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NORTH TEXAS CLEAN AIR STEERING COMMITTEE

Title:

Low Income Repair and Replacement Assistance Program (LIRAP) Improvements

Background:

LIRAP was designed to assist low income individuals with repairs or retirement of vehicles that fail emissions inspections. The program is funded via emissions inspection fees collected by affected counties, and is administered by the Dallas-Fort Worth and Houston-Galveston Area Council of Governments (COGs). The LIRAP program has generated a surplus of funds, and during the 79th Texas Legislative Session, House Bill 1611, approves the use of \$20 million per annum of the fees collected to enhance LIRAP and to implement other air quality programs. HB 1611 also states that 30 percent of appropriated funds are to be dedicated for projects under or similar to the Texas Emissions Reduction Plan (TERP). However, no appropriations were made for HB 1611, and the monies were retained by the state in a sub-account of Clean Air Account 151.

The Houston Advanced Research Center (HARC) evaluated the effectiveness of LIRAP and a number of measures outlined in HB 1611 with the potential to benefit air quality/community health, and economic growth if the designated funds were appropriated for use. Technical report H72B details recommendations for increasing LIRAP participation and changes to the current inspection and maintenance (I/M) program. In addition to the strategies listed in HB 1611 eligible for funding, HARC's report also outlines various strategies for which funds could be appropriated and includes: pilot diesel I/M program; clean school bus program; and a catch-all fund for additional control strategies that need to be quickly implemented. Diesel-related projects could utilize the 30 percent of the appropriated funds dedicated to TERP or TERP-like projects.

Strategies listed in HB 1611 include the following programs:

- Education, Outreach, and Advertising Campaign, including working with a faith-based groups
- Expanded/Enhanced AirCheck Texas Repair and Replacement Assistance Program
- Enhanced Remote Sensing Program
- Regional Smoking Vehicle Program
- Local Law Enforcement Program
- Enhanced Transportation System Improvement Projects
- New Air Control Strategies/Projects

In addition to the programs listed above, HB 1611 also allows for the use of local money to be leveraged against federal money for air quality purposes. As the Houston and Dallas-Fort Worth areas face different challenges, each region should have the ability to prioritize its respective needs and make recommendations on what programs receive priority. The reinvestment of excess LIRAP funds into these initiatives would empower the local COGs with the tools they need to improve their constituent's quality of life. Accordingly, it is requested that these monies be released and allowed to benefit the communities for which they were intended.

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Legislative Action Requested:

- Appropriate all LIRAP funds collected for this purpose and utilize such funds for emission reductions pursuant to HB 1611 and for other programs that can reduce mobile source air pollution
- Allow a portion of LIRAP funds to be utilized for a revolving low-interest or no-interest loan program to assist companies with capitol investment expenditures necessary for mobile source fuel system enhancements intended to reduce pollutant emissions
- Enhance penalties for inspection station and inspector violations relating to improper issuance of inspection approval
- Toughen guidelines/penalties for storage facilities that violate inspection requirements on salvaged vehicles
- Require the removal of inspection and registration stickers at all impound/auction lots
- Modify title assumption process for local government law enforcement programs
- Allow Justice of the Peace jurisdiction over all mobile emissions misdemeanor violations

Regulatory Action Requested:

- Install final I/M cutpoints, the pass/fail point established for each pollutant tested, established by the Environmental Protection Agency (EPA) – current I/M program has completed four test cycles and is still operating under start-up cutpoints. The EPA allows for an I/M program to install final cutpoints after one complete test cycle.
- Expand the Inspection and Maintenance (I/M) program to include diesel vehicles
- Increase LIRAP replacement incentive
- Increase LIRAP income guidelines
- Allow 20 percent of allocated funds to be spent on administrative costs
- Treat advertising as a programmatic cost and not as an administrative cost

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Title

1974 and Older Model Year Vehicles Inspection and Maintenance (I/M) Exemption

Description

Dallas-Fort Worth (DFW) nonattainment counties implemented inspection and maintenance (I/M) program to reduce the mobile source emissions. Traditionally I/M exemption is applied to gasoline vehicles outside a 24-year-model rolling window. Changing the exemption to a set 1975 model year will help with keeping the gross emitters off the street. However, vehicles registered as antiques will be excluded from the requirement.

Legislative Action Requested

Consider expanding the I/M program to include all 1974 and older model year vehicles.

Estimated Benefit

For North Central Texas Nonattainment Area:

0.43 tons per day NO_x reduced

1.71 tons per day VOC reduced

Estimated Cost Effectiveness

Since an I/M program has operated in the DFW nine nonattainment counties for many years, there is no cost involved to set up the program. Instead the estimated revenue generated by selling inspection stickers is estimated to be \$345,168 per year.

NO_x: - \$0.00 per ton

VOC: - \$0.00 per ton

Revenue Generated - \$345,168 per year

NOTE: Due to time, this strategy has not been updated, however, the strategy will be more logical with 1981 model year vehicles than 1974 due to change in vehicle technology. Therefore, emission benefits and revenue generated may be slightly less due to less vehicles.

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Title

California Low Emitting Vehicle II Standards

Description

Adoption of California LEV II standards would have slightly more NO_x benefits relative to the Federal Tier 2 standards, would help to encourage EPA to further tighten emission standards on all new passenger vehicles and light-duty commercial vehicles, and would aid in requiring the purchase of ultra LEV (ULEV) by mandated fleets within the state. This strategy compares the emission benefits associated with requiring all new vehicles in 2007-2009 to be LEV II to the added benefits of requiring 5 percent of these vehicles to be Partial Zero Emission Vehicles (PZEV).

Legislative Action Requested

Consider adoption of California LEV II Standards

Estimated Benefit

For North Central Texas Nonattainment Area:

The low end of the range assumes all new vehicles sold from 2007-2009 will be Cal LEVs. The upper end of the range assumes that 5% of all new vehicles sold from 2007-2009 are Partial Zero Emission Vehicles (PZEV) and the remainder is LEV II.

0.19 – 0.29 tons per day NO_x
1.42 – 1.52 tons per day VOC

Estimated Cost Effectiveness

Taking into account increased vehicle and enforcement costs:

NO_x: \$135,662 per ton
VOC: \$18,060 per ton

Including fuel savings:

NO_x: -\$559,984 per ton
VOC: -\$74,549 per ton

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Title

Expanded I/M Program to Include Diesel Vehicles

Description

Dallas-Fort Worth (DFW) nonattainment counties have implemented an I/M program to reduce the mobile source emissions. The current I/M program has concentrated on reducing Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOC) from light duty gasoline vehicles. Substantial emissions reductions can be expected by implementing an I/M program for light duty diesel vehicles. As time progresses, a larger selection of diesel vehicles will be offered by the automobile manufactures to address increased fuel efficiency and response to the growing cost per gallon of gasoline.

Legislative Action Requested

Consider additional or more robust language supporting the expansion of the I/M program to include diesel vehicles (may only require regulatory amendments).

Estimated Benefit

For North Central Texas Nonattainment Area:

N/A tons per day NOx reduced

N/A tons per day VOC reduced

Decrease in NOx emissions in greater quantity will increase VOC, PM and CO emissions and vice versa. NOx emissions can be high in the old model vehicles, if they are not in optimal operating mode. EPA's MOBILE6.2 Mobile Source Emission Factor Model cannot model I/M benefits for diesel-fueled vehicles.

Vehicles tend to emit high if they are not properly maintained or tuned to manufacturers' specification. Studies have proved that high emitting diesel vehicles emit three times higher than normal vehicles. Vehicles ranging between 1975 through 1984, 1985 and 1996, and 1997 through 2004 were assumed to have deteriorated and have emission factors three times higher, two times, and one time respectively than normal. Diesel I/M is expected to decrease NOx concentration, but the decreased amount is not known at this point.

Estimated Cost Effectiveness

Not known at this time.

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Title

Expedited (CARB) 2007 On-Highway Diesel Engine Standards

Description

The Environmental Protection Agency (EPA) has enacted an engine standard that requires heavy-duty highway engines to maintain emissions no greater than 0.2 g/bhp-hr of NO_x and 0.14g/bhp-hr of VOC. The standard will be phased in for diesel engines between 2007 and 2010, with a phase-in requirement of 50 percent of engines sold in 2007, 2008 and 2009, and 100 percent in 2010. The California Air Resources Board adopted standards identical to the heavy-duty 2007 rule in October 2001. Effective control of NO_x can be achieved by accelerating a 100 percent phase-in of the heavy duty standard in 2007.

Legislative Action Requested

Consider expedited implementation of 2007 On-Highway Diesel Engine Standards

Estimated Benefit

For North Central Texas Nonattainment Area:

7.13 tons per day NO_x reduced
0.51 tons per day VOC increased

Estimated Cost Effectiveness

\$995 per ton NO_x reduced

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Title

Statewide Portable Equipment Registration Program

Description

Implementation of a statewide portable equipment registration program (PERP) to register and regulate portable engines and associated equipment will produce emission reductions by promoting accelerated turnover/replacement. Registration of equipment is voluntary, but once registered, portable engines and equipment units can operate throughout the state without the need to get permits from individual jurisdictions. Equipment eligible for registration must have a certified or controlled engine, shall not exceed pre-determined emission limits and comply with established Best Available Control Technology requirements.

Legislative Action Requested

Consider adoption of statewide portable equipment registration program

Emissions Benefit

For North Central Texas Nonattainment Area:

0.83 tons per day NO_x reduced

Cost-effectiveness

\$230 per ton of NO_x emissions reduced

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Title

Funding for the Texas Clean School Bus Program

Description

The State of Texas is home to the second largest fleet of yellow school buses in the country. Over 35,000 school buses transport more than 1 million Texas children to and from school every day, as well as for field trips and athletic events. The vast majority of these buses runs on diesel fuel and is much more polluting than the buses to be sold beginning in 2007.

While school buses continue to be the safest way to transport school children, diesel pollution levels in and around school buses can be five times higher than background levels. Consequently, school buses represent a "hot spot" of pollution exposure for school children. This surprising result is due to emissions from the tailpipe and engine crankcase contaminating the cabin where school children ride. Emissions from diesel engines contribute to a host of health effects, including dizziness, nausea, increased incidence and severity of asthma attacks, and chronic bronchitis.

The pollution "hot-spot" effect inside a school bus is compounded because children are especially vulnerable to air pollution since their rate of breathing is higher than for adults and their lungs are still developing. A recent study concludes that pound for pound the greatest health benefits can be achieved by reducing school bus emissions instead of other types of vehicles such as 18-wheelers and construction equipment. The TCEQ has estimated that school bus projects funded through TERP have resulted in NO_x reductions at a cost of \$5,800 per ton. Like for other TERP projects, SIP credit is possible for school bus technologies that produce NO_x reductions.

Legislative Action Requested

Several studies report that children riding school buses are exposed to high concentrations of fine particles and other toxic substances inside the bus due to the intrusion of the bus's own emissions into the bus cabin. Therefore, the Texas Clean Air Working Group should include the following statement in its list of legislative priorities:

"The Texas Legislature should provide adequate funding for the Clean School Bus Program established by HB 3469, 79th Texas Legislature."

HB 3469 (79th Texas Legislature) established a Clean School Bus Program as part of the TERP, and authorized funding through a portion of TERP revenues otherwise dedicated for diesel emission reduction grants. However, an appropriation was not made and the program remained unfunded during this biennium. This paper outlines the rationale for legislative funding for this program, namely that reducing school bus emissions is a cost-effective way to reduce a demonstrated childhood exposure to harmful air pollutants.

Emissions Benefit

The diesel pollution that gets inside of Texas school buses can be cost-effectively cleaned up:

- All new buses are much cleaner than those they replace. EPA's standards for school bus emissions have been gradually tightened over the past decade, and as buses are retired they are replaced with much cleaner ones. The 2007 models must meet standards that will make them more than 95 percent cleaner than the buses of fifteen years ago. A bus replacement strategy affords significant reductions in both NO_x and particulate emissions.

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- Affordable pollution-cutting retrofits are available. Mid-aged buses can be retrofitted with filters that bring their tailpipe exhausts and crankcase emissions into line with new-bus emission standards. Diesel Particulate Filters capture the majority of particle emissions that normally would exit the tailpipe. A closed crankcase filtration system, installed under the hood, captures and filters the emissions that normally are vented from the engine directly to the outside air. New technologies are expected to be verified this year that will cost-effectively reduce both PM and NOx. Additionally, some bus engines can be reprogrammed to reduce NOx emissions by 25-40 percent.
- Excess dedicated revenues are being collected for emissions reductions programs. The TERP and LIRAP programs are collecting an estimated \$100 million in excess revenues this biennium. A portion of those excess revenues could be allocated to fund the Clean School Bus Program.

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Title

Rail Efficiency through the Texas Rail Relocation and Improvement Fund (HB 1546)

Description

The intent of the Texas Rail Relocation And Improvement Fund authorizes grants of state revenue and issuance of public debt to relocate, construct, reconstruct, acquire, improve, rehabilitate, and expand privately and publicly owned passenger and freight rail facilities and to construct railroad underpasses and overpasses. The intended purpose of the funded projects will be to relieve congestion on public highways, enhance public safety, improve air quality, or expand economic opportunity.

Many regions are facing significant rail congestion and delay from infrastructure bottlenecks in addition to increasing modal use for movement of our nation's goods. Locomotive vehicles utilize diesel engines that contain no emission control technologies, resulting in the release of high levels of nitrogen oxides and particulate matter. These situations currently impact regions abilities to reach federal emissions standards. Emission reductions could be achieved and results credited through implementation of improvements to make rail activities more efficient.

Legislative Action Requested

Consider appropriation of funds

Emissions Benefit

n/a

Cost-effectiveness

n/a

44,544 per year