



Catalog of State Actions Transportation and Land Use Technical Work Group

A catalog of state-level, GHG-reducing actions and policy options based on actions undertaken or considered by state, local, and private actors.

Key to Future Rankings of Options in the Following Tables

Potential GHG Emission Reductions ¹	Potential Cost or Cost Savings ^{1, 2}
High (H): At least 1.0 million metric tons of carbon dioxide equivalent (MMtCO ₂ e) per year by 2020	High (H): \$50 per metric ton of carbon dioxide equivalent (tCO ₂ e) or above
Medium (M): From 0.1 to 1.0 MMtCO ₂ e per year by 2020	Medium (M): \$5–\$50/tCO ₂ e
Low (L): Less than 0.1 MMtCO ₂ e per year by 2020, or 1.0 MMtCO ₂ e by 2050	Low (L): Less than \$5/tCO ₂ e
Uncertain (U): Not able to estimate at this time	Negative (Neg): Net cost savings
	Uncertain (U): Not able to estimate at this time

¹ Several measures may overlap in terms of emission reductions and/or cost impacts. Estimates assume measures would be implemented independently of other measures.

² Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.

Notes/Related Actions:

The notes in this column are from individual Technical Work Group (TWG) members and do not necessarily represent the view of the entire TWG.

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

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes/Related Actions
TLU-1	PASSENGER VEHICLES					
TLU-1.1	PASSENGER VEHICLE TECHNOLOGY					
1.1.1	New Vehicle Standards: Tailpipe GHG and Fuel Economy	H	L			<ul style="list-style-type: none"> • Adopt CA GHG & fuel economy standards. • Federal government must lead this effort. • New (“New” = Not included in MARC’s Long-Range Transportation Plan, MARC’s Air Quality Action Plan, KCMO’s Climate Protection Plan, or MARC’s Creating Quality Places Principles).
1.1.2	ZEV/LEV II Implementation	H	M			<ul style="list-style-type: none"> • Federal government–national industry action. • New.

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1.1.3	Research and Development and Bringing to Market Lower-GHG Vehicle Technologies	M	M			<ul style="list-style-type: none"> Fuel costs leading us in this direction. New.
1.1.4	Vehicle Add-On Technologies (e.g., Low-Friction Oil and Fuel-Efficient Tires)	M	L			<ul style="list-style-type: none"> New
1.1.5	Support Stronger Federal CAFE Standards	H	L			<ul style="list-style-type: none"> This is within federal jurisdiction. If Congress adopts. KCMO Climate Protection Plan.
1.1.6	Programs for GHG Emissions: Consumer Information for Newly Purchased Cars	L	L			<ul style="list-style-type: none"> New.
1.1.7	Develop Infrastructure for Plug-In Vehicles	M	H			<ul style="list-style-type: none"> Federal action–utilities cooperation. KCMO Climate Protection Plan (dependent on electricity generation strategy).
TLU-1.2	PASSENGER VEHICLE OPERATIONS					
1.2.1	Enforce Speed Limits	M	L/N			<ul style="list-style-type: none"> Reduces death or injury and fuel cost savings. New – same as 3.2.2.

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1.2.2	Vehicle Maintenance and Driver Training	M	L			<ul style="list-style-type: none"> Fuel costs savings.
1.2.3	Improved Transportation System Management (e.g., Traffic Signal Synchronization and Intelligent Transportation Systems)	M	M			<ul style="list-style-type: none"> KCMO Climate Protection Plan. Transportation Outlook 2030.
1.2.4	Driver Information Technologies, Including Pay-As-You-Drive Insurance	L	L			<ul style="list-style-type: none"> Provides feedback on driving habits.
1.2.5	Tune-Up Services, Including Tire Pressure Checks	M	L			<ul style="list-style-type: none"> MARC Air Quality Action Plan.
1.2.6	Passenger Vehicle Idling Restrictions	M	L			<ul style="list-style-type: none"> Takes education and marketing. New.
1.2.7	School Education Programs	L	L			<ul style="list-style-type: none"> Needs to be included in the school program.
1.2.8	Public Education	M	M			<ul style="list-style-type: none"> KCMO Climate Protection Plan.
1.2.9	Lower Speed Limits	M	L			<ul style="list-style-type: none"> Very unpopular. New.
1.2.10	Reduce Bottlenecks Through Infrastructure Improvements	M	M			<ul style="list-style-type: none"> Transportation Outlook 2030, although plan language is not specific to GHG reductions.

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TLU-1.3	PASSENGER VEHICLE INCENTIVES AND DISINCENTIVES					
1.3.1	Procurement of Efficient Fleet Vehicles	M	M			<ul style="list-style-type: none"> Includes government and large private-sector fleets. Some government sectors are looking into this area.
1.3.2	Feebates (State-Specific or Regional)	M	M			
1.3.3	CO ₂ -Based Registration Fees and Vehicle Licensing Fees	M	M			<ul style="list-style-type: none"> Not certain this would be popular without giving the public a chance for some add-on mechanism or incentives to scrap-trade in for more fuel-efficient measures.
1.3.4	Tax Credits for Efficient Vehicles	M	M			<ul style="list-style-type: none"> Kansas House Bill 2222 for taxable years 2007 and 2008. There is a tax credit of \$2,500 for the purchase of a hybrid motor vehicle. Kansas Statue 79-32,201 Tax Credit for Alternative-Fueled Motor Vehicle Property Expenditures: <ul style="list-style-type: none"> 40% of the cost of

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						<p>alternative-fueled motor vehicle up to \$2,400 for a weight of <10,000 lbs., \$4,000 for a heavy-duty vehicle with a weight of 10,000–26,000 lbs., \$40,000 for a motor vehicle with a weight >26,000 lbs.</p> <ul style="list-style-type: none"> ○ For any qualified alternative-fuel fueling station, 40% of the total amount expended for each qualified alternative-fuel fueling station, but not to exceed \$160,000 before January 1, 2009, or \$100,000 after January 1, 2009 ○ If the other tax credits above aren't taken, there is the option of a credit in the amount of the lesser of % of the cost of the vehicle or \$750 for a vehicle

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						<p>equipped with an alternative-fuel system.</p> <ul style="list-style-type: none"> • Senate Bill 140 provides for up to a \$750 tax credit for an alternative-fueled motor vehicle or fueling station (goes until January 1, 2010). • Proven method to foster hybrid purchases. • New.
1.3.5	Vehicle Scrappage	M	M			<ul style="list-style-type: none"> • This is an incentive to replace low-fuel-economy vehicles sooner. • Probably depends on the participation, but worth implementing for the results.
1.3.6	Emission-Based Tolling (Discounts for Clean Vehicles)	L	M			<ul style="list-style-type: none"> • This is an incentive to replace light-duty vehicles sooner. • New.

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1.3.7	Establish a Carbon Emission Tax Modeled After the Clean Air Discount Bill	M	M			<ul style="list-style-type: none"> • New.
1.3.8	Establish a Fleet Replacement Grant Program	L	M			<ul style="list-style-type: none"> • Good idea.
1.3.9	Provide a Tax Incentive for Adult Bicycles	L	L			<ul style="list-style-type: none"> • Should be considered for Kansas and should be cheap. • New.
1.3.10	Support Alternative Travel in the Advertising Mainstream	M	L			<ul style="list-style-type: none"> • Feasible alternatives for Kansas need to be established for this. • New.
TLU-1.4	FUEL-RELATED MEASURES					
1.4.1	Low-GHG Fuel Standard (e.g., renewable)	H	H			<ul style="list-style-type: none"> • Also known as a low-carbon fuel standard. • Federal government must lead. • New.
1.4.2	Low-GHG for State Fleets (e.g., CNG, Biodiesel)	M	M			<ul style="list-style-type: none"> • New.
1.4.3	Biodiesel Expansion (Biodiesel, CNG, LPG, Cellulosic Ethanol)	M	H			<ul style="list-style-type: none"> • New.

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1.4.4	Alternative-Fuel Infrastructure Development	M	H			<ul style="list-style-type: none"> This includes liquefied natural gas. Will probably take federal action as well. New.
1.4.5	Fund Research and Development for a Full Range of Renewable Transportation Fuels	M	H			<ul style="list-style-type: none"> New.
1.4.6	Develop Life-Cycle Analyses of Transportation Fuels to Determine the Appropriate Pathways To Sustainably Protect Natural Resources	L	M			<ul style="list-style-type: none"> New.
1.4.7	Hydrogen Fuels	H	H			<ul style="list-style-type: none"> Federal research is okay, not state. H2 is very difficult to store. New.
1.4.8	Fuel-Blending (e.g., ethanol) Requirement	M	M			<ul style="list-style-type: none"> Only if total system analysis proves real CO₂ reduction. New.
TLU-2	LAND-USE EFFICIENCY AND MODAL OPTIONS					
TLU-2.1	GENERAL LOCATION EFFICIENCY					
2.1.1	Statewide Growth Management Plan	M	L			<ul style="list-style-type: none"> This may already be done. Any cost projection? New.

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2.1.2	Include GHG Evaluations in State Policies	M	L			<ul style="list-style-type: none"> • New.
2.1.3	Shape Investment To Maximize GHG Reductions	M	L			<ul style="list-style-type: none"> • New.
2.1.4	Provide Technical and Financial Support to Local Agencies	M	M			<ul style="list-style-type: none"> • Including training and creating staffing. • New.
2.1.5	Smart Growth Planning, Modeling, and Tools	M	M			<ul style="list-style-type: none"> • Needs to be done. • KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.1.6	Land Use, Zoning, Tax, and Building Code Reform	H	M			<ul style="list-style-type: none"> • Combine with 2.1.5. • This needs to be done and perhaps included with 2.1.5. • KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.

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2.1.7	State Congressional Advocates for Federal Action	M	L			<ul style="list-style-type: none"> • If Congress adopts. • Okay, but Kansas is a small state. • New.
2.1.8	Use of Flexible Federal Transportation Funding	M	L			<ul style="list-style-type: none"> • MARC has used flexible funding for CMAQ and STP, although not for GHG reductions.
2.1.9	Downtown Revitalization	M	M			<ul style="list-style-type: none"> • This is being done in Wichita. • KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.1.10	Brownfield Redevelopment	M	M			<ul style="list-style-type: none"> • KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.

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2.1.11	Infill Development	M	M			<ul style="list-style-type: none"> KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.1.12	Transit-Oriented Development	M	M			<ul style="list-style-type: none"> Good idea. KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.1.13	Traffic Calming	L	M			<ul style="list-style-type: none"> New.
2.1.14	Targeted Open-Space Protection	M	L			<ul style="list-style-type: none"> KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.1.15	Balance Economic Development With Agriculture, Protection of Natural Resources, and Preservation of Rural Character	M	L			
TLU-2.2	INCREASING LOW-GHG TRAVEL OPTIONS					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes/Related Actions
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, and Quality)	M	M			<ul style="list-style-type: none"> • A must for increased and stable ridership. Increase safety and security as well. • KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.2.3	Transit Marketing and Promotion (Including Individualized Transit Marketing)	M	L			<ul style="list-style-type: none"> • New.
2.2.4	Expand Transit Infrastructure (Light Rail, Bus, Bus Rapid Transit)	M	M			<ul style="list-style-type: none"> • KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.

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2.2.5	Transit Prioritization (Signal Prioritization, HOV Lanes)	M	M			<ul style="list-style-type: none"> KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.2.6	Guaranteed Ride Home	M	L			<ul style="list-style-type: none"> Too uncertain to calculate. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.
2.2.7	Create Regional Multimodal Transportation Centers	M	M			<ul style="list-style-type: none"> This likely depends on cooperation and coordination of the market-driven entities. KCMO Climate Protection Plan. MARC Air Quality Action Plan. Transportation Outlook 2030. Creating Quality Places.

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2.2.8	Bike and Pedestrian Infrastructure	M	M			<ul style="list-style-type: none"> Needs to be done regardless, due to low cost. Probably depends on volunteer participation. KCMO Climate Protection Plan. Transportation Outlook 2030. Creating Quality Places.
2.2.9	HOV Lanes	M	M			<ul style="list-style-type: none"> Transportation Outlook 2030. Creating Quality Places.
2.2.10	Van Pooling and Car Pooling	M	L			<ul style="list-style-type: none"> KCMO Climate Protection Plan. Transportation Outlook 2030. Creating Quality Places.
2.2.11	Park-and-Ride Lots	M	M			<ul style="list-style-type: none"> KCMO Climate Protection Plan. Transportation Outlook 2030. Creating Quality Places.

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2.2.12	Car Sharing	M	M			<ul style="list-style-type: none"> Not popular with individuals. Might look into other models in different states to see what the percentage of ridership participation can be.
2.2.13	Telecommute, Live Near Your Work, and Compressed Work Week	M	L			<ul style="list-style-type: none"> In Kansas, living near work is not always feasible. But a compressed work week is very inviting and feasible. KCMO Climate Protection Plan. Transportation Outlook 2030. Creating Quality Places.
2.2.14	Require Government Agencies To Use Telecommuting	M	L			<ul style="list-style-type: none"> KCMO Climate Protection Plan.
2.2.15	Telecommuting Centers, Support, and Incentives	M	M			<ul style="list-style-type: none"> Depends on the logistics and the participation. New.
2.2.16	E-Commerce	M	L			
2.2.17	Thorough Analysis of Future Infrastructure Capacity Expansion	M	L			<ul style="list-style-type: none"> Transportation Outlook 2030. Creating Quality Places.

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2.2.18	Hybrid Buses	M	L			<ul style="list-style-type: none"> Fuel cost savings and federal incentives should pay for the extra cost of the buses.
2.2.19	Bicycle Transportation (e.g., Rails to Trails)	M	M			<ul style="list-style-type: none"> Transportation Outlook 2030. Creating Quality Places.
TLU-2.3	INCENTIVES AND DISINCENTIVES					
2.3.1	Commuter Choice Programs/Parking Cash-Out	M	L			<ul style="list-style-type: none"> Any models from other states to look at the feasibility in Kansas cities and towns? KCMO Climate Protection Plan.
2.3.2	Adopt Best Work Places for Commuters Policies	L	L			<ul style="list-style-type: none"> Transportation Outlook 2030. Creating Quality Places.
2.3.3	Issue Free Bus Passes to Downtown Workers, Students, and Retired People	M	M			
2.3.4	Transit Pricing Incentives	M	M			
2.3.5	Free Downtown Parking to Car Poolers	M	M			<ul style="list-style-type: none"> KCMO Climate Protection Plan.
2.3.6	Reserve Parking Spaces for High-Occupancy Vehicles and Car-Share Programs	L	L			<ul style="list-style-type: none"> KCMO Climate Protection Plan.

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2.3.7	Benefits for Low-GHG Vehicles (Preferential Parking, Use of HOV Lanes)	L	L			
2.3.8	Location-Efficient Mortgages	L	L			<ul style="list-style-type: none"> • New.
2.3.9	VMT Charges	M	L			<ul style="list-style-type: none"> • New.
2.3.10	Increased Fuel Tax (With Targeted Use of Revenue Toward Travel Alternatives)	M	L			<ul style="list-style-type: none"> • Not sure how individuals and corporations will look at this one with today's situation. • New.
2.3.11	Pay-As-You-Drive Insurance	L	L			<ul style="list-style-type: none"> • Regressive in my opinion. Insurance companies may already be doing some of this. This would work better in states that have big metro areas with mass transit already in place for alternative modes of transportation. • New.
2.3.12	Congestion Pricing (With Targeted Use of Revenue Toward Travel Alternatives)	M	L			<ul style="list-style-type: none"> • New.

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2.3.13	Emission-Based Tolls (With Targeted Use of Revenue Toward Travel Alternatives)	M	L			<ul style="list-style-type: none"> • New.
2.3.14	Urban and Intercity Road Tolls (With Targeted Use of Revenue Toward Travel Alternatives)	M	L			<ul style="list-style-type: none"> • New.
2.3.15	Cordon Pricing	L	L			<ul style="list-style-type: none"> • New.
2.3.16	Parking Pricing, Excise Tax, and/or Supply Restrictions	M	L			<ul style="list-style-type: none"> • Not an issue in our area unless an event (e.g., River Festival, the arena); then parking becomes an issue. • KCMO Climate Protection Plan.
2.3.17	VMT/GHG Offset Requirements for Large Developments	M	L			<ul style="list-style-type: none"> • Probably won't fly with developers. • New.
2.3.18	Research the Impact of GHG Emission Reduction Strategies on Transportation Revenue Sources	M	M			<ul style="list-style-type: none"> • Critical to study. • New.
2.3.19	Research Alternative Ways to Fund Transportation That Creates Incentives To Drive Less	M	M			<ul style="list-style-type: none"> • Critical to study. • New.

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2.3.20	CO ₂ Conformity Requirements	M	H			<ul style="list-style-type: none"> Federal government must lead in this effort. New.
2.3.21	Encourage Coordination and/or Consolidation of Transit Agencies	L	M			<ul style="list-style-type: none"> Not sure how Kansas is going to benefit from this at this time. Transportation Outlook 2030. Creating Quality Places.
2.3.22	Use Market Approaches or LEED for Neighborhood Development	H	M			<ul style="list-style-type: none"> Not sure why this is here and perhaps should be referred to RCI TWG? MARC Clean Air Action Plan
2.3.23	Use Incentives To Promote Alternative Uses of Transportation (such as biking and walking)	M	L			<ul style="list-style-type: none"> MARC Clean Air Action Plan
TLU-3	HEAVY-DUTY VEHICLES					
TLU-3.1	HEAVY-DUTY VEHICLE TECHNOLOGIES					
3.1.1	Vehicle Technology Improvements (e.g., Aerodynamics)	M	M			<ul style="list-style-type: none"> Federal government and manufacturers must lead this effort.
3.1.2	R&D on Low-GHG Vehicle Technology	M	M			<ul style="list-style-type: none"> Federal government and manufacturers must lead this effort.

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3.1.3	Black Carbon Control Technologies (e.g., Use of Particulate Traps, Other Complementary Technologies)	L	M			<ul style="list-style-type: none"> Black carbon can affect climate by absorbing sunlight and heating the air, thereby altering large-scale atmospheric circulation and the hydrologic cycle. Federal government must lead this effort.
3.1.4	Facilitate Adoption of New Clean Technologies—Rail and Marine Engines	M	M			<ul style="list-style-type: none"> Will probably take a federal mandate. MARC Clean Air Action Plan
3.1.5	Single-Wide Tires, Low-Resistance Radials, Automatic Tire Inflation	M	L			<ul style="list-style-type: none"> Federal government must lead in this effort. New.
3.1.6	Development of Electric, Natural Gas, and Other Innovative Vehicle Technologies	M	M			<ul style="list-style-type: none"> Federal government must lead in this effort.
TLU-3.2	HEAVY-DUTY VEHICLE OPERATIONS					
3.2.1	Freight Logistics Improvements/GIS	M	L			<ul style="list-style-type: none"> Pricing of fuel. Market leading them in this direction, but industry must lead.
3.2.2	Enforce Speed Limits	M	L			<ul style="list-style-type: none"> Fuel savings will result.

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3.2.3	Improve Traffic Flow	M	M			<ul style="list-style-type: none"> • New.
3.2.4	Increased Size and Weight of Trucks	M	L			<ul style="list-style-type: none"> • Oppose. Increased road wear and safety issues. • New.
3.2.5	Pre-Clearance at Scale Houses	M	L			<ul style="list-style-type: none"> • Already being done.
3.2.6	Truck Stop Electrification	M	M			<ul style="list-style-type: none"> • Further cuts down idling. • MARC Clean Air Action Plan.
3.2.7	Enforce Anti-Idling	M	L			<ul style="list-style-type: none"> • MARC Clean Air Action Plan.
3.2.8	Clean Freight Operating Improvements	M	M			<ul style="list-style-type: none"> • Example: particulates from freight, including coal train coal dust. • Should be done or have technology change the way we fill covered operations.
3.2.9	Freight Village/Consolidation Centers	M	M			<ul style="list-style-type: none"> • Let market lead this effort.
3.2.10	Lower Speed Limits	H	L			<ul style="list-style-type: none"> • Increases our time on roads, cost of moving products. • New.

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TLU-3.3	INCREASING LOW-GHG HEAVY-DUTY TRANSPORTATION OPTIONS					
3.3.1	Intermodal Freight Initiatives	M	M			
3.3.2	Feeder Barge Container Service	L	M:			<ul style="list-style-type: none"> • N/A.
3.3.3	Increase Rail Capacity and Address Rail Freight System Bottlenecks	H	M			<ul style="list-style-type: none"> • Let market decide? Perhaps not an issue in Kansas. • New.
3.3.4	Shift Freight Movements From Truck to Rail	H	M			<ul style="list-style-type: none"> • Market driven by high fuel costs. • Transportation Outlook 2030. Creating Quality Places.
3.3.5	Promote Strategies To Ease the Movement of Freight in More GHG-Efficient Ways	M	L			<ul style="list-style-type: none"> • Market driven by high fuel costs • New
TLU-3.4	HEAVY-DUTY VEHICLE INCENTIVES AND DISINCENTIVES					
3.4.1	Procurement of Efficient Fleet Vehicles (Public, Private, or Other)	M	M			<ul style="list-style-type: none"> • Industry working towards this. • KCMO Climate Protection Plan.
3.4.2	Incentives To Retire or Improve Older, Less Efficient Vehicles	M	M			<ul style="list-style-type: none"> • New.
3.4.3	Maintenance and Driver Training	L	L			<ul style="list-style-type: none"> • Should already be conducting.

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3.4.4	Increased Emission-Based Truck Tolls or Highway User Fees	M	M			<ul style="list-style-type: none"> • May hurt business in Kansas if it is not followed through at least regionally. • New.
3.4.5	Tax Credits and Incentives for New Equipment	M	M			
TLU-4	INTERCITY PASSENGER TRAVEL: AVIATION, RAIL, BUS					
4.1	High-Speed Rail	M	M			<ul style="list-style-type: none"> • Cost of rail lines and infrastructure is high. • New.
4.2	Integrated Aviation, Rail, Bus Networks (Planning, Governance, and Investment)	M	H			<ul style="list-style-type: none"> • Kansas is all spread out and not feasible like in the big metro areas like San Francisco, Washington DC, etc.
4.3	Aircraft Emissions	M	H			<ul style="list-style-type: none"> • Federal government and international market driven. • Clean Air Action Plan.
4.4	Intercity Bus Incentives and Subsidies	M	M			<ul style="list-style-type: none"> • Tends to appeal to individuals who do not drive usually.

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes/Related Actions
4.5	Improved Passenger Rail Service	M	M			<ul style="list-style-type: none"> The demand for light rail—needs implementation and infrastructure. Need the market and incentives to get individuals out of their vehicles Transportation Outlook 2030.
4.6	Bicycle Transportation (e.g., Rails to Trails)	L	L			<ul style="list-style-type: none"> Needs implementation – good idea but how many would this attract? Should provide incentives for those within the Cities KCMO Climate Protection Plan. (Duplicate policy option.)
TLU-5	OFF-ROAD VEHICLES (CONSTRUCTION EQUIPMENT, OUTBOARD MOTORS, ATVS, FEED TRUCKS, MANURE SPREADERS, DUMP TRUCKS, ETC.)					
5.1	Incentives for Purchase of Efficient Vehicles and Equipment	M	H			<ul style="list-style-type: none"> MARC Clean Air Action Plan.
5.2	Improved Operations, Operator Training	M	L			<ul style="list-style-type: none"> New.

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes/Related Actions
5.3	Increased Use of Alternative Fuels or Low-Sulfur Diesel	L	M			<ul style="list-style-type: none"> Federally mandated.
5.4	Adopt Green Port Strategy (Port Land-Side: Clean Up Port-Dwelling and Cargo-Handling Equipment Operations)	M	H			<ul style="list-style-type: none"> N/A.
5.5	Low-Carbon Fuel (Off-Road and Recreational Marine)	L	M			
5.6	Locomotive Idling Reductions	M	L			<ul style="list-style-type: none"> MARC Clean Air Action Plan.
5.7	Inclusion of Idling Reduction Requirements	M	L			<ul style="list-style-type: none"> MARC Clean Air Action Plan.
5.8	Diesel Cranes at Port-Electrification or Other GHG-Reducing Alternatives	L	L			<ul style="list-style-type: none"> N/A.
5.9	“Shore Power” at Port Sites	L	M			<ul style="list-style-type: none"> N/A.
5.10	Airport Ground Equipment	L	M			<ul style="list-style-type: none"> Need to assess impact in Kansas.
5.11	Lawnmowers and Other Small Gas-Powered (e.g., Two-Stroke) Engines	M	M			<ul style="list-style-type: none"> Include electric mowers as an option. KCMO Climate Protection Plan.

CA = California; CAFE = corporate average fuel economy; CMAQ = congestion, mitigation, and air quality; CNG = compressed natural gas; CO₂ = carbon dioxide; GHG = greenhouse gas; GIS = geographic information system; HOV = high-occupancy vehicle; KCMO = Kansas City, Missouri; LEED = Leadership in Energy and Environmental Design; LEV = low-emission vehicle; LPG = liquefied petroleum gas; MARC = Mid-America Regional Council; N/A = not applicable; R&D = research and development; STP = state transportation profile; VMT = vehicle miles traveled; ZEV = zero-emission vehicle.

