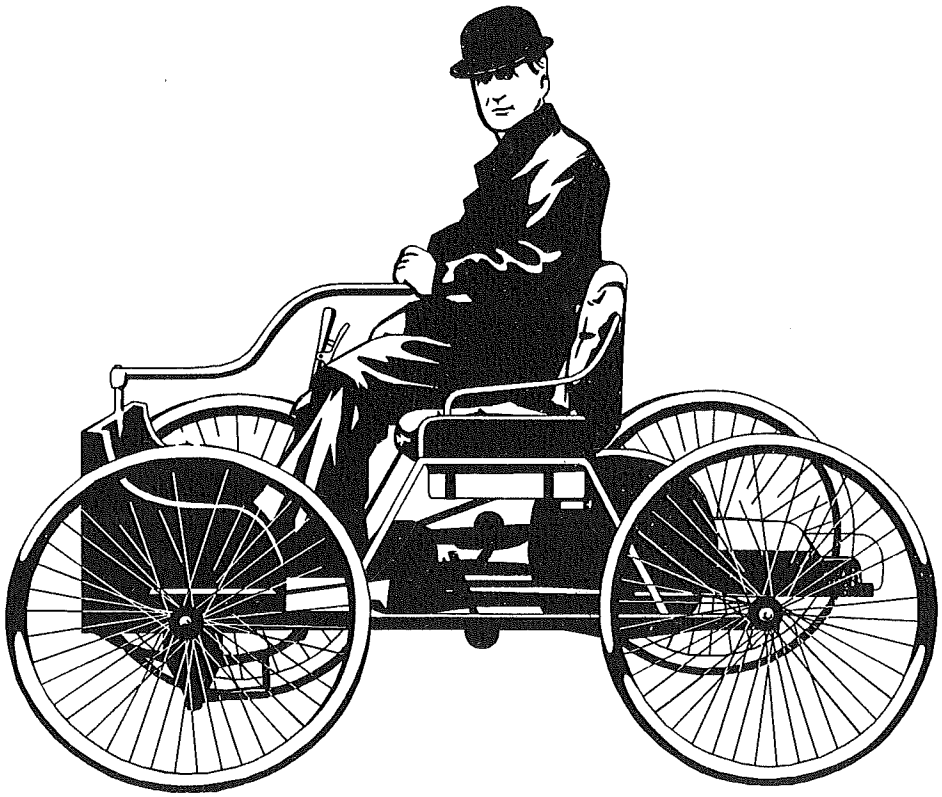
A Report to
the Joint Standing Committee on
Natural Resources

Clean Car Education and Incentives



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Section I. Background

A. Purpose

In 1997 the 118th Session of the Maine Legislature enacted Public Law Chapter 500 which requires the Commissioner of the Department of Environmental Protection:

> *to convene a working group of interested parties to recommend a motor vehicle emissions incentives and education program in the State that educates the public concerning motor vehicle emissions, that may provide a rebate for less polluting light-duty passenger cars and trucks and that may require a fee for those vehicles that are more polluting in a manner that is revenue neutral. The working group shall report its recommendations to the Legislature by February 1, 1998.*

B. Task Force on Clean Car Education and Incentives

In October 1997 the Commissioner of the Department of Environmental convened a 10-member task force comprised of the following members:

Alliance for Transportation Choices
American Automobile Association of Maine
American Lung Association of Maine
Central Maine Power Company
Greater Portland Clean Cities
Maine Automobile Dealers Association
Maine Bureau of Taxation
Maine Department of Environmental Protection
Natural Resources Council of Maine
Northern Utilities

Section II. Problem Statement

A. Causes of Ozone Air Pollution

Ground level ozone does not come directly from sources of air pollution. It forms in the atmosphere when the pollutants, nitrogen oxides (NOx) and volatile organic compounds (VOCs), combine in the presence of heat and sunlight.

The NOx and VOCs come from a number of different sources including cars and trucks, which emit the largest proportion. Other sources of these ozone-forming pollutants include electric power utilities that burn fossil fuels, manufacturing facilities, and smaller sources like print shops. Research in atmospheric science indicates that not all VOCs react the same. The speed and degree of reaction depends on the specific chemical. Violations measured in Maine were during periods where naturally occurring VOCs from vegetation played an insignificant role in the ozone formation compared to cars and trucks indicating that VOCs derived from mobile sources are much more reactive in the vicinity where they are made.

B. Origin of Ozone Pollution Transport

The amount of air pollution coming into Maine from other states varies dramatically with time, depending on weather patterns and the amount of pollution being generated. The Department of Environmental Protection operates air quality monitors throughout the state that determines the origin of Maine's air pollution. During some episodes of elevated ozone, pollution can be traced primarily to out-of-state sources, while in-state sources are the main culprit during other episodes. Sometimes Maine sources will add the final ingredient to upwind pollution to complete the ozone formation. The most serious ozone episode during the summer of 1997 was traceable to close range sources, primarily cars.

C. Global Warming

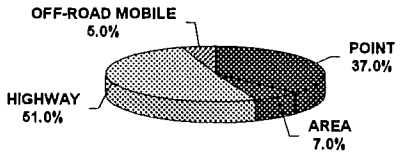
There is a growing concern that elevated levels of "greenhouse gases" may cause global warming or other types of global climate change that range from the melting of the polar ice caps to a change in precipitation distribution. Greenhouse gases are gases that absorb radiant heat energy. Examples of greenhouse gases are carbon dioxide (CO2), methane, nitrous oxides, ozone, and chlorofluorcarbons.

D. Contribution from Vehicles

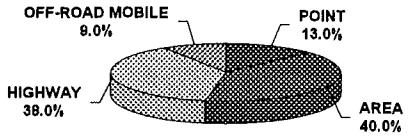
Existing federal and state regulations have substantially reduced smokestack emissions from industrial point sources, leaving mobile sources as the single largest source category of ozone forming emissions, carbon dioxide, and air toxics found in urban areas.

Cars emit several types of pollution. Among these are volatile organic compounds (VOCs) and nitrogen oxides (NOx), which are the two ingredients in the formation of ground level ozone, better known as "smog". Vehicle exhaust also contains carbon monoxide, carbon dioxide, and various toxic air pollutants.

Maine NOx Emissions, 1995

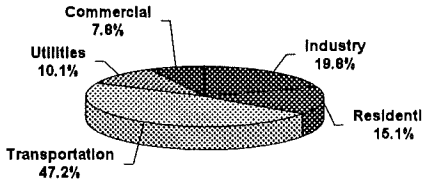


Maine VOC Emissions, 1995



"Maine's Greenhouse Gas Emissions" report dated June 1995 indicates that in Maine in 1990 Energy Use (fossil and biomass fuel consumption) was the greatest source of greenhouse gas emissions, contributing 87% of the total emissions. 99% of the emissions in the Energy Use category were carbon dioxide emissions. The transportation sector was the largest contributor making up 47 % of the total fossil fuel CO2 emissions. Of the fuel types within transportation, gasoline had the greatest emissions.

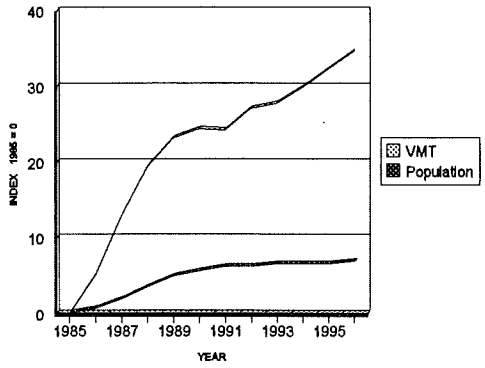
Maine CO2 Emissions, 1990
from fossil fuels



Automobile pollution control systems are becoming more sophisticated, and as a result cars are running cleaner than days in the past. However, pollution controls wear out with time, or malfunction, and some car owners, who mistakenly believe that emission control systems hinder the vehicle performance, have disabled or removed their emission control devices. In addition, some car owners do not maintain their vehicles due to real or perceived short-term cost savings and a lack of information about long-term cost savings associated with good vehicle maintenance. Without good maintenance, cars cannot run as cleanly as they were designed to.

As portrayed by the graph below, cars are also polluting more due to an increase in the number of miles being driven by the public. Nationwide, vehicle miles traveled have doubled over the past twenty years.

Vehicle Miles Traveled and Population



E. Increased Cost of Cleaner Vehicles

As a result of California motor vehicle emission standards, state based Section 177 programs in the northeast, and the potential of a National Low Emission Vehicle program, manufacturers must produce high tech, ultra clean, and even zero emitting vehicles. New vehicles are certified according to their emissions class i.e. Tier I Federal Vehicle, Transitional Low Emission Vehicle (TLEV), Low Emission Vehicle (LEV), and Ultra Low Emission Vehicle (ULEV). In 1996 the California Air Resources Board estimated the incremental retail costs of low-emission vehicles compared to Tier I vehicles as follow:

Emission Category	1996 estimate
TLEV	$72
LEV	$120
ULEV	$145

The desire to reduce vehicle emissions and to improve energy efficiency has led many automobile manufacturers to explore the benefits of using non-petroleum fuels in conventional internal combustion engines, as well as to evaluate new vehicle propulsion system technologies. Vehicles are currently on the market that use cleaner burning fuels such as propane and compressed natural gasoline either as the primary fuel or as a bi-fuel with gasoline backup. However, these vehicles usually are priced higher than their gasoline-only counterparts, with the high end of the gap being several thousand dollars. Electric vehicles are currently being introduced in some areas of the country, but also at a significant increase over their gasoline equivalents. For example, the gasoline powered model of Toyota's Rav4 sells for approximately $20,000 while the electric powered version has an estimated cost of about $40,000.

F. Infrastructure Development.

A classic "chicken and the egg" dilemma exists in regards to the development of infrastructure for alternative fueled vehicles. Drivers are reluctant to buy (and manufacturers reluctant to build) alternative fueled vehicles, if fueling (natural gas, propane, electric charging) stations do not exist or are inadequate. Fueling stations are unlikely to be built if there are no vehicles to be fueled.

Section III. Public Education

A. Labeling.

California's Motor Vehicle Emissions Control program requires that all new passenger cars and light duty trucks starting with model-year 1998 must have a "smog check" label. The smog check label shall include the smog check index for the vehicle and information regarding the significance of the smog index. The smog index indicates the relative level of pollutants emitted by the vehicle. The lower the smog index, the lower the vehicle's emissions.

The following is an example of some indices that shall apply to 1998 and subsequent model year light-duty vehicles:

1. Federal Tier I vehicle certified to 50,000 miles shall be assigned a smog index of 1.

2. A Low Emission Vehicle certified to 50,000 miles shall be assigned a smog index of 0.67.

The 118th Legislature gave the Maine Board of Environmental Protection the authority to implement a motor vehicle emissions labeling program for all new vehicles sold in the state to educate the public about the types and amounts of motor vehicle emissions. However, as the State has decided to implement a California Low Emission Vehicle program pursuant to Section 177 of the Clean Air Act, Maine would automatically receive the above mentioned labeling starting with model year 2001 new passenger cars and light-duty trucks.

B. Driver's Education Curriculum

An excellent opportunity exists to educate future drivers on the importance of proper car maintenance, car buying considerations, and changing driving habits for a cleaner environment through existing Driver Education Programs.

The National Safety Council received a grant to develop a high school driver's education module intended to increase awareness and understanding of air quality and mobile source emissions issues. The module focuses on mobile source issues, "driving smart", and basic maintenance and operations procedures that help reduce emissions or keep them at a minimum. The format was designed to help the teacher provide this information in conjunction with their existing Driver's Education Program or health/science/auto shop class. The materials provided for in the curriculum include a teacher's script, a video, interactive CD ROM, and slide presentation that could be used individually or all together.

The Department has reviewed the package and determined the curriculum is an excellent educational tool. However, the NSC will produce only 500 copies for national distribution

and Maine's allotment has not been determined. Given that Maine has 154 public high schools, the Department has allotted $3,000 of Congestion Mitigation Air Quality grant money to purchase 150 copies of the curriculum at a cost of $20 each. The Department will conduct teacher workshops for those teachers who would like to incorporate this module into existing driver education curriculums.

C. General Public Outreach

Recognizing the above mentioned education programs will reach only a part of the purchasing public, there needs to be a mechanism to inform fleet purchasers and the public of "clean vehicle" alternatives

Public Service Announcements (PSAs) aired free of charge by television and radio stations have been shown to be very successful in reaching the general public on environmental issues. PSAs aimed at awareness of various incentive programs or options can be expected to reach certain sectors of the public.

Voluntary inclusion of incentive education options materials in already planned mailings will help get the word out. Registration and driver license related mailings from the Bureau of Motor Vehicle (BMV) can directly reach the general public. Also, any organization that may be willing to include such educational materials in their mailings or publications will increase the distribution, for example, Natural Resources Council, American Automobile Association, or Maine Lung Association. Information could easily be condensed for inclusion to their mailings.

The same information can be distributed in locations where the driving public is expected. Town clerks and BMV could distribute this information at the time of registration. This information could also be available and on display at automobile parts stores, car dealerships, and gas station and repair facilities.

Section IV. Incentives

As outlined in Section II, there are several challenges that must be met in order for cleaner cars to take hold in the marketplace in Maine. The most significant problem is that there are currently no strong "market signals" that encourage consumers to purchase cleaner cars; that is, pollution created by a given vehicle is not reflected in the purchase price or operating costs—a heavily polluting car may be priced the same or even lower than a very clean car and may cost about the same to operate. To counteract this market failure and help reduce mobile source emissions several incentives have been initiated at the federal level and many states are taking significant additional steps to promote cleaner cars.

A. Existing Incentives

In 1997, L.D. 364, *An Act to Encourage the Use of Motor Vehicles That Use Alternative Sources of Fuel for the Purpose of Reducing Air Pollution*, was enacted by the first regular session of the 118th State Legislature introduced which included the following:

- Established a Clean Fuel Vehicle Loan and Loan Guarantee Program through the Finance Authority of Maine;
- Allowed insurance providers to offer incentive rates to encourage policyholders to use clean fuel vehicles;
- Authorized the Board of Environmental Protection to adopt rules to implement a motor vehicle emissions labeling program for all new vehicles sold within the state, and;
- Established the Clean Fuel Vehicle Working Group to develop a vehicle emissions incentives and education program that may require payment of a fee for vehicles that are more polluting and provide a rebate for those that are less polluting.

A couple of key elements of L.D. 364 were stripped out in the final vote due to fiscal notes attached to them. An attempt is being made to restore these portions of the bill in the Second Session (see Chapter IV., Section B.)

At the federal level, five of Maine's southern most counties are classified at moderate non-attainment status. In states with higher population densities this status triggers a requirement to satisfy the Energy Policy Act (EPACT) by increasing the use of alternative fuels among state, federal and fuel provider fleets. Along with these requirements, the federal government has included incentives for compliance which include:

- $2,000 - $5,000 Federal Income Tax deduction for the purchase or conversion of qualified clean-fuel vehicles, and;

- Up to $4,000 Federal tax credit for 10% of the purchase price of an electric vehicle.

However, since Maine does not have any metropolitan area with a population over 250,000, Maine is not subject to EPACT requirements, nor does it qualify for the accompanying incentives.

B. Potential Incentives

1. Restoration of Last Session's Bill on ATV Incentives (Excise and Sales Tax Parity)

As mentioned in Chapter IV., Section A, some key elements of L.D. 364 were not passed in the First Session of the 118th Legislature due to fiscal impacts. Since then funds have been appropriated from the General Fund to resolve these issues and the language has been attached to an amendment heard before the Taxation Committee in January 1998. When passed these amendments will:

- Exempt that portion of the sale or lease price of a clean fuel vehicle that exceeds the price of an otherwise identical gasoline-fueled vehicle, from excise taxes and sales and use taxes, and;

- Allow an income tax credit equal to a percentage of expenditures paid for the development of infrastructure relating to the sale of clean fuels.

Both incentives expire at the end of December 2005.

2. Refueling Stations Incentives

In the First Regular Session of the 118th Legislature, Maine took an important step to promote the development of alternate fuel filling stations by establishing a low interest loan fund and mortgage guarantee program for clean fuel vehicle projects. While this incentive is likely to help promote the development of refueling sites, its impact may not be felt until after the first few stations are constructed and the traditional market forces start to take hold. Groups such as the Greater Portland Clean Cities Coalition are working on projects to site alternate fuel filling stations in Southern Maine, but due to intense competition for scarce federal funding these efforts have not yielded any results at this time.

An appropriation of state funds specifically for the purpose of siting alternate fuel filling stations could help break the current market deadlock and spur significant private sector investment in this

much needed infrastructure. In other states where public funding of infrastructure development has occurred, money has come from a variety of sources including Congestion Mitigation and Air Quality (CMAQ), Petroleum Violation Escrow (PVE), motor vehicle registration fees, local option sales tax and the general fund.

Costs for filling stations vary widely depending on the fuel, the speed of service required and the number of vehicles to be served. The following are cost estimates for a variety of facilities:

- Electric chargers start around $1,000 for a basic conductive system and can exceed $250,000 for a state of the art inductive fast charger. Most public charging stations being installed around the country are in the range of $1,000--$3,000, serving one vehicle at a time;

- Compressed natural gas (CNG) fast fill stations range in price from $115,000--$250,000 depending on the number of vehicles to be served. CNG time-fill stations can be much cheaper ($3-4,000), but the long refill time (4-8 hours) make these facilities less suitable for public fill stations;

- Liquefied petroleum gas (LPG or propane) fill stations cost under $10,000 for a modern pumping system that looks and operates much like a conventional gasoline pump. Less expensive LPG systems are available, but they usually require a trained operator and are therefore less appropriate for public fill stations;

- Methanol and ethanol can be dispensed from many conventional gasoline storage and pumping facilities with only minor and inexpensive upgrades to some seals and gaskets.

3. Reduced Fuel Prices

Natural gas, propane and electricity are all sold primarily for use in home, business and industrial applications where they do not compete with gasoline for price as they would if used for vehicle fuel. Consequently, the price for these fuels sometimes can be higher than gasoline. In many areas of the country, propane, natural gas and electricity suppliers offer reduced rates for these commodities when used as vehicle fuels, but stable discounted pricing is most likely to occur when sales volumes are high. State, county and local governments can use large AFV fleets to negotiate fuel prices for all users that are competitive with or better than gasoline.

4. Road Tax Equity

Currently the assessment of road taxes ("gas taxes") for fuels used in motor vehicles is inconsistent. Electricity and natural gas have no tax applied and methanol, ethanol and propane are taxed at 18 cents per gallon while gasoline is taxed at 19 cents per gallon even though all these fuels contain fewer BTUs per gallon than gasoline. (Propane is about 74% the BTU value

as gasoline on a per gallon basis.) To be equitable, the road taxes for all these alternative fuels would be set at the same rate as gasoline for an equivalent gallon; this is a figure that is easily determined for each type of fuel. To create an incentive, these alternative fuels could be taxed at a lower rate than the gasoline equivalent and the tax incentive could be graduated so as to promote the cleanest fuels.

5. Building codes

Fire, electrical, plumbing and structural codes are not consistent from town to town in Maine which can lead to safety and uniformity problems for the installation of pumping and recharging facilities. Educating code enforcement officers and promoting the adoption of a uniform code for alternative fuel facilities can help speed the construction of these sites and assure consumers that adequate and consistent safety standards are being met. This issue is often overlooked or dismissed as insignificant, but it has become an increasingly important concern for consumers as AFV use increases in the U.S.

6. Training and Education

Most emergency response personnel, tow truck operators and service technicians in Maine are not familiar with AFV technology and need to be educated about the proper procedures for handling these vehicles at the site of a wreck or breakdown, or in the repair shop. In addition to increasing safety, educating these key players about AFVs can enhance consumer confidence by assuring potential buyers that the appropriate people are properly trained to deal with any aspect of AFV use. States and regions that have successfully dealt with this issue have created partnerships between technical colleges, auto manufacturers, fire, police and EMT associations and the alternate fuel industry to develop the appropriate educational curriculum and conduct training workshops. While this type of education and training acts as an incentive, it is important in itself to ensure that emergency response personnel are properly trained to respond to an AFV accident or breakdown.

7. Clear commitment from government and business for AFVs

Most experts agree that air quality problems and the negative economic impact of foreign oil dependence will assure AFVs a growing share of the new car market in the U.S. The remaining question is how quickly these vehicles will be accepted by consumers. If government and business leaders send a consistent and clear message that they support the expanded use of AFVs, consumers will more quickly accept this new technology.

8. Vehicle Donation Program

The Vehicle Donation Program (VDP) is an American lung Association National Program. The Oklahoma Lung Association in 1985 launched the Vehicle Donation Program. Currently 53 local Lung Associations across the country are running a VDP, with all the New England States except Connecticut participating in a New England VDP alliance. The VDP allows people or businesses to donate their used or unwanted vehicles to local Lung Associations in order to generate funds to assist in financing Lung Association programs. In return for their contribution, donors may be allowed to deduct fair market value of their donated vehicle as a charitable contribution on their federal tax returns

The Vehicle Donation Program has the potential to take older, perhaps more polluting vehicles off the roads. Some vehicles which are donated may be off-the-road junkers (contributing no emissions) while others presently being driven will be taken off the road and go to a salvage dealer. The American Lung Association of Maine has the reporting capability to track which vehicles go to salvage and which vehicles will re-enter the driving public through auction purchase.

9. Excise Tax Incentive.

The idea of this incentive effort is to remove the disincentives to the purchase of more environmentally- friendly motor vehicles. The current excise tax system is based on the maker's list price, and changes a declining mill rate with the newest, or most current model year vehicles paying the highest amount of excise tax. Because the current model year vehicle tends to be the "cleanest" vehicle, the goal is to move citizens toward the most current model year by removing excise tax penalties on the "cleaner" vehicles. Excise tax revenue goes to municipalities, and therefore any revised schedule must produce essentially the some total revenue. The schedule below shows a possible alternative:

	Current	**Alternative**
First year	24 mills	8 mills
Second year	17.5 mills	8 mills
Third year	13.5 mills	9 mills
Fourth year	10 mills	10 mills
Fifth Year	6.5 mills	10 mills
Sixth year	4 mills	10 mills
Seventh year	4 mills	10 mills
Eighth year	4 mills	10 mills
Ninth year	4 mills	10 mills
Tenth year	4 mills	10 mills

Based on registration data of September 1997, the alternative excise tax schedule, over the ten year period, provides slightly higher (4%) excise tax collection when using an average of vehicle costs each year. The refinement of this schedule could result in an even lower mill rate when the

vehicle registration data is analyzed. Vehicles are lasting longer, and the average age of vehicles registered continues to rise.

10. Other Incentives

In addition to the important incentives listed above, there are several other policies that can have some effect on consumer behavior. They include insurance rate reductions, preferential parking, high occupancy vehicle (HOV) lane access and special AFV license plates. In places like Southern California where there are many HOV lanes, parking and insurance are very expensive and license plates are a status symbol, these types of incentives can have a much greater impact than they likely would in Maine where most of these conditions don't exist.

V. Purchase Price Incentives (Feebates)

A. Determine the Feebate Basis

As one of the Northeastern states concerned about the impact air pollution has on the public health of its residents and its economy, Maine decided to adopt California's Low Emission Vehicle (LEV) program. Thus it makes sense for Maine to adopt a mutually reinforcing feebate program based on vehicle emissions. This way the feebates will complement the LEV program, making it more likely to achieve its goals to reduce vehicle emissions.

Also, as the issue of climate change is brought to the fore by increased severity of the weather, it makes sense for Maine to include vehicle efficiency in its feebate program. Vehicle efficiency relates directly to how much fuel a vehicle burns, and this in turn determines the amount of carbon released into the atmosphere. As such, fuel efficiency (measured either in miles per gallon or grams of carbon dioxide emitted per mile) is an important environmental component of Maine's feebate program.

B. Set the Feebate Amount

1. The Fee

A uniform fee would be assessed on all cars and light trucks registered in the state each year. A $3 per vehicle fee is recommended.

In designing the fee to be very low, it is thought to be more equitable and acceptable than a high fee on specific motorists. The $3 fee level was selected based on the fact that rebate levels should be at least $100 to have an impact on new vehicle sales. As such, a $2 fee would not yield enough revenue to deliver the requisite rebate level. A $3 fee does afford the minimum rebate levels to be attained, and therefore it is the recommended amount. However, it may not provide enough of a buffer if the program were to be very successful. Although a higher fee – $4 or $5 – is probably more than is needed, an infrastructure financing program (i.e., to fund zero-emission vehicle recharging stations, etc.) could be included in the feebate policy if this higher level were set.

2. The Rebate

Relatively large rebates would be given to consumers purchasing new vehicles that are both clean and efficient. Rebates would vary depending on how clean and/or efficient the vehicle is. Large rebates can be offered when a limited number of them are given. As such, new vehicle buyers who purchase environmentally-superior vehicles are targeted. While only consumers buying new, clean vehicles receive rebates, over time all Maine residents will benefit as these superior vehicles are sold in the booming used vehicle

market. Moreover, all Maine residents will benefit immediately as cleaner vehicles help reduce air pollution statewide.

It may be desirable to set rebate goals in legislation without locking in specific rebate levels. For example, in early years, it may be useful to specify that half of all the rebates go to highly efficient conventional and low-emission vehicles, with a minimum rebate of $100. Then, in later years, half of all rebates would go to highly efficient zero-emission vehicles, with a maximum rebate of $5,000. See feebate chart below for an example of possible rebate levels in 2000 and 2001. This would provide useful guidance to state policy makers in their efforts to promote the purchase of cleaner and more efficient vehicles in the future.

Sample Calculation for a Maine Feebates Program

- In 2000

Feebate	FEES	REBATES				
		I--Efficiency--I	I----------Emissions Criteria----------I			
	$3.00		CONV	LEV	ULEV	ZEV
		Low	n/a	n/a	n/a	$750 (0.05%)
		Medium	n/a	$125 (6%)	$250 (2%)	$1500 (0.15%)
		High	$125 (0.15%)	$250 (2%)	$500 (1%)	$3000 (0.05%)
Total $	$2,400,000	**$2,268,750**	$937,500	$625,000	$500,000	$206,250
Vehicle	All		New	New	New	New

- In 2001

Feebate	FEES	REBATES				
		I--Efficiency--I	I----------Emissions Criteria----------I			
	$3.00		CONV	LEV	ULEV	ZEV
		Low	n/a	n/a	n/a	$250 (0.5%)
		Medium	n/a	n/a	$250 (2%)	$500 (.5%)
		High	n/a	$250 (0.05%)	$500 (1%)	$2000 (1%)
Total $	$2,400,000	$2,312,500	0	$625,000	$500,000	$1,187,500
Vehicle	All		New	New	New	New

(#%): The percentage of new vehicles projected to be sold in that specific category

Assumptions

Fee: Uniform Fees on All Cars and Light Trucks Registered in Maine
Rebate: New Clean and Efficient Vehicles Only
Program Implementation: 1999

Data:

- # New Vehicles Sold	50,000 a year
- Total # Vehicles in Maine	800,000

Notes:
Efficiency targets can be expressed either in terms of fuel economy (miles per gallon) or carbon dioxide emissions (grams per mile). Either the city or highway fuel economy figures can be used. Composite figures may be too difficult to calculate.

May want a place holder for cleaner cars in 2001 (i.e., "Super-ULEVs", etc.)

C. Apply Feebates to Specific Vehicles

1. The Fee

Fees apply to all new and used vehicles, including cars and light trucks. By including all vehicles registered in the state, the fee can be kept very small.

2. The Rebate

Rebates apply to clean and efficient new vehicles only, including cars and light trucks. By selecting a limited number of rebate opportunities, the rebate can be made quite large.

D. Determine Target Points

1. The Fee

Fees are levied on all vehicles registered in the state. Therefore there is no express target for fees under this feebate program.

2. The Rebate

The rebate target points are set between different vehicle categories. In the early years, there would be four different emissions categories: conventional (standard, non-LEV) vehicles; low-emission vehicles (LEVs); ultra-low emission vehicles (ULEVs); and zero-emission vehicles (ZEVs). In later years – such as after 2001 – conventional vehicles will no longer be sold and new clean car categories could be introduced (i.e., "super-ULEVs", etc.). As such, the emission categories would be modified accordingly. All emission categories would be consistent with California LEV criteria as certified by that state.

There would also be three different efficiency categories: low; medium; and high. The higher a vehicle's fuel efficiency, the lower its carbon emissions, which results in a reduced environmental impact. These levels would be set either in terms of fuel economy (in miles per gallon) or simply converted to emissions of carbon dioxide (in grams per mile). The benefit of keeping the efficiency category in terms of fuel economy is that all new vehicles already display a sticker detailing its fuel economy.

Although the efficiency target points can be set in several different ways, it makes sense in the early years to set the low efficiency category at 22.5 miles per gallon (the level at which vehicles are considered to be "gas guzzlers" for federal tax purposes). The high efficiency category could be set at greater than the 27.5 miles per gallon level (the current fuel economy standard for cars). The medium efficiency category could be set in between.

It is important to note that the targets mentioned above are expressed in terms of the composite (city and highway) fuel economy measure and have been adjusted for on-road conditions (as the U.S. EPA does in its Gas Mileage Guide available to all consumers). In later years, these targets would have to be moved upward as vehicles become more fuel efficient and/or if federal regulations are changed.

E. Decide on the Revenue Neutrality of the Program

As per legislative directive, the program will be designed to be revenue neutral. Accordingly, the fees collected will be used to fund the revenues offered and all program operating costs. General funds will <u>not</u> be used to implement the feebate program.

F. Decide if Program Costs are to be Covered

The feebate program's administrative and other operating costs can be included in the program's design. As such, a portion of the fees collected can be used to run the program (i.e., estimated at

about $200,000 per year). Although this will reduce the amount of funds available for rebates, there should still be sufficient funds available to deliver ample rebates.

Since the program will be administered by an existing agency (i.e., Bureau of Motor Vehicle) rather than establishing a new bureaucracy to do the job, the program's implementation costs should be relatively low. Moreover, the BMV already has the capacity to collect multiple fees (i.e., registration and other fees) simultaneously which should help contain administrative costs.

In order for the feebate program to be successful, it must be skillfully marketed. Such marketing would be financed by a small portion of the fees collected. Consumers must be made aware that rebates are available for the cleanest, most efficient new vehicles before they visit the showroom floor. This will include advertising, outreach, media coverage, possible use of focus groups to determine the most compelling means of informing consumers, and developing a popular name and slogan for Maine's feebate program.

Over time, program operating costs should be reduced due to experience running the program and an established identity with the public, respectively. This means that the amount of fees devoted to these costs could be reduced over time.

G. Identify the Necessary Data to Calculate the Feebate

The simplest and most affordable way to design a feebate program is to use existing data. There are many sources of data. Maine does not have to institute its own measurement procedures to implement feebates. Regarding both emissions and efficiency, there are the:

(1) Certified emission levels under the California Low-Emission Vehicle program, and

(2) Labeled efficiency ratings by the U.S. Environmental Protection Agency (also published in the U.S. EPA's "Gas Mileage Guide" which is available to consumers free of charge as well as in "Consumer Reports" and other new car buying guides both in magazine format and on the WEB).

Data specific to Maine regarding new vehicle sales (necessary to determine fuel economy categories receiving rebates) should be readily available from the state BMV. The Bureau of Motor Vehicles can analyze the state's trends in total vehicle registrations. These values would have to be updated annually to establish program revenues from fees from year to year.

Dealers and manufacturers are an additional source. They will have information regarding production plans in future years. Also, to the extent that nonproprietary information regarding new vehicle offerings can be provided to the state BMV, it will assist Maine in setting rebate levels from year to year.

Finally, the California Air Resources Board has a WEB page that reports new LEV, ULEV, and ZEV models for sale each year. This information will provide Maine's BMV with necessary data to determine rebate levels.

The state BMV will want to develop a simple model and update it with new data annually to set new rebate levels each year and ensure that the program remains revenue neutral. Each of the resources discussed above will be useful in developing and updating this model.

H. Set the Frequency with which Feebates are Applied

Fees would be applied on an annual basis each time a vehicle is registered. Rebates would be offered only once, at the time of sale, when the qualifying new vehicle is first purchased.

I. Establish the Means by which the Feebate is Delivered

There are several potential mechanisms by which to assess fees; each of these need further analysis to determine their feasibility. For example, fees could be charged as an annual "clean air fund" – as a third condition of vehicle operation (i.e., a "pollution license") along with the annual safety inspection. Another fee mechanism is a surcharge on annual vehicle excise tax . Rebates would be issued after the vehicle registration has occurred. The consumer would first be informed that they qualify for a rebate when they purchase the new vehicle (i.e., as a line item on the vehicle sales contract). The rebate check would be presented when the consumer registers his or her vehicle at the BMV. This system would relieve the dealers of any financial transaction with the state and guarantee that out-of-state consumers do not purchase a vehicle in Maine simply to receive a rebate and then leave.

J. Select a Program Administrator

Maine's feebate program would be administered by the state Bureau of Motor Vehicles. This agency has much of the necessary information in-house to determine the feebate levels. The BMV also has the infrastructure (i.e., public offices, financial systems, and databases) to deliver rebates without establishing new bureaucracies.

K. Inform Consumers About the Program

Existing labels on new vehicles will provide information as to whether a particular model receives a rebate. Specifically, fuel efficiency ratings (as determined by the U.S. EPA) are posted on every new vehicle and emissions ratings (i.e., whether a vehicle complies with California's emissions – LEV, ULEV, or ZEV – standards) are identified on the manufacturer's stickers that specify the vehicle's options.

While it would be useful from a marketing perspective, no new labels are necessarily required to implement Maine's feebate program. In fact, in the case of fuel efficiency, Maine may be pre-empted from adding its own label under the current CAFE (Corporate Average Fuel Economy) laws. As long as there is a line item on the dealer's sales contract that specifies whether the vehicle qualifies for a rebate and at what level, no new labels would be required on the vehicles themselves.

Certainly, the better advertised the feebate program is before the consumer gets to the showroom floor, the more successful it will be in the absence of eye-catching feebate labels. Various forms of consumer outreach will help in this regard, including advertising, developing a catchy slogan and name for the program, bumper stickers, public service announcements, and other creative forms of outreach. As discussed above, program funds would be available for these advertising and outreach costs.

VI. Recommendations

The Report identifies numerous options for both public education opportunities and incentive programs to encourage the public on the purchase of cleaner motor vehicles. Due to a number of factors, primarily the loss of time over IceStorm 1998 and constraints on the time of the Task Force members, the Task Force was unable to conclude a final recommendation and formulate specific legislative language for developing a motor vehicle emissions education and incentive program. Many of the options presented in this Report require more time and effort to "iron out" the details of certain programs. However, this in no way diminishes the importance and value of such a program.

Therefore, the Department is committed to continuing to work with the Task Force through seeking advice, support, and consultation in order to further research, define, and develop the clean car education and incentives program. The Department will convene the Task Force during 1998 to prioritize the numerous options identified in this Report and based on that prioritization propose specific statuatory language for 119th session of the Legislative toward the development of a clean car education and incentive program.

Incentive Type	State
Discounted or exempted electric vehicle registration fees	Arizona, Hawaii Pennsylvania and Virginia
Grants or rebates for installation of public recharging stations	Arizona, California, New York Pennsylvania and West Virginia
Grants or rebates for installation of privately owned recharging stations	Arizona, California, Indiana and Pennsylvania
Grants or rebates for installing public refueling stations	Arizona
Grants or Rebates for the purchase of publicly owned AFVs	Arizona, California, Colorado, Georgia, Hawaii, Illinois, New Jersey, New York, Pennsylvania, West Virginia and Wisconsin
Grants or rebates for the purchase of privately owned AFVs	California, Colorado, Hawaii, Indiana, Illinois, New York and Pennsylvania
Grants to school districts to cover incremental cost of purchase or conversion of AFVs	Arizona
Grants for Incremental cost of electric vehicles	California
Individual or corporate Income tax credit for purchase or conversion of AFVs	Arizona, Maryland and Virginia
Investment tax credit for the conversion of AFVs	Connecticut
Investment tax or income tax credit for the construction of alternate fuel filling stations	Connecticut and Virginia
Reduced excise tax for AFVs	Arizona and Virginia

Reduced motor fuel tax on alternative fuels	California, Maryland, Massachusetts, New Jersey and Virginia
Eliminated motor fuel tax for alternate fuels	Connecticut
Sales and Use Tax exemption for conversion of AFVs	Connecticut and Maryland
Sales and Use Tax exemption for construction of alternate fuel filling stations	Connecticut
Sales and Use Tax exemption for incremental cost of a new AFV	Connecticut and New York
Sales Tax exemption for the purchase of an electric vehicle	Florida and Pennsylvania
Partial property tax exemption for alternate fuel filling stations	Maryland
Reduced Title Tax for AFVs	Virginia
Revolving loan fund for businesses and/or individuals to convert vehicles to alternate fuels or purchase new AFVs	Connecticut and Florida
Revolving loan fund for the conversion of AFVs by local government or state agencies	Virginia
Oil overcharge funds (PVE) used to fund the conversion or purchase of AFVs for state agencies	Florida, New Jersey and New York
CMAQ Funds designated for the purchase of AFVs by municipal and state government	Massachusetts

Bond Issue money used to fund the purchase of AFVs by transit providers, municipalities and state agencies	New York
Job creation tax credit for manufactoring of AFVs	Virginia
Special license plates for AFVs	Arizona and Virginia
AFVs allowed in HOV lanes	Arizona, Hawii, Georgia and Virginia

Sources: U.S. Department of Energy, Clean Cities Web Page (Feb, 1998);