |

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| 1.2.2      | Encourage Vehicle Maintenance, Tire Pressure Maintenance, Driver Training (eco-driving, fuel-efficient shifting)  |                       |                                   |                                |   |  |
| 1.2.3      | Transportation System Management (Intelligent Transportation Systems) – signal synchronization, variable message signs, real-time driver information and feedback |                       |                                   |                                |   |  |
| 1.2.4      | Require tune-up services to include tire pressure   |                       |                                   |                                |   |  |
| 1.2.5      | Passenger vehicle anti-idling program   |                       |                                   |                                |   |  |
| 1.2.6      | School education programs   |                       |                                   |                                |   |  |
| 1.2.7      | <u>Mandatory annual vehicle inspections, in conjunction with repair mandates, increased registration fees, and/or a vehicle retirement program</u>                |                       |                                   |                                |   | <u>Similar to 1.2.2 but makes mandatory</u>  |
| 1.2.8      | <u>Limit unnecessary stop signs on local streets</u>  |                       |                                   |                                |   | <u>. Yield signs could be used to keep drivers aware of traffic possibilities without requiring a full stop at every corner of the neighborhood.</u> |

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| <b>TLU-1.3</b> | <b>INCENTIVES &amp; DISINCENTIVES</b>   |                       |                                   |                                |   |   |
| 1.3.1          | Procurement of Efficient Fleet Vehicles   |                       |                                   |                                |   | Government and large commercial fleets  |
| 1.3.2          | Feebates (state-specific or regional)   |                       |                                   |                                |   | Measure is revenue-neutral. Note that this overlaps with tailpipe GHG standards and fuel economy standards  |
| 1.3.3          | CO <sub>2</sub> -based registration fees  |                       |                                   |                                |   | Note that this overlaps with tailpipe GHG standards and fuel economy standards  |
| 1.3.4          | Tax Credits for Efficient Vehicles  |                       |                                   |                                |   |   |
| 1.3.5          | Vehicle Scrappage   |                       |                                   |                                |   | This is an incentive to replace low fuel economy vehicles sooner.   |
| 1.3.6          | Emission-Based Tolling (discount for clean/fuel-efficient vehicles)                         |                       |                                   |                                |   | Introduced in Germany, Italy, and London  |
| 1.3.7          | <i>Apply feebates to vehicle dealers(as agents of the manufacturers) for in-state sales</i> |                       |                                   |                                |   | <i>Similar to 1.3.2<br/>Manufacturers have long argued that making more efficient vehicles is “too expensive.” This item would directly address their cost issue in a way that would be more under their control than feebates to purchasers.</i> |
| <b>TLU-1.4</b> | <b>FUEL MEASURES</b>  |                       |                                   |                                |   |   |
| 1.4.1          | Pass Low-GHG Fuel Standard (e.g., renewable)  |                       |                                   |                                |   | Also known as a low-carbon fuel standard  |

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| 1.4.2          | Purchase Low-GHG Fuel for State Fleets (e.g., CNG, biodiesel)   |                       |                                   |                                |   |   |
| 1.4.3          | Subsidize Biofuel expansion (biodiesel, CNG, LPG, cellulosic ethanol)   |                       |                                   |                                |   |   |
| 1.4.4          | Fund Alternative Fuel Infrastructure Development  |                       |                                   |                                |   |   |
| 1.4.5          | Implement state government E85 use plan   |                       |                                   |                                |   |   |
| 1.4.6          | Build electric vehicle charging facilities at selected fueling stations   |                       |                                   |                                |   |   |
| <b>TLU-2</b>   | <b>TRAVEL ACTIVITY PATTERNS</b>   |                       |                                   |                                |   |   |
| <b>TLU-2.1</b> | <b>LAND USE AND LOCATION EFFICIENCY</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 |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 6.12 and 6.21 c</i> |
| 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                               |                       |                                   |                                |   |   |

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| 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>Cross-ref MLULC recommendation 4.3 a (1) &amp; (3), 5.20 a, and 6.25 b (3) &amp; (7)</u> |
| 2.1.4      | Provide technical/financial support to local/regional agencies, enhancing technical tools, capacity, and fund Blueprint Planning Grant program  |                       |                                   |                                |   | <u>Cross-ref MLULC recommendation 6.21 c</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>Cross-ref MLULC recommendation 6.20, 7.1 b (1), 6.13, 6.25 a (4) and 6.25 b (3)</u>      |

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| 2.1.6      | Ensure Michigan Congressional delegation works for Federal highway, transportation and land use related legislation/programs supporting timely climate change action   |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 7.4 a and 7.4 c</i> |
| 2.1.7      | <i>Connect State economic development incentives to land use, by giving priority to companies that use them to locate in densely populated/urban places.</i>   |                       |                                   |                                |   |   |
| 2.1.8      | <i>Inventory all available discretionary funds in such areas as housing, economic development, infrastructure, schools transportation, and state facilities, and allocate these funds to communities that adopt best practices in land use planning and meet performance standards related to climate and VMT reduction goals.</i> |                       |                                   |                                |   |   |

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| 2.1.9          | <u>Focus economic development incentives and public infrastructure funding (such as the Transportation Economic Development Fund) around public transit nodes (or along potential transit corridors).</u>  |                       |                                   |                                |   |   |
| 2.1.10         | <u>Authorize multi-jurisdictional TIF districts around transit nodes that will receive state grants for planning and implementation and will be given priority status by the State and metropolitan planning organization for future grants.</u> |                       |                                   |                                |   | <u>Emulate New Jersey's Transit Village Initiative and/or Pennsylvania's Transit Revitalization District program.</u><br><br><u>TIF - tax increment financing</u> |
| 2.1.11         | <u>Incorporate alternative power at certain state transportation facilities with wind turbines or photovoltaic panels.</u>   |                       |                                   |                                |   |   |
| <b>TLU-2.2</b> | <b>INCREASING LOW-GHG TRAVEL OPTIONS</b>   |                       |                                   |                                |   |   |
| 2.2.1          | Make full use of CMAQ funds—with application reviews considering GHG reductions  |                       |                                   |                                |   |   |

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| 2.2.2      | Improve Transit Service (frequency, convenience, quality)                     |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 4.3 e (1), 7.1 g, and 7.1 h</i> |
| 2.2.3      | Transit Marketing and Promotion, (including individualized transit marketing) |                       |                                   |                                |   |   |
| 2.2.4      | Invest additional funds in Bike and Pedestrian Infrastructure                 |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 4.6 and 5.21 a-b</i>            |
| 2.2.5      | Expand Transit Infrastructure (rail, bus, BRT)                                |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 6.15</i>                        |
| 2.2.6      | Convert/re-stripe current lanes to HOV lanes                                  |                       |                                   |                                |   |   |
| 2.2.7      | Subsidize and promote car pooling and van pooling                             |                       |                                   |                                |   |   |
| 2.2.8      | Transit Prioritization (signal prioritization, Bus/HOV lanes)                 |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 4.3 e (1) and 7.4 a</i>         |
| 2.2.9      | Set standards for Telecommute, Live-Near-Your-Work and Tele-education         |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 6.15</i>                        |
| 2.2.10     | Invest in/provide parking for car-sharing                                     |                       |                                   |                                |   |   |
| 2.2.11     | Legislate tax policies to promote e-Commerce                                  |                       |                                   |                                |   |   |

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| 2.2.12     | CO2 conformity type Program capping CO2 emissions in some form of a mobile budget.   |                       |                                   |                                |   | If the region/ state doesn't hit the budget then transportation dollars swing from road construction to transit |
| 2.2.13     | Provide Guaranteed Ride Home to transit users and car poolers  |                       |                                   |                                |   |   |
| 2.2.14     | Provide incentives to adopt "Best Workplaces for Commuters" standards  |                       |                                   |                                |   |   |
| 2.2.15     | Build park-and-ride facilities   |                       |                                   |                                |   |   |
| 2.2.16     | Adopt a statewide per-capita VMT goal  |                       |                                   |                                |   | If the region/ state doesn't hit the budget then transportation dollars swing from road construction to transit |
| 2.2.17     | <i>Authorize alternative revenue sources for public transit, to be approved by voters regionally.</i>                                    |                       |                                   |                                |   |   |
| 2.2.18     | <i>Allow TIF to be used for public transit infrastructure and operations.</i>  |                       |                                   |                                |   | <i>TIF – tax increment financing</i>  |
| 2.2.19     | <i>Revise the public transit funding formula so the expansion of funding in one metropolitan region does not harm transit in another</i> |                       |                                   |                                |   |   |

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| 2.2.20  | <i>Construct roundabouts instead of standard intersections where appropriate.</i>                               |                       |                                   |                                |   | <i>Traffic is able to keep moving, so there's less idling, and these are safer too.</i> |
| <b>TLU-2.3 INCENTIVES &amp; DISINCENTIVES</b> |   |                       |                                   |                                |   |   |
| 2.3.1   | Require Commuter Choice measures/Parking Cash Out   |                       |                                   |                                |   |   |
| 2.3.2   | Implement a VMT Tax   |                       |                                   |                                |   | Revenue neutral, replacing motor fuel tax   |
| 2.3.3   | Pass legislation allowing Pay As You Drive Insurance  |                       |                                   |                                |   |   |
| 2.3.4   | Increase the Fuel Tax (w/ targeted use of revenue towards travel alternatives)                                  |                       |                                   |                                |   |   |
| 2.3.5   | Legislate allowing for/requiring Location-Efficient Mortgages   |                       |                                   |                                |   |   |
| 2.3.6   | Implement Congestion Pricing (or similar cordon tolls) (w/ targeted use of revenue towards travel alternatives) |                       |                                   |                                |   |   |
| 2.3.7   | Implement state-wide Parking Pricing, excise taxes, and/ or Supply Restrictions                                 |                       |                                   |                                |   |   |
| 2.3.8   | Introduce inter-city highway tolls  |                       |                                   |                                |   |   |

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| 2.3.9          | Introduce Transit Pricing Incentives   |                       |                                   |                                |   |  |
| 2.3.10         | Make VMT/GHG Offset Requirements for Large Developments  |                       |                                   |                                |   |  |
| 2.3.11         | Benefits for Low GHG Vehicles (preferential parking, use of HOV lanes)                                       |                       |                                   |                                |   |  |
| <b>TLU-3</b>   | <b>FREIGHT</b>   |                       |                                   |                                |   |  |
| <b>TLU-3.1</b> | <b>VEHICLE TECHNOLOGY</b>  |                       |                                   |                                |   |  |
| 3.1.1          | Subsidize/provide loans for Vehicle Technology Improvements (e.g., aerodynamics)                             |                       |                                   |                                |   |  |
| 3.1.2          | Fund R&D on Low-GHG Vehicle Technology   |                       |                                   |                                |   |  |
| 3.1.3          | Mandate Black carbon control technologies (e.g., use of particulate traps, other complementary technologies) |                       |                                   |                                |   | 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  |                       |                                   |                                |   |  |
| <b>TLU-3.2</b> | <b>VEHICLE OPERATION</b>   |                       |                                   |                                |   |  |
| 3.2.1          | Fund Freight Logistics Improvements/GIS; reduced empty back-hauls  |                       |                                   |                                |   |  |
| 3.2.2          | Enforce Speed Limits   |                       |                                   |                                |   |  |

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| 3.2.3          | Improve Traffic Flow through bottleneck improvements  |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 6.9 b</i>           |
| 3.2.4          | Allow Increased Size & Weight of Trucks   |                       |                                   |                                |   | (May cause shift from rail to trucks)                 |
| 3.2.5          | Pre-clearance at Scale Houses   |                       |                                   |                                |   |   |
| 3.2.7          | Truck Stop Electrification to reduce idling   |                       |                                   |                                |   |   |
| 3.2.8          | Enforce Anti-Idling ordinances  |                       |                                   |                                |   |   |
| <b>TLU-3.3</b> | <b>INCREASING LOW-GHG TRAVEL OPTIONS</b>  |                       |                                   |                                |   |   |
| 3.3.1          | Fund Intermodal Freight Initiatives   |                       |                                   |                                |   |   |
| 3.3.2          | Develop port/terminal facilities for Feeder Barge Container Service                               |                       |                                   |                                |   |   |
| 3.3.3          | Increase Rail Capacity, and Address Rail Freight System Bottlenecks                               |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 7.1 g and 7.4 a</i> |
| <b>TLU-3.4</b> | <b>INCENTIVES &amp; DISINCENTIVES</b>   |                       |                                   |                                |   |   |
| 3.4.1          | Require Procurement of Efficient Fleet Vehicles (public, private or other)                        |                       |                                   |                                |   |   |
| 3.4.2          | Provide Incentives to Retire or Improve Older Less Efficient Vehicles – especially drayage trucks |                       |                                   |                                |   |   |
| 3.4.3          | Provide Maintenance and Driver Training   |                       |                                   |                                |   |   |

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| 3.4.4        | Increased Emission-Based Truck Tolls or Highway User Fees  |                       |                                   |                                |   | (as per Germany)   |
| 3.4.5        | <i>Mandatory annual vehicle inspections, in conjunction with repair mandates, increased registration fees, and/or a vehicle retirement program</i> |                       |                                   |                                |   | <i>Similar to 1.2.7 but for medium and heavy duty trucks.</i>  |
| <b>TLU-4</b> | <b>INTERCITY TRAVEL: AVIATION, HIGH SPEED RAIL, BUS</b>  |                       |                                   |                                |   |  |
| 4.1          | Invest in High-speed Rail  |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation to: Work with Michigan's congressional delegation to seek federal approaches that treat investment in bus and rail as equally important types of service</i> |
| 4.2          | Improve Integrated Aviation, Rail, Bus Networks (planning, governance, and investment)   |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 6.21 a-c</i>   |
| 4.3          | Tighten standards for Aircraft emissions   |                       |                                   |                                |   |  |
| 4.4          | Tighten standards for Airport Ground Equipment   |                       |                                   |                                |   |  |
| 4.5          | Provide incentives for intercity bus service   |                       |                                   |                                |   |  |
| <b>TLU-5</b> | <b>OFF-ROAD VEHICLES (CONSTRUCTION EQUIPMENT, OUT-BOARD MOTORS, ATVS, ETC)</b>   |                       |                                   |                                |   |  |

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| 5.1        | Incentives for Purchase of Efficient Vehicles/Equipment  |                       |                                   |                                |   |   |
| 5.2        | Fund Improved Operator Training  |                       |                                   |                                |   |   |
| 5.3        | Require Maintenance Improvements   |                       |                                   |                                |   |   |
| 5.4        | Mandate Increased Use of Alternative Fuels or Low Sulfur Diesel  |                       |                                   |                                |   | <i>Cross-ref MLULC recommendation 5.3 a</i> |
| 5.5        | Introduce locomotive idling reductions   |                       |                                   |                                |   |   |
| 5.6        | Adopt Green Port strategy (Port land-side: Clean-up Port Dwelling and Cargo Handling Equipment Operations) |                       |                                   |                                |   |   |
| 5.7        | <i>Adopt two-stroke engine efficiency standards</i>  |                       |                                   |                                |   |   |