# DRAFT
# Transportation Sector
# Brief Descriptions of Potential State Actions

## T-1 VEHICLE TECHNOLOGY

### 1.1 Clean Car Program

A clean car program is also known as the "Pavley" standards or the California GHG Emissions Standards. These standards can be adopted to reduce GHG emissions from new light-duty vehicles. New cars and light trucks in all states must comply with Federal emission standards, and, generally speaking, states have the choice of adopting a stronger set of standards applicable in California. A set of standards typically include the gradual increase in the rates of emissions reductions over certain periods of time. Further, a state can include other smog- and soot-forming pollutants in this plan. Manufacturers may meet this standard by utilizing a fleet-wide average.

**WA Action:** Adopted the California Clean Car Program standards in 2006. Beginning January 1, 2009, new cars and light trucks sold in the State must meet the strict vehicle emissions standards.

### 1.2 Fuel-Efficient Tires

Fuel-efficient tires may also be referred to as low rolling resistance tires. Fuel economy can be improved on light-duty vehicles by setting minimum energy efficiency standards for replacement tires. Typically, energy efficient tires are used on new models. But lower rolling resistant replacement tires may not be readily available to consumers and there is little information regarding the fuel economy of replacement tires.

### 1.3 Freight Truck Fuel Efficiency Improvements

The fuel efficiency of freight trucks can be improved 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.

## 1.4 Black Carbon Control for Freight Vehicles

Diesel particulate matter includes black carbon aerosols, which are thought to contribute to global warming through positive radiative forcing. Diesel particulate emissions can be reduced through the use of several types of exhaust retrofit devices.

**WA Action:** In 2005, the Legislature authorized $2 million to be used to retrofit diesel engines owned by public entities. The goal is to retrofit 20% of local government diesel engine vehicles to reduce highly toxic diesel emissions. An additional $2.3 million was authorized by the 2007 Legislature to retrofit public-sector diesel vehicles, and allows a portion of existing diesel retrofit funding to be used for privately-owned diesel vehicles.

## 1.5 Vehicle Purchase or Registration Incentives

Incentives such as registration fees, feebates, and tax credits can encourage the purchase of more fuel-efficient vehicles. Higher vehicle registration fees can be charged for vehicles that have lower fuel economy. Alternatively, vehicles that use alternative fuels or hybrid vehicles could be charged a lower vehicle registration fee. “Feebates” would provide incentives for reduced GHG emissions by creating: (1) fees on relatively high emissions/lower fuel economy vehicles and (2) rebates or tax credits on low emissions/higher fuel economy vehicles. Tax credits can be offered for the first time purchase of a hybrid, alternative fuel vehicle, or other set of specifications that incorporate low-GHG emission standards.

**WA Action:** Legislature enacted SB 5916 in 2005 providing tax exemptions for new vehicles that use clean alternative fuels. Clean alternative fueled vehicles and hybrid passenger vehicles which have a fuel economy of at least 40 mpg on the highway are exempted from state sales and use taxes starting in 2009.

## 1.6 Operational Incentives for Low-GHG Vehicles

Incentives can be offered to drivers of low-GHG vehicles. These can include preferential access to vehicles on HOV lanes or for metered parking spaces.

## 1.7 Incentives to Retire or Improve Older High-GHG Vehicles

Black carbon emissions can be reduced from heavy-duty diesel vehicles by developing and implementing an incentives program to accelerate the replacement and/or retirement of the highest-emitting diesel vehicles. Starting with the 2007 model year, stringent new federal emission standards for new heavy-duty diesel vehicles take effect. Incentives can be offered to the owners of older vehicles to retire their vehicles early and replace them with vehicles meeting the 2007 emission standards.

## T-2 VEHICLE OPERATION

### 2.1 Lower and/or Enforce Speed Limits

Reduced vehicle speeds improve fuel economy, reduce CO2 emissions, and improve safety. This could be implemented by requiring interstates, freeways, and major arterials to be signed with a maximum speed that is lower than the current speed. Significant enforcement resources may be needed for this measure to achieve the expected reductions.

### 2.2 Vehicle Maintenance, Driver Education

Better consumer information and education can lead to a gain in fuel efficiency. Driver education could be geared to encourage energy-efficient driving habits. Drivers also need to be aware of maintenance issues that cause an increase in pollution and vehicle operating cost.

### 2.3 Heavy-Duty Vehicle Idling Regulations and/or Alternatives

Heavy-duty vehicle idling can be reduced by adopting anti-idling ordinances and/or encouraging the use of alternatives. Many states and local governments have adopted idling regulations for trucks and buses. 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 can also be reduced through the pre-clearance at highway truck weigh stations and expanded use of weigh-in-motion systems.

**WA Action:** To minimize idling of heavy duty diesel vehicles, a business and occupation state tax deduction is provided from the sale, lease or rental of auxiliary power to heavy duty diesel vehicles through on-board or stand-alone electrification systems.

## T-3 ALTERNATIVE FUELS

### 3.1 Renewable Fuel Standard

The state can adopt standards that require a certain amount or percentage of fuel sold within the state to be a renewable fuel (e.g., ethanol or biodiesel). This percentage can gradually increase over time. States can help facilitate transition to renewable fuels by setting quality standards for fuel blends.

**WA Action:** In 2006, the Legislature adopted ESSB 6508 establishing minimum renewable fuel content requirements and fuel quality standards. Beginning in November 30, 2008, fuel suppliers must ensure a minimum of 2% of total annual diesel and 2% of total annual gasoline sold in the State must be biodiesel or ethanol.

## 3.2 Alternative Fuel Mandates for State/Local Fleets

Governments can mandate that public vehicle fleets include alternative fuel vehicles, typically targeting a certain percentage of penetration within a certain period of time.

**WA Action:** In 2005 an Executive Order was signed directing agencies to reduce 20% petroleum use in the operation of state vehicles and privately-owned vehicles used for state business, by September 1, 2009. By that date, standard diesel must be replaced with 20% biodiesel blend, and as soon as practical, agencies must begin using a minimum 5% biodiesel blend.

## 3.3 Alternative Fuel Production Incentives

Various incentives can encourage companies to continue or begin producing alternative fuels. The incentives can come in many different forms, such as granting state tax credits based on the amount of alternative fuel produced, reduced taxes for alternative fuel production facilities, or providing loans or grants to companies that are producing or want to produce alternative fuel. Additionally, the state can organize a public/private fuel-buying consortium that enters a long-term contract with a supplier to help overcome the risk of producing fuel using an innovative

**WA Action:** In 2003, the Legislature passed four bills (HB 1240 to 1243) which provide various tax and use incentives to encourage the development, distribution, and sale of biodiesel and ethanol fuels.

## 3.4 Alternative Fuel Infrastructure Development

The development of an alternative fuel infrastructure can aid in the promotion of alternative fuel usage. The expense of equipment and installation costs can be offset by creating an infrastructure. The convenient locations of stations offering alternative fuels at competitive prices can increase the usage of the fuel.

**WA Action:** The 2006 Legislature established the Energy Freedom Program in the State Department of Agriculture and appropriated $17 million for the Energy Freedom Loan Program to develop a viable bioenergy industry, promote research and development in bioenergy sources and markets and to support an agriculture industry to grow bioenergy crops. The 2007 Legislature authorized a bill to create a vehicle electrification grant program. The bill also authorizes state agencies to provide electricity at state facilities for operation of state electric vehicles and privately-owned electric vehicles used for state business.

# T-4 SMART GROWTH

## 4.1 Promote Infill and/or Transit Oriented Development

Residential and commercial development on infill and transit-oriented locations typically results in less vehicle travel and emission as compared to development on lower density exurban or "greenfield" locations. Households and workers in areas with higher density and mixed uses typically take shorter trips and have more alternatives to automobile travel. "Brownfields" are one type of infill location – commercial or industrial properties that are abandoned or are not being fully used because of actual or perceived environmental contamination.

**WA Actions:** Washington's Brownfield Coalition, a partnership of the Department of Ecology, King County, the Environmental Coalition of Seattle (ECOSS), Seattle, Spokane, Tacoma and CTED, offers low-interest loans to local governments and property owners to clean up brownfields through the Brownfield Loan Fund: http://www.cted.wa.gov/site/789/default.aspx

The Legislature adopted the Growth Management Act in 1990 that requires state and local governments to manage Washington's growth by identifying and protecting critical and natural resource areas, designating urban growth areas, preparing comprehensive plans, and implementing them through capital investments and development regulations: http://www.gmhb.wa.gov/index.html

## 4.2 Targeted Open Space Protection

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.

## 4.3 Parking Management

Automobile use is strongly influenced by the location, supply, and pricing of parking. Local governments can encourage reduction in automobile use by eliminating minimum parking supply requirements, establishing parking supply caps, encouraging higher parking prices, and other mechanisms.

## 4.4 VMT/GHG Offset Requirements for Large Developments

Emissions from automobiles, freight trucks, and heavy machinery during development can be offset by a plan that reduces emissions. These offsets can include preserving open spaces, purchasing emission credits, or converting to alternative fuel energy sources, for example.

# T-5 SYSTEM EFFICIENCY AND DEMAND MANGEMENT

## 5.1 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 HOV lanes, synchronized signals, incident management, variable message signs, and other firms of intelligent transportation systems (ITS).

## 5.2 Ridesharing

Ridesharing programs are designed to reduce vehicle trips and vehicle miles traveled by providing assistance and encouragement to individuals and employers to use carpools and vanpools. Government agencies can establish and expand ridesharing programs, provide incentives or assistance for others to do so, and provide supportive infrastructure (e.g., park and ride lots).

## 5.3 Expand Transit Infrastructure and/or Improve Existing Service

Greater use of public transit and reduction in automobile travel can be achieved by expanding public transit infrastructure (e.g., rail lines, bus rapid transit routes) and improving existing transit service (e.g., expanded hours or coverage of bus service, higher frequency bus routes).

## 5.4 Transit Marketing, Promotion, and Pricing Incentives

Greater use of public transit and reduction in automobile travel can be achieved by enhanced promotion and marking of transit, or through reduction in transit fares.

## 5.5 Bike and Pedestrian Infrastructure Improvements

Improving, adding, and promoting sidewalks and bikeways can increase the pedestrian and bicycle activity and reduce automobile use.

## 5.6 Commuter Choice Programs

Commuter Choice Programs encourage employers to provide options such as telecommuting, transit subsidies, pre-tax transit fare program, parking cash-out, and guaranteed ride-home service in order to reduce automobile commutes.

**WA Action:** In 2006, the Legislature passed the Commute Trip Reduction Efficiency Act that uses partnerships among employers, local jurisdictions, transit systems and the State to discourage traveling by single-occupant vehicles to the work place.

### 5.7 Expand Roadway Pricing

Roadway tolling can be used to discourage single-occupant automobile use and provide revenue for alternative modes. If tolls vary with congestion levels, they can also help to reduce congestion. Various forms of VMT-based user fees can also help to discourage unnecessary automobile use.

**WA Action:** PSRC recently conducted a pilot test of an in-vehicle taxi-like metering device to assess roadway user charges. This Traffic Choices Study involved 500 vehicles from more than 300 households.

### 5.8 Increase Motor Fuel Taxes

Increasing the state tax on conventional fuels can reduce consumption and travel while encouraging the use of lower emissions vehicles, alternative fuels, and public transit.

## T-6 NON-ROAD OPTIONS

### 6.1 Intermodal Rail Improvements

Transport of freight goods can be shifted from the roadway system to rail. Carrying freight by railroads rather than truck can reduce emissions and fuel consumption while reducing congestion on major roadways.

### 6.2 Aircraft GHG Reductions

More efficient operation of aircraft could reduce GHG emissions. This can include idle time at the gate, on the runway, and research and development of emission-reducing technologies.

### 6.3 Airport Operations and Ground Equipment

Airports can reduce emissions from ground equipment by using alternative fuels and electrification of gates. This option could also include better runway management.

### 6.4 Harbor Craft GHG Reductions

Emissions from harbor craft (including tugs, dredges, and ferries) can be reduced by improving vessel fuel efficiency, use of auxiliary fuels, or electrification.

## 6.5 Off-Road Vehicle GHG Reductions

Off-road vehicles include of construction vehicles, machinery used for mining and agriculture, recreational vehicles such as all-terrain vehicles, snowmobiles, jet skis, and boats. Incentives could be provided to companies and individuals to encourage retrofits, alternative fuel use, and replacing old, highly polluting equipment with new equipment.

## 6.6 Port Electrification

Shore power, or cold ironing, enables ships to shut down their (diesel) auxiliary engines and run off electrical power supplied at the dock for refrigeration, electricity, and other needs. To enable shore power, the port or terminal operator must install the necessary shore-side infrastructure, while ship owners must retrofit their ships to accommodate shore power. Other options for port electrification include expanded use of electric powered equipment such as cranes and forklifts.