

APPENDIX E

**LOCAL INITIATIVES SUBMITTED BY THE HOUSTON-
GALVESTON AREA COUNCIL: EXISTING AND FUTURE
HOUSTON-GALVESTON-BRAZORIA MOBILE EMISSION
REDUCTION MEASURES**

Houston-Galveston-Brazoria Moderate Area Attainment
Demonstration State Implementation Plan Revision for the
2015 Eight-Hour Ozone National Ambient Air Quality Standard

Project Number 2022-022-SIP-NR

Local Initiatives Submitted by the Houston-Galveston Area Council: Existing and Future Houston-Galveston-Brazoria Mobile Emission Reduction Measures

The Houston-Galveston Area Council (H-GAC) has a number of locally implemented strategies in the Houston-Galveston-Brazoria (HGB) nonattainment area including projects, programs, partnerships, and policies. These programs are expected to be ongoing or newly implemented in the six-county nonattainment area by 2024. Due to the continued progress of these measures, additional air quality benefits will be gained and will further reduce precursors to ground-level ozone formation. The following is a summary of each strategy.

Commute Alternatives

To reduce traffic and improve air quality in the Houston-Galveston area, H-GAC continually promotes travel alternatives through the Commute Solutions program. Alternatives to driving alone such as carpooling, vanpooling, transit, walking, biking, teleworking, and working a compressed workweek not only improves the air, but also makes the area more livable, accessible, and economically competitive. H-GAC developed partnerships with businesses, local governments, and organizations to bring these strategies to the area.

- *Commuter Outreach* - H-GAC's Commute Solutions program efforts continue to work throughout the six-county nonattainment area to encourage commuters to rethink the way they get to work. By actively opting for a smarter commute, commuters can reduce stress and save money, as well as help to ease traffic congestion and improve air quality for the entire area. To fulfill this work, H-GAC's Commute Solutions program holds public events including the promotion of public transit, carpooling, vanpooling, teleworking, and biking/walking. Staff also distributes materials to promote usage of cleaner engines and no-idling policies during these events.
- *Active Transportation* - Walking and bicycling can make communities healthier and more livable by reducing air pollution from cars. Neighborhoods that are less dependent on motor vehicles make our streets safer for those who walk or bicycle. Safer, more walkable and bikeable streets also encourage people to walk and bicycle more often, which leads to health benefits for those individuals. Short-distance automobile trips are especially high in pollutant emissions. Travelers can shift to bicycling and walking as alternatives to driving for short trips and for first-mile and last-mile connections to transit. Replacing short-distance motor vehicle trips with walking or bicycling can help the area attain its clean air goals. When drivers opt for an active transportation mode, instead, the automobile emissions that would otherwise be released are removed from the area completely.

Additionally, H-GAC supports an increase in active transportation modes by working with local communities to become more livable through planning programs and funding. The Special District and Livable Centers Studies identify local infrastructure projects, programs, and policies that reduce vehicle miles traveled (VMT) by improving walkway and bikeway networks, connecting community destinations, and creating more dense communities with a higher quality of life.

- *METRO STAR Vanpool* - The METRO STAR Vanpool Program provides an additional ridesharing service for commuters within the region. METRO's affordable vanpool service connects a group of five to fifteen commuters who live and work near each other for an average cost of \$4 to \$6 a day.
- *Commuter and Transit Services Pilot Program* - The Commuter and Transit Services Pilot Program supports the development of new commuter transit services. This program provides operating expense grants to transit agencies, local governments, transportation management organizations, and other public transportation service providers within the area. The program focuses on funding new and innovative services that can help increase new transit ridership. When choosing projects to be funded under the program, H-GAC emphasizes project sustainability with the understanding that a permanent project results in an ongoing reduction in VMT and ongoing air quality improvements.

This program has provided pilot project funding since 1998. Most successful projects have been commuter bus projects where the amount of ridership and revenue forms an effective economic transit model that can reduce emissions of nitrogen oxides.

- *Houston-Galveston Clean Cities Coalition* - In addition to helping fund the transition to cleaner engines, H-GAC also works to assist fleets throughout the area better understand the benefits of alternative fuels through the Houston-Galveston Clean Cities Coalition (HGCCC). This coalition works with the United States Department of Energy (DOE) to help local businesses and governments learn more about these relatively new fuels and technologies. This coalition provides educational outreach to fleet professionals through networking and educational events and help local businesses locate and secure funding for projects and vehicles. Each year, the HGCCC also works to develop and hold public events that bring together alternative fuel users and professions from the area to share knowledge and learn more about available opportunities.

Regional Vehicle Replacement Programs and Demonstrations

H-GAC has several voluntary programs aimed at reducing emissions from heavy-duty mobile sources by replacing them with newer, cleaner models. These programs improve the area's air quality while helping local governments, businesses, and school districts save money through improved fuel economy and lower maintenance costs.

- *Clean Vehicles* - The Clean Vehicles Program provides grant assistance to local governments, school districts, and businesses that operate in the area to retrofit and replace high-emitting heavy-duty diesel vehicles or engines. The program is supported mainly through Congestion Mitigation and Air Quality (CMAQ) funds and Supplemental Environmental Project funds with additional grants from the U.S. Environmental Protection Agency (EPA), the DOE, and the Texas Commission on Environmental Quality. These grants are also available for alternative fuel vehicle projects and alternative fuel refueling stations. Grant amounts are based on expected emission reductions resulting from the reported past and expected future mileage and fuel use of the participant.
- *Clean School Bus* - The Clean School Bus Program provides grants to school districts to replace old buses with new, lower emission buses. These new buses improve the air quality both inside and outside school buses and help protect the health of children and their communities. Grant amounts are based on the emission reductions due to the new vehicle as well as a needs assessment. The Area Emission Reduction Credit Organization serves as the advisory board and funding source for the Clean School Bus Program within the Houston area.
- *Advanced Technology Demonstration and Deployment* - In addition to the work that H-GAC has done to accelerate the retirement of older vehicles, the agency has also worked with various funding agencies to deploy newer advanced technologies in operational fleets within the area. This effort has led to the deployment of 18 all-electric delivery vehicles operating out of multiple UPS facilities within the area through a now completed grant from the DOE. As part of this effort, H-GAC also has a continued working relationship with the EPA Diesel Emission Reduction Act grant to deploy all-electric yard management equipment within freight operations at regional facilities. It is anticipated that H-GAC will continue to pursue such projects to help accelerate the introduction and expansion of advanced reduced and zero emission technologies throughout the area.

Tow and Go

The Gulf Coast Regional Tow and Go Program provides motorists with no-cost towing when their vehicle breaks down from mechanical failure (e.g., out of gas, overheating, flat tire) while on freeways within the City of Houston. In addition to keeping traffic

moving, the Tow and Go program reduces the chance of dangerous secondary incidents, saving lives. This program assists with reducing congestion and improving regional air quality in the following ways:

- Stalled vehicles on Houston’s freeways will be towed to a nearby safe location off the freeway at no cost to the motorist.
- If the vehicle has a flat tire as well as a good spare and a jack, the wrecker driver will change the flat at no cost.
- Drivers that wish to be towed to have their vehicle towed to another location, the driver can opt to have the car towed to that location at a standard city-wide rate.
- Should the driver have no immediate service options, the vehicle can be towed to and stored at a nearby storage lot for no cost for up to 48 hours.

When the Tow and Go program began “No Cost” towing in 2018, the project was limited to the unincorporated portions of Harris County within the HGB nonattainment area. Since that time, the project has expanded to include all of Harris County as well as several surrounding counties within the nonattainment area.

Regional Safety Program

The Transportation Safety Program of the Houston-Galveston Metropolitan Planning Organization (MPO) is a multi-faceted effort to address the area’s many traffic safety challenges. The program projects address both policy and operations.

Two recent developments will further enhance the ability of the program to improve traffic safety in the area. First, the MPO adopted a regional safety plan. The plan is the first of its kind for the area. The regional safety plan is a framework for addressing the area’s most pressing traffic safety issues in a coordinated and comprehensive manner. Second, the MPO has implemented an incident management service. The Tow and Go service removes qualified vehicles from the roadway to reduce congestion and the likelihood of secondary traffic crashes.

In addition, the MPO has reconstituted its former Regional Safety Council into the new Transportation Safety Committee. This committee includes professionals from various aspects of transportation safety and will spearhead the development of the implementation action plans for the focus areas of the regional safety plan. Moreover, this committee will advise on all aspects of traffic safety and assess the progress and effectiveness of our current and future traffic safety projects and programs.

These efforts will allow the MPO to increase its impact on regional traffic safety and reduce needless fatalities and injuries on our roadways.

Livable Centers

Livable Centers are places where people can live, work, and play with less reliance on their cars. These Livable Centers, with concentrations of residential and employment,

support more trips by foot, bicycle, transit, or carpool. H-GAC's Livable Centers program works with local communities to conduct planning studies that identify specific recommendations, such as pedestrian and bicycle facilities that can help spark the creation of Livable Centers. Each study includes an additional focus on how to move these recommendations forward to implementation to realize this vision.

Livable Centers Implementation can take many forms, including on the ground projects built by public or private entities, as well as policy changes or additional planning work. Implementation is an integral component of a successful Livable Centers program and helps move the studies from vision to reality.

Regional Congestion Mitigation Projects

In addition to the work that H-GAC does to improve air quality through the implementation of specific emissions reduction projects as described in prior sections of this document, the agency is also responsible for distributing funding related to the Federal Highway Administration's CMAQ program. Some of the projects already described in this document (specifically those relating to commute alternatives) were also funded using CMAQ as a source, however the vast majority of this type of funding made available to the HGB area is used to support projects originating from local partners and stakeholders.

Types of projects funded as part of this effort include various projects that work to decrease idling time of regional drivers and increase average roadway speed within the area. An example of this type of project involves the construction of grade separations at either railroad tracks or at busy crossroads. Bypassing a busy street crossing reduces the idling time for on-road vehicles and increases the efficiency of traffic flow in order to improve travel time and minimize delay to reduce on-road vehicle fuel consumption and emissions. Similarly, improvements to intersections including left and/or right turn lanes to decrease the amount of time automobiles are left idling at intersections and providing similar benefits as grade separations. Traffic signal improvements such as signal retiming and signal coordination can extend these benefits even further.

Additionally, the implementation of Intelligent Transportation Systems (ITS) improves traffic speeds and reduces idling time through advanced traffic control systems and more efficient incident and corridor management. ITS also combines the strengths of regional transportation planning models and traffic simulation models with overall transportation management strategies. Examples of ITS projects include transportation management centers, dynamic message signs, vehicle detectors, integration of systems, and closed-circuit television cameras, thereby enhancing the overall efficiency of the entire transportation system. In addition, benefits include fuel savings and air pollution reduction, safer streets and highways, and reductions in maintenance costs. Finally, high occupancy vehicle (HOV) and high occupancy toll (HOT) projects promote the use of managed lanes through carpooling or the levying of tolls and, thereby,

removing single vehicles and the associated emissions released from the main traffic lanes into higher speed managed lanes.

Overall, these improvements result in a more consistent travel speed and reduced delay on regional roadways, which decreases vehicular emissions due to minimizing frequent starts, stops, and unnecessary idling. Since these projects are included in the HGB regional travel model, benefits from these projects have already been accounted for in the on-road mobile source emission inventories.