



**Transportation & Land Use Technical Working Group
Summary List of Recommended Mitigation Options**

#	Mitigation Option Name	Description
TLU-1	Transit, Ridesharing, and Commuter Choice Programs	The state would support the expansion of public transit service and improvements to existing transit service. This option also could include expansion of intercity bus or rail service. The state would also establish and expand ridesharing programs, provide incentives or assistance for others to do so, and provide supportive infrastructure (e.g., park-and-ride lots). This option could also involve promotion and marketing of transit, and/or reduction in transit fares. It could also involve expansion of Commuter Choice Programs, which encourage employers to provide options such as telecommuting, transit subsidies, pre-tax transit fare program, and guaranteed ride-home service in order to reduce automobile commutes.
TLU-2	Vehicle Idling Regulations and/or Alternatives	This option would reduce heavy-duty vehicle (truck) idling through incentives, regulation, or both. The state could support alternatives to long-term truck idling, include the use of technologies such as automatic engine shut down/start-up system controls, direct-fired heaters, auxiliary power units, and truck stop electrification. Truck idling time could also be reduced through the pre-clearance at highway truck weigh stations and expanded use of weigh-in-motion systems. Vehicle idling could be reduced by adopting a state anti-idling ordinance. Idling reductions could also be considered for other vehicle types and fleets, such as taxis.

#	Mitigation Option Name	Description
TLU-3	Transportation System Management	Transportation system management improves vehicle flow on the roadway system, which can reduce fuel use and GHG emissions. Coordinated operation of the regional transportation network can improve system efficiency, reliability, and safety. Tools to reduce traffic congestion include roundabouts at intersections, synchronized signals, incident management, variable message signs, and other forms of intelligent transportation systems (ITS). This option could also involve reduction in highway speeds to improve fuel economy, reduce CO2 emissions, and improve safety.
TLU-4	Promote Efficient Development Patterns (Smart Growth)	The state would support smart growth principles that promote efficient land development patterns reduce VMT and emissions while helping to conserve natural resource land and natural areas. This option aims to promote more efficient development through one or more of the following strategies: <ul style="list-style-type: none"> • Planning activities, incentives, and/or regulatory changes to encourage “brownfields” development or other types of infill development. • Planning activities, incentives, and/or regulatory changes to limit urban growth areas while increasing residential density. • Incentives or requirements to designate centers for employment and housing, possibly with incentives or requirements that new infrastructure planning and investments reflect these growth nodes. • Targeted open space protection includes programs designed to protect and conserve State lands and other open spaces, and develop and improve neighborhood, community, and regional parks in ways that encourage location-efficient growth and broader mode choice.
TLU-5	Promotion of Alternative Fuel Vehicles	The state would take steps to promote expanded market penetration of alternative fuel vehicles, potentially including electric, and plug-in hybrid electric, and compressed natural gas vehicles. Promotion could occur for both private vehicles and in commercial and public vehicle fleets. This could involve tax or registration fee incentives. The state could also encourage development of supporting infrastructure such as electric vehicle charging stations or natural gas fueling stations. And the state could help create a market for these vehicles by purchasing them for the state fleet.

#	Mitigation Option Name	Description
TLU-6	VMT and GHG Reduction Goals in Planning	<p>Transportation agencies (ADOT&PF, MPOs) would adopt VMT or GHG reduction goals as part of the transportation planning process. These agencies would quantify the GHG emissions resulting from long-range transportation plans and transportation programs. In addition to plans and programs, quantification of impacts could be determined for projects and corridors.</p> <p>The state could also require local governments to adopt a schedule for VMT and/or GHG emission reductions as part of the local planning process. Local governments would be provided with guidance for achieving these goals. This option would ensure that local government planning decisions are consistent with VMT and/or GHGs reductions to which they have committed.</p>
TLU-7	On-Road Diesel Engine Efficiency Improvements	<p>The state would promote improvements to the fuel efficiency of freight trucks using a variety of equipment modifications (e.g., aerodynamic devices, wide-base tires, fuel efficient lubricants) as well as driver training. Government agencies can promote truck fuel efficiency improvements with incentives and outreach. This option could also provide incentives for or discounts to transit agencies for the purchase of hybrid and/or other cleaner-technology buses.</p>
TLU-8	Marine Vessel Efficiency Improvements	<p>The state would support the replacement of older, inefficient marine engines with newer more efficient engines. In addition, Marine engine systems can be modified to enable vessels to run on fewer engines. Waste heat recovery systems can be installed on vessels to replace boilers, thereby reducing fuel use and GHG emissions. Additionally, the state could offer incentives to phase out two-cycle engines, thereby supporting existing state restrictions on engine use in protected waters.</p>
TLU-9	Aviation Emission Reductions	<p>The state would promote a voluntary program to improve the fuel efficiency of aircraft operations. Specific strategies could include use of single engine taxi, reduced use of APUs, and reduced aircraft weight by minimizing excess fuel loading. While these actions would remain under pilot control, the state could help to educate and promote their benefits. The state could also support research on fuel savings strategies. Finally, the state would support, through federal channels, improvements to the air traffic control system in order to reduce circuitous routing and excess fuel use.</p>