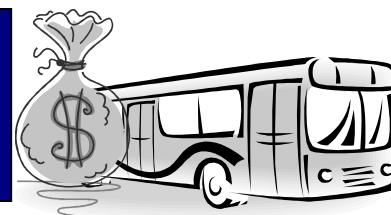




# *Funding Cleaner Buses*

## An Overview of Federal and State Resources



In 2005, more than 60 percent of the 9.7 billion transit passenger trips in the United States were provided by buses, helping to reduce petroleum consumption, decrease emissions and reduce vehicle miles traveled.<sup>1</sup> Currently, 84 percent of the nation's buses and trolleys are powered by diesel. Further, more than half a million school buses, mostly powered by diesel, transport approximately 24 million children in the U.S. Diesel exhaust contains a number of harmful pollutants such as nitrogen oxides and volatile organic compounds that form smog, air toxics and fine particulate matter (PM). Exposure to diesel exhaust is associated with a number of chronic and acute health effects. While buses offer many environmental, energy security and economic benefits, it is important to ensure that cleaner, advanced technologies are being incorporated into transit systems across the country. Transit agencies nationwide are making efforts to deploy cleaner, more efficient buses in their systems. Alternative fuels such as compressed natural gas, liquefied natural gas, biodiesel, propane and hydrogen fuel cells are becoming more prevalent in fleets. In addition, hybrid-electric buses have begun gain popularity with over 700 vehicles in service and 400 on order. These cleaner and buses are helping not only to improve air quality and protect public health, but also reduce public transportation's reliance on oil-based fuels.

Deployment of advanced technologies and cleaner fuels in the nation's transit and school bus systems requires capital investment. Often transit agencies, school bus fleets, and local communities are unaware of the various federal and state funding resources available to purchase cleaner buses. This fact sheet provides an overview of the major federal and state sources of funding for the purchase and deployment of clean buses and related infrastructure.

## FEDERAL AGENCIES

Federal agencies have a variety of programs available to fund clean bus purchases. The main agencies providing these resources include the Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and the Federal Aviation Agency (FAA) which operate under the Department of Transportation (DOT), the Department of Energy (DOE), and the U.S. Environmental Protection Agency. While some of federal programs such as the Clean Fuels Grant Program and the Congestion Mitigation and Air Quality Improvement Program are specifically designed to provide funds for clean bus projects, there are other resources available which could be used to facilitate the purchase of clean buses.

## DEPARTMENT OF TRANSPORTATION (DOT)

The Department of Transportation (DOT) which includes FTA, FHWA and FAA is the primary source of funding for clean bus purchases. Funds are apportioned each year to various transit

<sup>1</sup> American Public Transportation Association, Public Transportation Ridership Statistics, Fourth Quarter 2005  
<http://www.apta.com/research/stats/ridership/riderep/documents/05q4cvr.pdf>

and highway programs based on authorizations in the recently enacted transportation law Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Some DOT grant programs provide for federal cost share up to 90 percent for the purchase of clean buses, making them an attractive option for transit agencies nationwide.

## Federal Transit Administration (FTA)

### ***CAPITAL INVESTMENTS – BUS AND BUS RELATED FACILITIES***

#### **Overview**

The Section 5309 program provides funding for the establishment of new rail or busway projects (new starts), the improvement and maintenance of existing rail and other fixed guideway systems that are more than seven years old, and the upgrading of bus systems.

#### **BUS AND BUS RELATED**

This program finances the acquisition of buses, ancillary equipment, and the construction of bus facilities (i.e., maintenance facilities, garages, storage areas, bus terminals and the like). The funding appropriated for the bus capital program is fully allocated to projects designated by Congress.

#### **Funding**

Bus and Bus Related Facilities

<b>Year</b>	<b>2006</b>	<b>2007</b>	<b>200 8</b>	<b>2009</b>
<b>Available Funding</b>	\$822.3 M*	\$855.5 M	\$927.8 M	\$984.0 M

\* \$25.2 million from the Clean Fuels Program was transferred into the Bus and Bus Related Facilities Program

#### **Federal Share**

Capital assistance grants made to states and local agencies are funded up to **80 percent** of the net project costs, unless the grant recipient requests a lower Federal grant percentage.

#### **Examples of clean bus projects funded under this program and other FTA programs**

<http://www.fta.dot.gov/files/t-12-13.xls>

#### **Contacts**

Interested transit agencies should contact their regional FTA office for more detail and how to apply. A link to the contact information for the regional offices is provided below.

[http://www.fta.dot.gov/about/offices/4978\\_ENG\\_HTML.htm](http://www.fta.dot.gov/about/offices/4978_ENG_HTML.htm)

#### **Resources**

FTA Fact Sheet Link

[http://www.fta.dot.gov/documents/FTA\\_Bus\\_and\\_Bus\\_Facility\\_Fact\\_Sheet\\_Oct\\_05.pdf](http://www.fta.dot.gov/documents/FTA_Bus_and_Bus_Facility_Fact_Sheet_Oct_05.pdf)

FTA FAQ word document

[http://www.fta.dot.gov/documents/FAQ\\_Bus\\_and\\_Bus\\_Facilities.doc](http://www.fta.dot.gov/documents/FAQ_Bus_and_Bus_Facilities.doc)

## ***CLEAN FUELS GRANT PROGRAM***

### **Overview**

The Clean Fuels Grant program provides discretionary grants for clean fuel buses and related facilities for areas in non-attainment and maintenance for federal air quality standards. **This is the principal source of funds for clean bus purchases.** Although the Clean Fuels Grant Program was authorized in the previous transportation bill TEA-21, all funding, including that provided in FY 2005, was transferred in the appropriations process to the Bus and Bus Related Facilities (5309) program. For FY 2007, the Administration has requested separate funding for this program. Projects are required to meet grant requirements specified for Urbanized Areas Formula Grant Program.

### **Eligible Projects**

- Projects in non-attainment or maintenance areas that
  - Purchase or lease clean buses
  - Related equipment and infrastructure
  - Use technologies which offer equivalent or superior emissions reductions when compared to existing clean fuel or hybrid technologies

Eligible fuels/technologies include:

- Compressed natural gas (CNG)
- Liquefied natural gas (LNG)
- Biodiesel
- Batteries
- Alcohol-based fuels
- Hybrid electric
- Fuel cell
- Clean diesel
- Other low emission technologies

### **Funding**

<b>Year</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Available Funding</b>	\$43 M*	\$45 M	\$49 M	\$51.5 M

\* \$25.2 million from the Clean Fuels Program was transferred into the Bus and Bus Related Facilities Program

### **Federal Share**

**90 percent** federal match

### **Contacts**

FTA - Kimberly Sledge, 202-366-2053

Interested transit agencies should contact their state DOT office for more information and how to apply.

### **Resources**

FTA Clean Fuels Fact Sheet

[http://www.fta.dot.gov/documents/FTA\\_Clean\\_Fuels\\_Program\\_Fact\\_Sheet\\_Sept05.pdf](http://www.fta.dot.gov/documents/FTA_Clean_Fuels_Program_Fact_Sheet_Sept05.pdf)

FTA Clean Fuels FAQ document

[http://www.fta.dot.gov/documents/FAQ\\_Clean\\_Fuels\\_Grant.doc](http://www.fta.dot.gov/documents/FAQ_Clean_Fuels_Grant.doc)

## ***URBANIZED AREAS FORMULA GRANTS***

### **Overview**

The Urbanized Areas Formula Grant Program provides funds for areas with larger populations (50,000 or more) for public transportation capital investments (and operating expenses in areas with population under 200,000). Funding is apportioned by a formula based on population size and density. For larger populations (over 200,000) the formula is based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway route miles as well as population size and density.

### **Eligible Projects**

Funds from this grant program can fund projects involving capital investments in bus and bus-related activities such as replacement of buses, overhaul of buses, rebuilding of buses etc.

### **Funding**

<b>Year</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Available Funding</b>	\$3,593 M	\$3,432 M	\$3,570 M	\$4,119 M

### **Federal Share**

The federal government will cover up to **80 percent** of the net project cost. In the case of projects to comply with the *Americans With Disabilities Act* and the *Clean Air Act*, the federal share may be **90 percent** for the cost of vehicle-related equipment. The federal share may also be 90 percent for projects or portions of projects related to bicycles. For operating assistance, the federal share may not exceed 50 percent of the net project cost of operating assistance.

### **Contacts**

FTA Office of Resource Management and State Programs - Ken Johnson, 202-366-2053

FTA Office of Program Management – 202-366-4020

FTA Regional Contacts [http://www.fta.dot.gov/about/offices/4978\\_ENG\\_HTML.htm](http://www.fta.dot.gov/about/offices/4978_ENG_HTML.htm)

FTA Metropolitan Offices Contacts [http://www.fta.dot.gov/4959\\_ENG\\_HTML.htm](http://www.fta.dot.gov/4959_ENG_HTML.htm)

### **Resources**

FTA Fact Sheet

[http://www.fta.dot.gov/documents/FTA\\_Urbanized\\_Formula\\_Fact\\_Sheet\\_Sept05.pdf](http://www.fta.dot.gov/documents/FTA_Urbanized_Formula_Fact_Sheet_Sept05.pdf)

FTA Urbanized Areas Formula Grant Program FAQ

[http://www.fta.dot.gov/documents/FAQ\\_Urbanized\\_Area\\_Formula\\_revised\\_2-10-06\\_final.doc](http://www.fta.dot.gov/documents/FAQ_Urbanized_Area_Formula_revised_2-10-06_final.doc)

## ***OTHER THAN URBANIZED AREAS FORMULA GRANTS***

### **Overview**

This grant program provides capital and operating assistance for rural and small urban public transportation systems. Apportionment of funding is formula based with 20 percent of the

program funds to be distributed through a new tier-based formula based on land area. The remaining 80 percent of funds is allocated by the existing formula based on population in other-than-urbanized areas. Funds are augmented by allocations from the Growing States Formula.

### Funding

	2006	2007	2008	2009
Formula Grants for Other Than Urbanized Areas (Section 5311)	\$388 M	\$404 M	\$438 M	\$465 M
Growing State Apportionments (Section 5340) for rural (31.1%)	\$60 M	\$63 M	\$68 M	\$72 M
<b>Total</b>	<b>\$448M</b>	<b>\$467M</b>	<b>\$506M</b>	<b>\$537M</b>

### Federal Share

The share for capital projects is **80 percent** federal; for operating costs the share is **50 percent**.

### Contacts

FTA Regional Office Contacts - [http://www.fta.dot.gov/about/offices/4978\\_ENG\\_HTML.htm](http://www.fta.dot.gov/about/offices/4978_ENG_HTML.htm)

FTA Office of Resource Management and State Programs - Lorna Wilson, 202-366-2053

FTA Office of Program Management - 202-366-4020

### Resources

FTA Fact Sheet

[http://www.fta.dot.gov/documents/FTA\\_Rural\\_Program\\_Fact\\_Sheet\\_Sept05.pdf](http://www.fta.dot.gov/documents/FTA_Rural_Program_Fact_Sheet_Sept05.pdf)

FTA Other Than Urbanized Areas Formula Grant program FAQ

[http://www.fta.dot.gov/documents/FAQ\\_Rural\\_Program.doc](http://www.fta.dot.gov/documents/FAQ_Rural_Program.doc)

## ***FORMULA GRANTS FOR SPECIAL NEEDS OF ELDERLY INDIVIDUALS AND INDIVIDUALS WITH DISABILITIES***

### Overview

This program provides funding to States to assist private nonprofit groups in meeting the transportation needs of the elderly and persons with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. Since these populations are more dependent on public transportation as a mobility option and are especially vulnerable to the impacts of air pollution, it is imperative to provide them with cleaner transportation options. Funds are apportioned based on each State's share of population for these groups of people.

### Funding

Year	2006	2007	2008	2009
<b>Available Funding</b>	\$112M	\$117M	\$127M	\$133M

### Contacts

FTA Office of Resource Management and State Programs - Cheryl Oliver, 202-366-2053  
 FTA Regional Contacts - [http://www.fta.dot.gov/about/offices/4978\\_ENG\\_HTML.htm](http://www.fta.dot.gov/about/offices/4978_ENG_HTML.htm)  
 FTA Metropolitan Offices Contacts - [http://www.fta.dot.gov/4959\\_ENG\\_HTML.htm](http://www.fta.dot.gov/4959_ENG_HTML.htm)  
 FTA Office of Program Management - 202-366-4020

## Resources

FTA Fact Sheet

[http://www.fta.dot.gov/documents/FTA\\_Elderly\\_and\\_Indiv\\_with\\_Disab\\_Fact\\_Sheet\\_Sept05.pdf](http://www.fta.dot.gov/documents/FTA_Elderly_and_Indiv_with_Disab_Fact_Sheet_Sept05.pdf)

## ***ALTERNATIVE TRANSPORTATION IN PARKS AND PUBLIC LANDS***

### Overview

This program awards grants in partnership with DOT, the Department of Interior and other relevant agencies, for transportation projects designed to enhance the protection of national parks and public lands.

- Eligible projects include efforts to provide alternative transportation facilities and services that complement existing transportation services in national parks and public lands including acquiring, constructing, supervising, or inspecting equipment or a facility for use in mass transportation. Projects that enhance the park, improve noise and air pollution, reduce congestion, and mitigate or prevent impact on a natural resource also qualify.
- **Projects to replace buses with buses incorporating clean fuel technology are also eligible.**
- Alternative transportation includes bus, rail or other conveyances, and non motorized transportation (including provision of facilities for pedestrians, bicycles and non-motorized watercraft).

### Funding

Year	2006	2007	2008	2009
<b>Available Funding</b>	\$21.7 M*	\$23 M	\$25 M	\$26.9 M

\*Appropriated

### Contacts

National Park Service: Kevin Percival, email: [Kevin\\_Percival@nps.gov](mailto:Kevin_Percival@nps.gov), 303-969-2429,  
 Fish and Wildlife Service: Nathan Caldwell, email: [nathan\\_caldwell@fws.gov](mailto:nathan_caldwell@fws.gov), 703-358-2376,  
 Forest Service: Ellen LaFayette, email: [elafayette@fs.fed.us](mailto:elafayette@fs.fed.us), 703-605-4509,  
 Bureau of Land Management: Linda Force, email: [Linda\\_Force@blm.gov](mailto:Linda_Force@blm.gov), 202-557-3567  
 FTA: David Vozzolo, Deputy Associate Administrator for Planning and Environment, 202-366-4033

### Resources

FTA Fact Sheet

[http://www.fta.dot.gov/documents/FTA\\_Transit\\_in\\_Parks\\_and\\_Public\\_Lands\\_Fact\\_Sheet\\_Sept05.pdf](http://www.fta.dot.gov/documents/FTA_Transit_in_Parks_and_Public_Lands_Fact_Sheet_Sept05.pdf)

FTA 2006 Request for Proposals

[http://www.fta.dot.gov/17973\\_18187\\_ENG\\_HTML.htm](http://www.fta.dot.gov/17973_18187_ENG_HTML.htm)

## ***NATIONAL FUEL CELL BUS TECHNOLOGY DEVELOPMENT PROGRAM***

### **Overview**

This program is designed to facilitate the development of commercially viable fuel cell bus technology and related infrastructure.

- Eligible projects
  - 3 geographically diverse non profit organizations on a competitive basis.

### **Funding**

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Available Funding</b>	\$11.13 M*	\$11.5 M	\$12.75 M	\$13.5 M

\*Appropriated

### **Federal Share**

The program provides a **50 percent** federal match.

### **Contact**

FTA Office of Research, Demonstration and Innovation - Shang Hsiung, 202-366-0241, e-mail: [shang.hsiung@dot.gov](mailto:shang.hsiung@dot.gov).

### **Resources**

National Fuel Cell Bus Technology Development Program 2006 Request for Proposals  
[http://www.fta.dot.gov/17973\\_18273\\_ENG\\_HTML.htm](http://www.fta.dot.gov/17973_18273_ENG_HTML.htm)

<b>Federal Highway Administration (FHWA)</b>
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## ***CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)***

### **Overview**

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) provides funding for projects and programs in air quality non-attainment and maintenance areas for ozone, carbon monoxide (CO), and particulate matter (PM-10, PM-2.5) which reduce transportation related emissions. Funds are apportioned according to a formula based on population size and severity of pollution in ozone and carbon monoxide areas.

The decision on how CMAQ funds are spent is usually made by the Metropolitan Planning Organization (MPO), in conjunction with its partner agencies including the state Department of Transportation, transit operators, and in some cases, air quality agencies. In some states, the state DOT plays a bigger role and makes the decisions on CMAQ project selection.

### **Funding**

<b>Year</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Available Funding</b>	\$1,616M*	\$1,721M	\$1,749M	\$1,777M

\*Contract authority after takedowns

### Eligible Projects

CMAQ funds are intended to improve air quality, so funds must be spent in non-attainment or maintenance areas for federal air quality standards. CMAQ funds can be spent on a wide variety of projects, including transit capital projects and operational expenses (for the first three years of operations). In fact, **almost 45-50 percent of CMAQ funds have been used to fund transit-related projects such as the purchase of buses and related facilities.** Other transportation control measures (TCMs), and diesel retrofit projects are also eligible. Diesel engine retrofit eligibility is dependent upon various guidelines. EPA will publish guidelines regarding retrofit technologies and cost effectiveness.

- States and MPOs are required to give priority to projects and programs to diesel retrofits and other cost-effective emission reduction activities, and cost-effective congestion mitigation activities that provide air quality benefits.
- There are three broad categories of transit projects or programs that are eligible for funding: service or system expansion **including the purchase of clean buses**; provision of new transit service; and financial incentives to use existing transit services.

The following States are provided the flexibility to use CMAQ funds for the activities listed:

- Montana – operation of public transit activities that serve a non-attainment or maintenance area.
- Michigan – operation and maintenance of intelligent transportation system strategies that serve a non-attainment or maintenance area.
- Maine – operation of passenger rail service between Boston, MA and Portland, ME.
- Oregon – operation of additional rail service between Eugene and Portland.
- Missouri, Iowa, Minnesota, Wisconsin, Illinois, Indiana, and Ohio – purchase of alternative fuels (as defined in section 301 of the Energy Policy Act of 1992) or biodiesel.

### Timeline and Application Process

Organizations interested in obtaining CMAQ funding need to develop their ideas and prepare a project proposal using State DOT or MPO procedures. The project proposal must document how the project will provide emissions benefits before CMAQ eligibility is determined. Wherever possible, a quantitative emissions reduction estimate should be presented.

The process by which proposals for CMAQ funds are solicited is unique to each State and MPO. Therefore, project sponsors should pay careful attention to the submission guidelines and deadline schedules that are established in their State and/or MPO. The MPO is responsible for developing and prioritizing projects and works with the State DOT to set the CMAQ Program investment level. In some States, CMAQ funding is programmed and projects are selected every two years.

As stated above, all projects which are to receive federal funding or approval must come from the latest conforming plan and Transportation Improvement Program (TIP). If you have a CMAQ project you would like to have funded, it must first be placed on the plan and TIP by the MPO. This process varies among MPOs and it is recommended you contact your MPO with your suggestions for CMAQ projects.

(Adapted from FHWA's CMAQ Brochure)



### **Federal Share**

The Federal share is generally **80 percent**, subject to sliding scale and **90 percent** for Interstate projects. Certain other activities, including carpool/vanpool projects, priority control systems for emergency vehicles and transit vehicles and traffic control signalization receive a federal share of 100 percent. CMAQ operates on a reimbursable basis, so funds are not provided until the work is completed.

### **Contacts**

Federal Highway Administration - Michael Koontz, 202.366.2076 [michael.koontz@fhwa.dot.gov](mailto:michael.koontz@fhwa.dot.gov)

### **Resources**

FHWA CMAQ brochure <http://www.fhwa.dot.gov/environment/cmaq/contents.htm>

FHWA Fact Sheet <http://www.fhwa.dot.gov/safetealu/factsheets/cmaq.htm>

## **Federal Aviation Administration (FAA)**

### ***VOLUNTARY LOW AIRPORT LOW EMISSIONS PROGRAM (VALE)***

#### **Overview**

The Vision 100-Century of Aviation Reauthorization Act, signed into law on December 12, 2003 (P.L. 108-176), directed the FAA to establish a national program to reduce airport ground emissions at commercial service airports located in air quality non-attainment and maintenance areas. The VALE program allows airport sponsors to use the [Airport Improvement Program \(AIP\)](#) and [Passenger Facility Charges \(PFCs\)](#) to finance low emission vehicles, refueling and recharging stations, gate electrification, and other airport air quality improvements.

The goal of the VALE program is to reduce the amount of regulated pollutants and other harmful air emissions generated by ground transportation sources at airports. The program also supports efforts to increase U.S. energy independence by emphasizing domestically produced alternative fuels that are substantially non-petroleum based.

Funding for the VALE program is provided through two airport assistance programs, the FAA Airport Improvement Program (AIP), which provides grants to airports from the Aviation Trust Fund, and the Passenger Facility Charges (PFC) program, which approves locally imposed fees from airline passengers for eligible airport development. These programs offer substantial resources to airports for low-emission activities but only if such activities represent a higher priority for the airport than other needed airport development.

(Adapted from VALE Technical Report)

#### **Eligible Vehicles**

All equipment purchased under the VALE program must be located at the airport, be airport-dedicated, and serve as an integral part of airport facilities and operations. Eligible vehicles include ground support equipment (GSE) and airport-dedicated on-road vehicles such as airport parking lot passenger shuttles and buses, airport security vehicles, and airport maintenance vehicles.

#### **Eligible Airports**

[http://www.faa.gov/airports\\_airtraffic/airports/environmental/vale/media/vale\\_eligible\\_airports.xl](http://www.faa.gov/airports_airtraffic/airports/environmental/vale/media/vale_eligible_airports.xl)

[SS](#)

## Eligible Fuels

### AIP Eligible Fuels

Under *Vision 100*, if a sponsor purchases low-emission vehicles, these vehicles must be powered exclusively by alternative fuels such as:

- Electricity (including electricity from solar energy)
- Natural gas and liquid fuels domestically produced from natural gas – (compressed natural gas (CNG) or liquefied natural gas (LNG))
- Liquefied petroleum gas (LPG or propane)
- Hydrogen
- Mixtures containing 85 percent or more by volume of alcohol fuel with gasoline, including denatured ethanol (E85) and methanol (M85)
- Ethanol, methanol and other alcohols (100 percent)
- Coal-derived liquid fuels
- Biodiesel (B85 to B100-biofuel)
- Hybrid systems<sup>22</sup>
- P-series fuels

<sup>22</sup> Section 301(2) of EPA Act defines alternative fuels and sets forth authority for the U.S. DOE to add more alternative fuels to the list of authorized alternative fuels, which are defined in Section 301(2). Newly added alternative fuels are called p-series.

### PFC Eligible Fuels

The fuel choices for the program using PFC funds are somewhat less restrictive than using AIP funds. However, the underlying requirements for achieving program low-emission standards remain the same. Provided that program low-emission standards are met, the selection of fuels using PFCs is open to all alternative and clean conventional fuels, including *plus clean conventional fuels*. clean diesel, clean gasoline, and biodiesel.

## Funding

The VALE program covers the incremental costs for low-emission vehicles.

<b>Airport Improvement Program (AIP)</b>	approximately <b>\$3 billion per year</b> , 30 percent is discretionary
<b>Passenger Facility Charges (PFC)</b>	approximately <b>\$2 billion per year</b>

## Contact

FAA - Jake Plante, 202-493-4875

## Resources

VALE Program [http://www.faa.gov/airports\\_airtraffic/airports/environmental/vale/](http://www.faa.gov/airports_airtraffic/airports/environmental/vale/)

VALE Toolkit [http://www.eere.energy.gov/cleancities/toolbox/pdfs/plante\\_webcast.pdf](http://www.eere.energy.gov/cleancities/toolbox/pdfs/plante_webcast.pdf)

### VALE Technical Report (V2.0)

Includes information on planning, application process, eligibility requirements, vehicle low-emission standards, emissions calculation methodology, cost effectiveness criteria, tracking, etc.

[http://www.faa.gov/airports\\_airtraffic/airports/environmental/vale/media/VALE\\_TR\\_v2\\_093005.pdf](http://www.faa.gov/airports_airtraffic/airports/environmental/vale/media/VALE_TR_v2_093005.pdf)

## DEPARTMENT OF ENERGY (DOE)

### ***STATE ENERGY PROGRAM***

#### **Overview**

DOE's State Energy Program (SEP) provides grants to the states for renewable energy and energy efficiency programs. Funding from the State Energy Program goes to state energy offices in all states and U.S. territories. SEP projects are managed by state energy offices, not by DOE directly.

#### **Funding**

States receive yearly grants from DOE based on annual appropriations from Congress. DOE distributes the grants to state energy offices based on the following formula:

- 33 percent equally among all the states and territories
- 33 percent according to population
- 33 percent according to energy consumption.

Transportation projects funded through this program include alternative fuel projects, purchase of clean fuel buses, technical assistance to fleets to expand use of alternative fuels, idle reduction projects etc.

Year	2005	2006	2007
Available Funding	\$44M*	\$36.6M	Depends on appropriation

Source: [http://www.eere.energy.gov/state\\_energy\\_program/funding\\_states.cfm](http://www.eere.energy.gov/state_energy_program/funding_states.cfm)

#### **Projects funded by SEP grants**

By State in 2005

[http://www.eere.energy.gov/state\\_energy\\_program/formula\\_grants\\_state.cfm/year=2005](http://www.eere.energy.gov/state_energy_program/formula_grants_state.cfm/year=2005)

#### **Contacts**

SEP State Energy Office contacts -

[http://www.eere.energy.gov/state\\_energy\\_program/seo\\_contacts.cfm](http://www.eere.energy.gov/state_energy_program/seo_contacts.cfm)

### ***CLEAN CITIES PROGRAM***

#### **Clean Cities Transportation Sector Petroleum Reduction Technologies Commercial Deployment**

#### **Overview**

The mission of the Clean Cities Program is to advance the nation's economic, environmental, and

energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. Clean Cities carries out this mission through a network of more than 80 volunteer coalitions, which develop public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction.

In April 2006, DOE, National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy's (EERE) Office of FreedomCAR and Vehicle Technologies (OFCVT), issued a solicitation for projects covering a range of commercial technology deployment and educational activities under the Clean Cities Transportation Sector Petroleum Reduction Technologies Program. **Future funding is dependent on Congressional appropriations for the Clean Cities Program**

### Eligible Projects

- Refueling infrastructure for E85 and other alternative fuels
- Incremental cost of alternative fuel vehicles
- Idle reduction and training and awareness for school districts.

### Contacts

Clean Cities - Dennis Smith, Director, email: [Dennis.A.Smith@EE.DOE.GOV](mailto:Dennis.A.Smith@EE.DOE.GOV)

Marcy Rood, Deputy Director 202-586-8161 email: [Marcy.Rood@EE.DOE.GOV](mailto:Marcy.Rood@EE.DOE.GOV)

## U.S. ENVIRONMENTAL PROTECTION AGENCY

### ***CLEAN SCHOOL BUS USA***

#### Overview

The EPA awards grants to school districts nationwide for projects designed to lower diesel emissions in school bus fleets. The projects will replace older diesel school buses with new, less-polluting models and retrofit others with emissions control technology and cleaner fuels.

#### Funding

In 2006, Congress appropriated \$7 million for EPA's Clean School Bus program for projects designed to retrofit and/or replace older diesel school buses. This year, those funds will be distributed through EPA's regional network. Various EPA Regional offices will issue their own Requests for Applications (RFAs).

For fiscal year 2007, the Administration has requested that the program be incorporated into a comprehensive Diesel Emissions Reduction Program to reduce emissions in school buses, freight, construction and the ports sector through retrofits, replacements, engine rebuilds, repowerings, and idle reduction programs. The request for this program is \$49.5 million. Final funding will depend in the amount appropriated by Congress

Year	2006	2007
<b>Available Funding</b>	\$7M	Depends on appropriation

### Eligible applicants

Eligible applicants are school districts, state and local government programs, federally recognized Indian tribes, and non-profit organizations

### **Examples of projects supported by Clean School Bus USA**

EPA school bus projects funded in 2005

[http://www.epa.gov/cleanschoolbus/demo\\_projects.htm#2005](http://www.epa.gov/cleanschoolbus/demo_projects.htm#2005)

### **Contacts**

EPA - Jennifer Keller 202-343-9541

[CleanSchoolBusUSA@epa.gov](mailto:CleanSchoolBusUSA@epa.gov), 734-214-4780

### **Resources**

EPA Clean School Bus Program - <http://www.epa.gov/cleanschoolbus/funding.htm>

## **STATE PROGRAMS**

### ***TEXAS EMISSIONS REDUCTION PLAN (TERP)***

#### **Overview**

The Emissions Reduction Plan was established in 2001 to reduce emissions of nitrogen oxide (NOx) from high-emitting mobile diesel sources in eligible counties in Texas. TERP includes a number of voluntary financial incentive programs, as well as other assistance programs.

The two main programs under TERP are 1) Emissions Reduction Incentive Grants (ERIG) and 2) New Technology Research & Development Program

#### **Emissions Reduction Incentive Grants (ERIG)**

The Emissions Reduction Incentive Grants (ERIG) Program provides grants to eligible projects in non-attainment areas and affected counties. The grants offset the incremental costs associated with reducing emissions of oxides of nitrogen (NOx) from high-emitting internal combustion engines.

#### **New Technology Research & Development Program**

The New Technology Research and Development Program (NTRD) provides financial incentives to encourage and support research, development, and commercialization of technologies that reduce pollution in Texas through the issuance of state funded grants.

#### **Eligible Projects**

Projects eligible for funding under this program are intended to reduce NOx emissions in eligible counties include purchase, replacement, repower, retrofit or add-on of emission-reduction technology in 1) on-road heavy-duty vehicles (8,500 lbs. or more) including buses, 2) non-road equipment (25 hp or greater), 3) marine vessels, 4) locomotives, 5) stationary equipment, 6) refueling infrastructure (for qualifying fuel), 7) on-site electrification and idle reduction infrastructure, 8) on-vehicle electrification and idle reduction infrastructure

## **Funding**

Funds for TERP from six separate revenue sources, with nearly 70% provided by a portion of vehicle title fees (\$20 out of \$33 fee for applicants in non-attainment areas and \$15 out of \$28 fee for applicants in all other areas of the state).

State share for TERP grants is **80 percent** of the incremental costs for replacement projects and 50 percent of the incremental costs for a refueling or onsite electrification and idle reduction infrastructure activity.

## **Examples**

2006 Round One Projects funded under TERP

[http://www.tceq.state.tx.us/assets/public/implementation/air/terp/erig/AUS\\_FY06R1\\_Recommended\\_Projects.pdf](http://www.tceq.state.tx.us/assets/public/implementation/air/terp/erig/AUS_FY06R1_Recommended_Projects.pdf)

## **Contacts**

Contact the TERP program staff at 512/239-4900

## **Resources**

TERP Information <http://www.tceq.state.tx.us/implementation/air/terp/index.html>

ERIG grant application information

[http://www.tceq.state.tx.us/implementation/air/terp/erig\\_apps.html](http://www.tceq.state.tx.us/implementation/air/terp/erig_apps.html)

NTRD grants application information

<http://www.tercairquality.org/NTRD/>

# ***CALIFORNIA CARL MOYER PROGRAM***

## **Overview**

The Carl Moyer Program is a grant program, implemented by a partnership of the California Air Resources Board (CARB) and local air districts that funds the incremental cost of cleaner-than-required engines, equipment, and other sources of pollution. Projects to reduce emissions from on-road heavy-duty vehicles, idle reduction technologies, off-road diesel equipment, transportation refrigeration units, off-road spark-ignition equipment, marine vessels, locomotives, and agricultural engines have been eligible for grants.

## **Funding**

The program covers the **incremental cost** of the equipment. Almost 45 percent of Carl Moyer funding is spent on On-Road vehicles

Changes in State law have expanded the Carl Moyer incentive program to include agricultural sources of air pollution as well as cars and light-duty trucks. AB 923 (Firebaugh, 2004) provides additional funding for the Moyer Program from an adjustment to the tire fee, and authorizes local air districts to increase motor vehicle registration fees by up to \$2 for programs to reduce air pollution. Combined with continuing funding that was provided in the fiscal year 2004-2005 budget (SB 1107), up to \$140 million a year of incentive funding is available to help clean up California's air.

How to apply: <http://www.arb.ca.gov/msprog/moyer/apply/apply.htm>

## **Contacts**

Link to regional contacts - <http://www.arb.ca.gov/msprog/moyer/contacts.htm>

## **Resources**

Cal Moyer Program information <http://www.arb.ca.gov/msprog/moyer/moyer.htm>

# **NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY (NYSERDA) CLEAN FUELED BUS PROGRAM**

## **Overview**

Incentive funds are available to state and local transit agencies, municipalities, and schools for up to 100 percent of the incremental vehicle cost (i.e., the additional cost of a clean-fueled bus compared to the cost of a comparably sized petroleum-powered vehicle) and for directly associated infrastructure projects. A clean-fueled bus is any motor vehicle with a seating capacity of 15 or more passengers used for the transportation of persons on public highways that is powered by compressed natural gas (CNG) including dual-fuel technology, propane, methanol, hydrogen, biodiesel, or ethanol, or uses electricity as a primary motive force (e.g. hybrid-electric). Dual fuel CNG engines must be factory built and certified or a new diesel engine converted to dual-fuel prior to commit to a fuel mix that results in 75 percent or greater use of CNG during typical operation of the bus. Buses must be commercially available from one or more bus manufacturers and be assigned to regular or revenue service.

## **Funding**

Funds come from Governor Pataki's 1996 Clean Water/Clean Air Bond Act. \$27.75 million has been awarded for 562 buses including CNG, battery electric, and diesel hybrid-electric technology. The program has leveraged more than \$175 million in investments in clean fuel technology.

## **Examples of project funded by this program**

This program supports several bus operators to introduce clean fuel buses including the Metropolitan Transportation Authority (New York City Transit and Long Island Bus), Central New York Regional Transportation Authority, and Long Beach School District

## **Contact**

NYSERDA - Patrick Bolton, Associate Project Manager, 518-862-1090, ext. 3322. email: [ppb@nyserda.org](mailto:ppb@nyserda.org)

## **Resources**

NYSERDA Clean Fueled Bus Program

<http://www.nyserda.org/programs/transportation/AFV/cleanfuelbus.asp>

# **COMBINING FEDERAL RESOURCES TO PURCHASE A CLEAN BUS**

## **THE HYBRID BUS EXAMPLE**

Currently hybrid buses carry a large price premium over conventional diesel buses. The average price of a 40-foot hybrid bus typically ranges from \$450,000 - \$550,000 when compared to \$280,000 -

\$300,000 for a conventional diesel bus. The price variation in hybrids is due to the order volumes and individual specifications of transit agencies.

However the price differential for hybrids can be offset by various federal incentives and grant programs. Assuming that a standard diesel bus costs \$300,000 and a hybrid bus costs \$500,000, the incremental cost of purchasing a hybrid is \$200,000. The federal **Clean Fuels Grant Program** covers **90 percent of the incremental cost of alternative fuel buses**, including hybrids. In addition, the Federal Transit Administration (FTA) covers up to 80 percent of the purchase price of a standard diesel bus.

Therefore a transit agency's share of matching funds for a hybrid is \$80,000 when compared to \$60,000 for a conventional diesel. This translates to **an incremental cost of only \$20,000 to purchase a hybrid over a conventional diesel bus.** As the technology matures and the market develops, the cost differential for hybrids is likely to decrease.

## ADDITIONAL RESOURCES:

### **Clean Bus Technologies and User Experiences**

#### **Natural Gas Transit Users Group: Assisting Transit Agencies with Natural Gas Bus Technologies**

The Natural Gas Transit Users Group (TUG), composed of representatives from transit agencies, industry associations, and government entities, provides information and assistance to transit agencies operating or considering natural gas transit buses. Originally formed in the mid-1990's by the Gas Technology Institute (GTI), TUG was reinvigorated in 2000 by the partnering of the U.S. Department of Energy (DOE), the Natural Gas Vehicle Coalition (NGVC), and GTI. TUG members can enlist the help of the Clean Cities Program Technical Assistance Teams (Tiger Teams) to solve specific problems.

More information available at:

<http://www.eere.energy.gov/afdc/pdfs/37921.pdf> and

<http://www.nrel.gov/vehiclesandfuels/ngvtf/tug.html>

### **Clean Cities Program Technical Assistance Teams (Tiger Teams)**

Clean Cities Tiger Teams provide alternative fuel vehicle and infrastructure technical expertise to Clean Cities coalitions nationwide, assisting when coalitions encounter barriers that challenge local resources. Tiger Team assistance includes planning for and implementing AFVs and infrastructure, developing educational and training tools, and evaluating AFV-related legislation. The Tiger Team project is managed for the U.S. Department of Energy by the National Renewable Energy Laboratory.

The following are examples of Tiger Team assistance provided to transit bus fleets:

- Assisting Washington Metro Transit with implementation of a new CNG station: A Tiger Team has supported the Washington Metropolitan Transit Authority in implementing a new CNG fueling station at its Four Mile Run facility in Washington, D.C.
- Developing facility specs to help transit agency add CNG buses to its fleet: This Tiger Team project helped the Washington Metropolitan Area Transit Authority incorporate CNG transit buses. Specifications were developed for modifying the agency's bus maintenance and CNG fueling facilities. The agency has 164 CNG buses and will be



ordering 175 more.

- Producing a natural gas transit bus training resource guide: A Tiger Team developed a resource guide that points transit managers and maintenance personnel to sources of AFV-related training. See Alternative Fuels and Vehicles Training Resource Guide for Transit Districts (<http://www.eere.energy.gov/cleancities/pdfs/32534.pdf>).

More information available at:

[http://www.eere.energy.gov/cleancities/tiger\\_projects.html](http://www.eere.energy.gov/cleancities/tiger_projects.html)

### **Transit Bus Niche Market Toolkit**

Developed by Clean Cities and TIAX LLC, this toolkit contains detailed information about using alternative fuels in transit bus fleets. Divided into 11 modules, the tool explains the benefits-and hurdles-of powering transit buses with alternative fuels and identifies opportunities and strategies for increasing alternative fuel use in transit agencies.

More information available at:

[http://www.eere.energy.gov/afdc/apps/toolkit/transit\\_bus\\_toolkit.html](http://www.eere.energy.gov/afdc/apps/toolkit/transit_bus_toolkit.html)

### **Transit Fleet Alternative Fuel Success Stories**

Clean Cities Coalitions have been instrumental in working with transit fleets to incorporate alternative fuels. The Clean Cities Program has summarized some of these successes - select the "Transit Fleet" category for details.

[http://www.eere.energy.gov/cleancities/success\\_stories.html](http://www.eere.energy.gov/cleancities/success_stories.html)

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#### **For more information, please contact:**

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