



DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

[Docket Number: FTA-2016-0044]

Notice of Availability of Programmatic Assessment of Greenhouse Gas Emissions from Transit Projects

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice of availability.

SUMMARY: The Federal Transit Administration (FTA) announces the availability of a final Programmatic Assessment of Greenhouse Gas Emissions from Transit Projects (Programmatic Assessment) and an accompanying Greenhouse Gas Emissions (GHG) Estimator Tool (Estimator Tool). On November 22, 2016, FTA announced in the Federal Register the availability of the draft Programmatic Assessment and Estimator Tool and requested public comment. FTA received five comment letters and presents its responses to those comments in this notice.

DATES: This final Programmatic Assessment and Estimator Tool are effective immediately.

ADDRESSES: The final Programmatic Assessment and Estimator Tool will be made available in the U.S. Government's electronic docket site at <http://www.regulations.gov> under docket number FTA-2016-0044 and on the FTA website at <http://www.fta.dot.gov>.

FOR FURTHER INFORMATION CONTACT: Maya Sarna, Office of Environmental Programs, (202) 366-5811, or Christopher Van Wyk, Office of Environmental Programs, (202) 366-1733; Helen Serassio, Office of Chief Counsel, (202) 366-1974. FTA is located at 1200 New Jersey Avenue, S.E., Washington, DC

20590. Office hours are from 9:00 a.m. to 5:00 p.m. ET, Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Background

In August 2016, the Council on Environmental Quality (CEQ) released its Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act (NEPA) Reviews. The guidance provides a framework for agencies to consider the effects of a proposed action on climate change, as indicated by its estimated greenhouse gas (GHG) emissions. The CEQ guidance notes that an agency may decide, rather than analyze GHG emissions project-by-project, that it would be useful and efficient to provide an aggregate analysis of GHG emissions or climate change effects through programmatic analysis and then incorporate that analysis by reference into future NEPA reviews. FTA currently considers it practicable to assess the effects of GHG emissions and climate change for a variety of transit projects at a programmatic level.

The purpose of the Programmatic Assessment of Greenhouse Gas Emissions from Transit Projects is to: (1) report on whether certain types of proposed transit projects merit detailed analysis of their GHG emissions at the project-level for purposes of NEPA; and (2) provide a source of data and analysis for FTA and its grantees to reference in future NEPA documents for projects where detailed, project-level GHG analysis would provide only limited information beyond what is collected and considered in the assessment. The Programmatic Assessment presents results from an analysis to estimate direct and indirect GHG emissions generated from the construction, operations, and

maintenance phases of projects across select transit modes. The findings provide a reference for FTA and its grantees to use in future NEPA documents to describe the potential effects of proposed transit investments on partial lifecycle GHG emissions. This assessment's results can inform transit project sponsors who are considering the implications of GHG emissions of future transit investments or who might independently want to evaluate the GHG emissions benefits and cost of such investments. As part of the Programmatic Assessment, FTA developed the Estimator Tool. The Estimator Tool is a spreadsheet-based tool that allows users to calculate partial lifecycle GHG emissions estimates by transit mode for the construction, maintenance, and operations phases of transit project development, as well as an estimate of personal vehicle emissions displaced due to transit's "ridership effect."

Comments Received

On November 22, 2016, FTA announced in the Federal Register the availability of the draft Programmatic Assessment and requested comment on it. As of the date of issuance of this notice of availability, FTA considered all comments received in the docket. FTA received comments from one trade association, three transit agencies, and one member of the public. FTA organized these comments by topic. This notice discusses the comments FTA received, provides FTA's responses to those comments, and identifies resulting changes FTA made to the final Programmatic Assessment and Estimator Tool.

One commenter requested clarification on three points: (1) showing the calculation for deriving the GHG emissions value; (2) provide displaced auto vehicle miles traveled (VMT) data values, including fuel efficiencies and emissions factors used;

and (3) discussion of displaced VMT in methodology, including whether annual displaced VMT for buses were included in the assessment.

FTA responds to the points as follows. First, the calculation for the GHG emissions output values are included in the Estimator Tool matrix (Excel spreadsheet that is an accompanying tool to the Programmatic Assessment). The calculation is:

$(\text{construction sources} * \text{emission factor}) + (\text{maintenance sources} * \text{emission factor}) + (\text{operations sources} * \text{emission factor}) - (\text{displaced VMT sources} * \text{emission factor})$.

Second, Table 2-3 includes values for gasoline-fueled sedans. It is the first entry in the sedan/auto cell on Table 2-3, and is combined with Ethanol. The upstream emissions for gasoline-fueled sedans are 0.0001 MTCO₂eq per mile and the downstream emissions are 0.0003 MTCO₂eq per mile. This emission source was derived from the “Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model” by Argonne National Laboratory (GREET), as described on page 12 of the final Programmatic Study.

Third, annual displaced VMT for both bus and rail transit (the change in annual transit VMT between the build and the no-build scenario) are included in the calculation of the project’s total annual GHG emissions. The calculation of a project’s total annual displaced GHG emissions includes both personal vehicle-displaced VMT and annual transit-displaced VMT. The text of the final Programmatic Assessment will be updated to describe how annual displaced-transit VMT is included in the methodology and how it was used in the scenario testing, as noted by the commenter.

One trade association provided the following comments on the draft Programmatic Assessment, with support mentioned by a number of transit agencies: (1) materials for construction should not be included as part of the construction-related

emissions factors; (2) litigation issues may arise due to data quality/limitations of construction-related emissions factors; (3) the impact of transit-oriented development and the land use effect in displacing GHG emissions was not included in the draft Programmatic Assessment; (4) incorporating and clarifying the methodology for calculating displaced VMT; (5) exemptions for light rail, streetcar, and BRT projects from completing GHG assessments should be provided.

On the first general point, the Council of Environmental Quality's guidance recommends that agencies quantify a proposed action's projected direct and indirect GHG emissions, taking into account available data and GHG quantification tools that are suitable for and commensurate with the proposed agency action. For the purpose of FTA's Programmatic Assessment, upstream emissions from the construction of public transportation facilities and infrastructure are considered indirect GHG emissions of a proposed project. The methodology used in the Programmatic Assessment is optional and may be edited to suit the requirements of a specific project, especially in scenarios where transit agencies are able to better quantify upstream emissions due to better available material sourcing procurement processes. The Federal Highway Administration's Infrastructure Carbon Estimator (ICE) provides readily available data to estimate the construction-related upstream emissions. The ICE tool provides estimates for the upstream emissions associated with constructing public transportation facilities, including the emissions associated with the extraction, transport, and production of the materials. Transit agencies are encouraged to consider opportunities within their procurement activities to mitigate a project's GHG emissions. As requested specifically by the commenter, FTA recognizes that emissions due to upstream materials acquisition

activities are in fact the responsibility of the suppliers and manufacturers of these products. But as this commenter notes, there may be ways of procuring materials that can help to mitigate the GHG emissions associated with those materials, and FTA will consider ways of doing so, providing guidance as appropriate.

On the second general point, the programmatic assessment methodology relies on the best available data and tools to estimate the GHG emissions associated with transit projects. Where available, the Programmatic Assessment uses conservative emission estimates for construction-related activities that involved direct and indirect emissions – electricity use and sources of construction materials. For example, the Estimator Tool’s underground track construction emissions factor corresponding to ICE’s most conservative emissions estimate. The emissions factors associated with in the Estimator Tool for electrically powered vehicles use the “U.S. Mix” region from the Environmental Protection Agency’s (EPA’s) eGRID2012, which represents an average value for the country. EPA’s eGRID also provides GHG emission data at the sub-region level, which reflect more region-specific electricity generation. The Programmatic Assessment (Appendix B) and the associated Estimator Tool include the eGRID sub-region electricity emission factors, which reflect more region-specific electricity generation. While FTA understands the issue related to litigation due to data quality issues, the Programmatic Assessment is a capture in time of the best available data. FTA’s Programmatic Assessment also establishes the methodology used to derive GHG emissions factors that may be replicated by transit agencies using locally available data sets in the Estimator Tool. Lastly, FTA would note that the GHG emissions provide a conservative understanding of transit’s contribution to GHG emissions in order to provide disclosure

for purposes of NEPA compliance. The use of the Programmatic Assessment is entirely optional, but FTA believes it would reduce litigation risk by taking a “hard look” at GHG emissions due to transit projects, even if that assessment is more conservative than actual emissions on certain projects.

On the third general point, the Programmatic Assessment acknowledges that, in addition to displacing automobile VMT, transit can help reduce congestion and spur more compact, transit-oriented development, thus reducing GHG emissions that may have otherwise occurred. The longer timeframe associated with realizing the GHG emission reduction benefits from denser development was not the primary reason why a land use component was not included in the methodology. A land use component was not included because the available tools (i.e., the Land Use Benefit Calculator associated with TCRP Report 176) could not be applied at a programmatic scale due to its location-specific nature. Transit agencies that wish to include the GHG emission benefits associated with the land use effect of transit may do so in NEPA documents. For example, agencies could use the results generated by the Land Use Benefit Calculator and add it to the results generated using the Estimator Tool. FTA notes that including a land use component, if possible for a national Programmatic Assessment, would in most cases reduce the predicted GHG emissions that can be attributed to transit projects.

On the fourth general point, FTA notes that the Programmatic Assessment does not specify the methodology that a transit agency should use to generate travel forecasts. The sample of transit projects analyzed in the Programmatic Assessment included 36 transit projects that applied for funding through the 49 U.S.C. 5309 Capital Investment Grants (CIG) Program. As part of the CIG program, each project developed and

submitted travel forecast information, including displaced VMT, using one of the following approaches: region-wide travel models; incremental data-driven methods; or FTA's Simplified Trips-on-Project Software (STOPS). FTA's Programmatic Assessment cannot include revised methodology incorporating the Land Use Benefit Calculator or STOPS because neither can be developed on a programmatic scale. Transit agencies that choose to calculate GHG emissions for a project can choose the method for calculating VMT.

On the fifth general point, FTA developed the Programmatic Assessment to provide transit agencies with a useful source of methodology, data, and analysis to reference in future environmental review documents to meet NEPA requirements. FTA recommends that NEPA reviews for individual BRT and streetcar projects incorporate this Programmatic Assessment by reference, with no additional need for project-specific analysis for purposes of NEPA. FTA also recommends that light rail projects with a high proportion of displaced VMT to annual transit VMT, regardless of length, alignment, and number of stations, incorporate this Programmatic Assessment by reference, with no additional need for project-specific analysis for purposes of NEPA. In cases where a light rail project is expected to have a lower ratio of displaced VMT to annual transit VMT, however, conducting a project-specific analysis using the Estimator Tool or another locally recommended approach is likely appropriate for purposes of NEPA compliance. FTA will continue to evaluate the Programmatic Assessment and Estimator Tool to make improvements that will provide better estimates of GHG emissions for transit projects. FTA is making available the final Programmatic Assessment at this time, however, so that it is available for incorporation by reference in NEPA documents going forward

while FTA continues to make improvements. FTA is also making available its Estimator Tool for transit agencies that wish to have a more tailored estimate of emissions or for which a project differs substantially from those used to create the Programmatic Assessment.

Authority: 42 U.S.C. 4321, et seq.; 40 CFR 1507.3; 49 CFR 1.81(a)(5).

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