

TRANSIT GREENHOUSE GAS EMISSIONS MANAGEMENT COMPENDIUM

AGENCY: Federal Transit Administration (FTA), DOT

ACTION: Notice for Request for Applications (RFA)

SUMMARY: “Protect the environment and promote energy independence” is one of FTA’s five Strategic Research Goals. Under this goal, FTA has set forth objectives to provide leadership in responding to the impact of climate change and reducing greenhouse gas (GHG) emissions from transportation. FTA seeks applications to create a compendium of strategies for transit agencies to reduce the GHG intensity of their services. The compendium will serve as a central information point, as well as a useful handbook to transit managers in planning and decision-making.

DATES: An applicant must submit a proposal electronically to <http://www.grants.gov> by November 3, 2008 for consideration. All potential applicants are advised to begin the <http://www.grants.gov> registration process immediately, if they have not previously submitted Federal assistance applications through <http://www.grants.gov>, in order to be able to meet the deadline. FTA expects to award funds through a Cooperative Agreement in the month of December. In the event of a system problem or technical difficulty with the application submittal, the applicants should contact the FTA Project Manager for delivery instructions.

ADDRESSES: The website <http://www.grants.gov> allows applicant organizations to electronically find and apply for competitive opportunities from all Federal agencies that award Federal assistance. This website is the single access point for over 1000 Federal assistance programs administered by 26 Federal agencies.

FOR FURTHER INFORMATION CONTACT: Technical, program management and administrative questions should be directed to Jarrett Stoltzfus, Office of Technology (TRI-20), Room E43-436, Federal Transit Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, D.C. 20590; email address: Jarrett.Stoltzfus@dot.gov, or by phone at 202-493-0361.

SUPPLEMENTARY INFORMATION:

BACKGROUND:

FTA’s research activities are authorized by 49 USC 5312, Research, Development, Demonstration, Deployment or Evaluation of Technology. “Protect the environment and promote energy independence” is one of FTA’s five Strategic Research Goals. Under this goal, FTA has set forth objectives to provide leadership in responding to the impact of climate change and reducing greenhouse gas (GHG) emissions from transportation.

Transportation accounts for 28% of GHG emissions in the United States, and it is also the fastest growing sector for GHG emissions. While public transportation accounts for a very small percentage of these emissions, it is uniquely positioned to reduce overall emissions and energy usage by shifting private vehicle trips to transit, by facilitating compact development, and by serving as an early adopter. A current project through the Transit Cooperative

Research Program (TCRP) will provide a synthesis of this broader role for public transportation in reducing a community's overall emissions from transportation, while this compendium will focus on strategies that transit agencies can use to reduce the GHG intensity of their operations, maintenance, and construction. Multiple strategies are available for public transportation to reduce GHG emissions per passenger mile, such as through the use of alternative fuels and effective implementation of energy efficient practices and technologies. Public transportation can serve as an ideal demonstration model for low emissions technology because of its centralized fleets, high visibility, and subsidized funding.

Policies and strategies to reduce transit-related GHG emissions are being reviewed, developed, and/or implemented by a number of local, state, national and international entities. However, information on many of these activities is dispersed and the extent of the available information is unknown or not easily accessible.

Thus, FTA seeks applications to create a compendium of strategies and best practices for transit agencies to reduce their energy usage and greenhouse gas emissions. The compendium will serve as an easy to use tool to assist transit agencies in evaluating the GHG emissions implications of different options available when making decisions regarding planning, procurement, operations, and construction, as well as other activities.

OBJECTIVE

This RFA seeks applications to create a compendium of available best practices and strategies for transit agencies to reduce their GHG footprint and energy usage.

The transit GHG emissions management compendium will give transit system planners and metropolitan planning organizations information to make planning, acquisition, and operational decisions that optimize the balance of environmental stewardship and economic sustainability. It will provide a useful manual of strategies that agencies can use to reduce the emissions intensity of their activities, including clear information on the size of the emissions reduction possible through the strategy and its typical cost. The compendium will be user friendly, concise, well-organized, easy to read, and visually attractive. It will include relevant images, charts, and graphs that present information effectively.

To facilitate wide dissemination and timely updating of the compendium, the final report and data need to be compiled in a way that is easily transferable to an internet-based format. The compendium will be transferred, maintained and updated on-line as future funding becomes available. The final report must be submitted to FTA in a Section 508 compliant PDF format (see <http://www.section508.gov/>).

The compendium will need to address the following topics, with work allocated based on the below percentages.

- **Background (20% of total)**
 - **Brief background on climate change and transportation**

The compendium should provide brief information on the challenge of climate change and the level of GHG emissions from U.S. transportation in general and public transportation in particular. The information should be based on existing data available from U.S. government sources, including the Environmental Protection

Agency's GHG emissions inventory

- **Transit's role in overall greenhouse gas reductions**

The compendium should discuss transit's role in overall greenhouse gas reductions and energy savings to provide a context for its recommendations for transit agencies. This will include a discussion of transit's role in reducing emissions through enabling shifts from low occupancy vehicle travel to public transportation, as well as through facilitating compact land use. This section will provide a context for the compendium, explaining that an expansion of transit services may result in an increase in transit GHG emissions but a net decrease in GHG emissions for the transportation sector overall due to mode shift. Therefore, transit agencies would likely focus on reducing emissions intensity - in other words, reducing GHG emissions per passenger mile or vehicle mile.

- **Greenhouse gas emission profiles of a typical mid-sized to large transit agency**

The compendium should provide a brief and approximate GHG emissions profile of a typical mid-sized to large transit agency, in order to provide a context for the overall compendium. The profile will include a basic, general life cycle assessment, taking into account energy needed and resulting emissions from vehicle manufacturing, operations, maintenance, and disposal as well as system infrastructure and fuels.

- **GHG Emission Reduction Strategies (60% of total)**

The compendium should provide detailed information on strategies that transit agencies can undertake to reduce the GHG intensity of their services. Information on how to implement specific strategies, the size of the emissions reduction possible through the strategy, its typical cost, and any co-benefits or negative impacts should be presented.

1. **Planning/Construction/Capital Projects**

Construction of transit systems, fixed guide-ways, stations, maintenance facilities, and other buildings can involve significant energy expenditure and emissions.

- The compendium should discuss the effect system planning decisions can have on GHG emissions. For instance, measuring the GHG emissions of the construction and operation of a light rail system versus a similar Bus Rapid Transit (BRT) system of similar magnitude.
- The compendium should discuss strategies in construction and capital projects (such as LEED-certified buildings) that can decrease GHG emissions, either in the construction phase or in terms of long-term operating costs.

2. **Procurement Decisions**

Vehicle purchase decisions can have significant impacts in terms of energy use and greenhouse gas emissions. The compendium should provide information on fuel economy, GHG emissions per seat mile, capital costs, operating costs, and total costs normalized by seat mile over the lifetime of the vehicle for a full range of vehicle options, including diesel, compressed natural gas, biodiesel,

hybrid, and electric buses, and multiple types of light rail, heavy rail, and commuter rail vehicles. It should include other major positive or negative impacts of using the strategy such as impact on local air quality. This section will include a table enabling easy comparison of vehicles. For hybrid vehicles in particular, it should show emissions savings under different operating conditions. The efficiency and integration of station and wayside equipment also can have a significant impact on system-wide GHG emissions.

3. Operations/Maintenance

Whether utilizing a new, potentially energy efficient system or an older legacy system, optimized operating and maintenance strategies can be implemented to decrease the GHG emissions. This section will discuss the full range of options for reducing emissions from operations such as regenerative braking systems in rail vehicles, inflating tires with nitrogen, reducing idling, electrifying accessories, using smaller vehicles for lower demand routes, etc.

4. Other transit agency activities that can lower energy usage or greenhouse gas emissions.

The compendium should examine other strategies, such as on-site electricity generation (installing solar panels, wind turbines, etc) and workforce practices (telework, flexible schedules, etc.) that transit agencies can implement to cut back their energy usage or reduce greenhouse gas emissions.

● Profiles of Emissions Reduction Strategies by Transit Agencies (20% of total)

The compendium should provide several case studies of efforts by transit agencies to reduce their greenhouse gas emissions and energy usage following the above strategies. Each case study should include a detailed agency profile (ridership, vehicle types, system details), approximate GHG inventory, GHG reductions achieved through the strategies, and costs.

AWARD INFORMATION

FTA may fund one application under this program. Funding for the cooperative agreement under this program will range from \$50,000 to \$175,000. The total available funding is \$175,000. Future funding will depend on Appropriations. FTA will participate in activities by attending review meetings, commenting on technical reports, maintaining frequent contact with the project manager and approving key decisions and activities, including redirecting activities if needed.

COST SHARING OR MATCHING

Federal transit funds are available to research projects at up to 100 percent of the project cost. However, cost sharing will be an evaluation criterion.

ELIGIBILITY INFORMATION

Eligible recipients include State and local government agencies, public and private transit agencies, universities, non-profit organizations, consultants, legally constituted public agencies, operators of public transportation services, and private for-profit organizations.

PROPOSAL CONTENT

This announcement includes all of the information that you need to apply. The following form is available in grants.gov and is required to be completed:

- SF 424 Mandatory

SF 424 Mandatory

Most of SF424 is self explanatory. The application should answer the following items as follows:

- 1a – application
- 1b – annual
- 4a – Leave blank
- 4b – 26

Other Attachments Form:

1. The application should attach a pre-application (not more than 15 pages in length) as outlined in Chapter II (Item 9.b) of FTA Circular 6100.C: Transit Research and Technology Programs: Application Instructions and Program Management Guidelines. http://www.fta.dot.gov/laws/circulars/leg_reg_4121.html

This pre-application should also address the six criteria laid out below in the Application Review Information section. The project budget justification should include identification of any matching funds and their source. The Formal Application described in the Circular is not being requested at this time.

2. The application should attach information on the qualifications of key personnel, including biographies.

Anyone intending to apply should initiate the process of registering on <http://www.grants.gov> by October 2008 for consideration. All potential applicants are advised to begin the <http://www.grants.gov> registration process immediately, if they have not previously submitted Federal assistance applications through <http://www.grants.gov>, in order to be able to meet the deadline.

APPLICATION REVIEW INFORMATION

A review panel will be convened to review each proposal. Project proposals will be evaluated based on the following criteria;

1. Proposed Research, which includes the applicability of the proposed research to the requirements, the uniqueness of the research approach or the need for the research, and the expected results. Projects should be narrowly defined to create a compendium of available transit-related technologies to reduce the GHG footprint, anticipated technologies, best practices, lessons learned and information related to measurement (baseline inventory data), reduction and management strategies, including trading of carbon emissions. The proposal will also be judged based on its stated strategy for presenting the information in a manner that maximizes its usefulness as a tool for transit agency decision-makers.
2. Qualifications of Key Personnel, which includes knowledge of and prior experience with sustainability and public transportation research, transport economics and policy research and greenhouse gas emissions and climate change research.
3. Technical Management Plan, which includes the management approach for planning, scheduling, administering, coordinating and conducting the work effort.
4. Past Performance on activities relevant to the proposed work.
5. Cost and Cost Sharing.
6. Plan for performance evaluation. The proposal must address how success will be measured.

AWARD ADMINISTRATION INFORMATION

The notification date for successful applications is expected to be during the month of December 2008..Following receipt of the notification letters, the successful entities will be required to submit the Formal Application as outlined in Chapter II (Items 10-25) of FTA Circular 6100.1C: Transit Research and Technology Programs: Application Instructions and Program Management Guidelines http://www.fta.dot.gov/laws/circulars/leg_reg_4121.html through the FTA Transportation Electronic Award Management (TEAM) system website.

FTA will manage the cooperative agreement through the TEAM system. Before FTA may award Federal financial assistance through a Federal grant or cooperative agreement, the entity must submit all certifications and assurances pertaining to itself and its project as required by Federal laws and regulations. FTA has consolidated the various certifications and assurances that may be required of its awardees and the projects into a single document published in the Federal Register. Fiscal year 2008 Annual List of Certifications and Assurances for FTA Grants and Cooperative Agreements and guidelines was published in the Federal Register and posted on the FTA Web site at: http://www.fta.dot.gov/funding/apply/grants_financing_7411.html .

Recipients will be required to manage their projects in accordance with FTA Circular 6100.1C: Transit Research and Technology Programs: Application Instructions and Program Management Guidelines: http://www.fta.dot.gov/laws/circulars/leg_reg_4121 . This includes requirements for project management and administration, including quarterly reporting, financial management, and payments.