



Catalog of State Actions Transportation and Land Use (TLU) Technical Work Group

A catalog of state-level, greenhouse gas (GHG)-reducing actions and policy options prepared by the Center for Climate Strategies (CCS), Arkansas Governor's Commission on Global Warming, and others based on actions undertaken or considered by Arkansas and other states, including regional, state, local, and private actions.

Important Note: The state actions are numbered in this catalog solely for convenience in referencing them. Their numbers do NOT reflect a ranking or prioritization of the actions.

Key to Future Rankings of Options in the Tables That Follow

Potential Emission Reductions*	Potential Cost-Effectiveness ^{*,†}
High (H): At least 1.0 million metric tons (MMt) carbon dioxide-equivalent (CO ₂ e) emission reductions per year by 2020	High (H): Less than \$15/tCO ₂ e
Medium (M): From 0.1 to 1.0 MMtCO ₂ e/year by 2020	Medium (M): \$15–\$40/tCO ₂ e
Low (L): Less than 0.1 MMtCO ₂ e/year by 2020, or 1 MMtCO ₂ e/year by 2050	Low (L): \$40/tCO ₂ e or above
Uncertain (U): Not able to estimate at this time	Uncertain (U): Not able to estimate at this time

* Several measures may overlap in terms of emission reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.

† 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.

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emission Reductions	Potential Cost-Effectiveness	Ancillary Impacts, Feasibility Considerations	Notes
TLU-1	PASSENGER VEHICLE GHG EMISSION RATES					
TLU-1.1	PASSENGER VEHICLE TECHNOLOGY					
1.1.1	New Vehicle Standards: Tailpipe GHG and Fuel Economy					
1.1.2	ZEV/LEV-II implementation					
1.1.3	Research and Development and Bringing to Market Lower-GHG Vehicle Technologies					
1.1.4	Vehicle Add-On Technologies (Low-Friction Oil and Fuel-Efficient Tires)					
1.1.5	Hybrid Buses					
1.1.6	Support Stronger Federal CAFE Standards					
1.1.7	Programs for GHG Emission Consumer Information for Newly Purchased Cars					
1.1.8	Develop Infrastructure for Plug-In Vehicles					
TLU-1.2	PASSENGER VEHICLE OPERATIONS					
1.2.1	Enforce Speed Limits					
1.2.2	Vehicle Maintenance and Driver Training					

1.2.3	Improved Transportation System Management (e.g., Signal Synchronization and Intelligent Transportation Systems) to Improve Traffic Flow					
1.2.4	Driver Information Technologies, Including Pay-As-You-Drive Insurance					
1.2.5	Tune-Up Services Including Tire Pressure Checks					
1.2.6	Passenger Vehicle Idling Restrictions					
1.2.7	School Education Programs					
1.2.8	Enforcement of Auto Anti-Idling Reduction Requirements					
1.2.9	Public Education					
TLU-1.3	INCENTIVES AND DISINCENTIVES					
1.3.1	Procurement of Efficient Fleet Vehicles					
1.3.2	Feebates (State-Specific or Regional)					
1.3.3	CO ₂ -Based Registration Fees and Vehicle Licensing Fees					
1.3.4	Tax Credits for Efficient Vehicles					
1.3.5	Vehicle Scrappage					
1.3.6	Emission-Based Tolling (Discounts for Clean Vehicles)					Note Arkansas has no vehicle inspection program.

1.3.7	Establish a Carbon Emission Tax, Modeled After the Clean Air Discount Bill					
1.3.8	Establish a Fleet Replacement Grant Program					
1.3.9	Provide a Tax Incentive for Adult Bicycles					
1.3.10	Support Alternative Travel in the Advertising Mainstream					
TLU-1.4	FUEL-RELATED MEASURES					
1.4.1	Low-GHG Fuel Standard (e.g., Renewable)					Also known as a low-carbon fuel standard. May want regional rather than state standard.
1.4.2	Low-GHG Fuel for State Fleets (e.g., CNG, Biodiesel)					
1.4.3	Biofuel Expansion (Biodiesel, CNG, LPG, Cellulosic Ethanol)					2007 Act 873 (HB1379) creates the Arkansas Alternative Fuels Development Program, with the purpose of providing grant incentives for alternative-fuel producers, feedstock processors, and distributors. 2003 Act 1287 (SB363) provides a tax credit for biodiesel suppliers in the state. The act provides incentives in the form of grants for biodiesel producers in Arkansas.

1.4.4	Alternative fuel infrastructure development					See description of Act 873 (HB1379), above.
1.4.5	Fund R&D for a Full Range of Renewable Transportation Fuels					See description of Act 873 (HB1379), above.
1.4.6	Develop Life-Cycle Analysis of Transportation Fuels To Determine the Appropriate Pathways To Sustainably Protect Natural Resources					See description of Act 873 (HB1379), above.
TLU-2	LAND-USE AND LOCATION EFFICIENCY					
TLU-2.1	GENERAL					
2.1.1	Statewide Growth Management Plan					
2.1.2	Include GHG Evaluations in State Policies					
2.1.3	Shape Investment To Maximize GHG Reductions					
2.1.4	Provide Technical and Financial Support to Local Agencies					
2.1.5	Land Use, Zoning, Tax, and Building Code Reform					
2.1.6	State Congressional Advocates for Federal Action					
2.1.7	Use of Flexible Federal Transportation Funding					
2.1.8	Downtown Revitalization					
2.1.9	Brownfield Redevelopment					
2.1.10	Traffic Calming					

2.1.11	Infill Redevelopment					
2.1.12	<i>Transit-Oriented Development</i>					
2.1.13	Smart Growth Planning, Modeling, and Tools					
2.1.14	Targeted Open-Space Protection					
2.1.15	Balance Economic Development With Agriculture, Protection of Natural Resources, and Preserving Rural Character					
2.1.16	Consider the Impact of GHG Emission Reduction Strategies on Public Transportation					
2.1.17	Research Alternative Ways To Fund Transportation That Creates Incentives To Drive Less					
2.1.18	Install Roundabouts at Intersections to Improve Traffic Flow					
TLU-2.2	INCREASE LOW-GHG TRAVEL OPTIONS					
2.2.1	Make Full Use of CMAQ Funds—With Application Reviews Considering GHG Reductions					
2.2.2	Improve Transit Service (Frequency, Convenience, and Quality)					

2.2.3	Transit Marketing and Promotion (Including Individualized Transit Marketing)					
2.2.4	Bike and Pedestrian Infrastructure, Trails					
2.2.5	Expand Transit Infrastructure (Rail, Bus, Bus Rapid Transit)					
2.2.6	HOV Lanes					
2.2.7	Enhance Current "Fix-it-First" Policy					
2.2.8	Transit Prioritization (Signal Prioritization, HOV Lanes)					
2.2.9	Telecommute, Live-Near-Your-Work, and Compressed Work Week					
2.2.10	Require Government Agencies To Use Telecommuting					
2.2.11	Car Sharing					
2.2.12	E-Commerce					
2.2.13	CO ₂ Conformity Requirements					
2.2.14	Park-and-Ride Lots					
2.2.15	Guaranteed Ride Home					
2.2.16	Telecommuting Center Support and Incentives					
2.2.17	Best Work Places for Commuters Policies					
2.2.18	Issue Free Bus Passes to Downtown Workers					

2.2.19	Issue Free Bus Passes to Students and Retired People					
2.2.20	Create Regional Intermodal Transportation Centers					
2.2.21	Vanpooling and Carpooling					
2.2.22	Pricing Strategies					
2.2.23	Encourage School Age Children to Take the Bus or Rideshare					
TLU-2.3	INCENTIVES AND DISINCENTIVES					
2.3.1	Commuter Choice Programs/Parking Cash-Out					
2.3.2	VMT Tax					
2.3.3	Pay-As-You-Drive Insurance					
2.3.4	Increased Fuel Tax (With Targeted Use of Revenue Toward Travel Alternatives)					
2.3.5	Location-Efficient Mortgages					
2.3.6	Congestion Pricing (With Targeted Use of Revenue Toward Travel Alternatives)					
2.3.7	Parking Pricing, Excise Tax, and/ or Supply Restrictions					
2.3.8	Free Downtown Parking for Carpoolers					
2.3.9	Transit Market Repositioning					
2.3.10	Transit Pricing Incentives					
2.3.11	VMT/GHG Offset Requirements for Large Developments					

2.3.12	Benefits for Low-GHG Vehicles (Preferential Parking, Use of HOV Lanes)					
2.3.13	Reserved Parking Spaces for High-Occupancy Vehicles and Car-Sharing Programs					
2.3.14	Cordon Pricing					
2.3.15	Encourage Arkansas Colleges To Restrict Student Driving by Limiting Student Parking on Campus					
2.3.16	Encourage Arkansas Secondary Schools To Restrict Student Driving by Initiating Restrictive Policies for Student Parking					
2.3.17	Free Downtown Parking for Fuel-Efficient Vehicles					
TLU-3	HEAVY-DUTY VEHICLES					
TLU-3.1	HEAVY-DUTY-VEHICLE TECHNOLOGIES					
3.1.1	Vehicle Technology Improvements (e.g., Aerodynamics)					
3.1.2	R&D on Low-GHG Vehicle Technology					
3.1.3	Black Carbon Control Technologies (e.g., Use of Particulate Traps, Other Complementary Technologies)					Black carbon can affect climate by absorbing sunlight and heating the air, thereby altering large-scale atmospheric circulation and the hydrologic cycle.

3.1.4	Facilitate Adoption of New Clean Technologies—Rail and Marine Engines					
3.1.5	Single-Wide Tires, Low-Resistance Radials, Automatic Tire Inflation					
TLU-3.2	HEAVY-DUTY-VEHICLE OPERATIONS					
3.2.1	Freight Logistics Improvements/GIS					
3.2.2	Enforce Speed Limits					
3.2.3	Improve Traffic Flow					
3.2.4	Increased Size and Weight of Trucks					
3.2.5	Pre-Clearance at Scale Houses					
3.2.6	Truck stop electrification (e.g., IdleAire); provide alternatives to diesel engine idling at truck stops and terminal sites					
3.2.7	Enforce Anti-Idling Ordinances/Encourage Idling Alternatives					
3.2.8	Clean Freight Operating Improvements					Example: particulates from freight, including dust from cargo.
3.2.9	Freight Villages/Consolidation Centers					
TLU-3.3	INCREASING LOW-GHG HEAVY-DUTY TRANSPORTATION OPTIONS					
3.3.1	Intermodal Freight Initiatives					
3.3.2	Feeder Barge Container Service					

3.3.3	Increase Rail Capacity and Address Rail Freight System Bottlenecks					
3.3.4	Shift Freight Movements From Truck to Rail					
3.3.5	Promote Strategies To Ease the Movement of Freight in More GHG-Efficient Ways					
TLU-3.4	HEAVY-DUTY-VEHICLE INCENTIVES AND DISINCENTIVES					
3.4.1	Procurement of Efficient Fleet Vehicles (Public, Private, or Other)					
3.4.2	Incentives To Retire or Improve Older, Less-Efficient Vehicles					
3.4.3	Maintenance and Driver Training					
3.4.4	Increased Emission-Based Truck Tolls or Highway User Fees					
TLU-4	INTERCITY PASSENGER TRAVEL: AVIATION, HIGH-SPEED RAIL, BUS					
4.1	High-Speed Rail					
4.2	Integrated Aviation, Rail, Bus Networks (Planning, Governance, and Investment)					
4.3	Aircraft Emissions					
4.4	Airport Ground Equipment					
4.5	Intercity Bus Incentives and Subsidies					
4.6	Intercity Passenger Rail					
TLU-5	OFF-ROAD VEHICLES (CONSTRUCTION EQUIPMENT, OUTBOARD MOTORS, ATVS, ETC.)					

5.1	Incentives for Purchase of Efficient Vehicles and Equipment					
5.2	Improved Operations, Operator Training					
5.3	Maintenance Improvements					
5.4	Increased Use of Alternative Fuels or Low-Sulfur Diesel					
5.5	Adopt Green Port Strategy (Port Land-Side: Clean Up Port-Dwelling and Cargo-Handling Equipment Operations)					
5.6	Low-Carbon Fuel (Off-Road and Recreational Marine)					May want regional rather than state standard.
5.7	Locomotive Idling Reductions					
5.8	Inclusion of Idling Reduction Requirements					
5.9	Diesel Cranes at the Port— Electrification or Other GHG-Reducing Alternatives					
5.10	“Shore power” at Port Sites					
5.11	Regulate Outboard Motor Boat and Lawn Mower Gasoline Engines					
5.12	Reduce GHG Emissions from Road Construction and Maintenance, Including Paving Materials					