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January 6, 2017

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U.S. Department of Transportation  
Docket Operations  
M-30, West Building Ground Floor, Room W12-140  
1200 New Jersey Avenue S.E.  
Washington, DC 20590

**RE: FTA-2016-0044**

Dear Docket Clerk:

On behalf of the more than 1,500 member organizations of the American Public Transportation Association (APTA), I write to provide comments on the Federal Transit Administration (FTA) Notice of Availability of Programmatic Assessment of Greenhouse Gas Emissions From Transit Projects, published on November 22, 2016 at 81 FR 83928.

**About APTA**

APTA is a non-profit international trade association of more than 1,500 public and private member organizations, including public transit systems; high-speed intercity passenger rail agencies; planning, design, construction and finance firms; product and service providers; academic institutions; and state associations and departments of transportation.

**General Comments**

We appreciate FTA's work to develop a methodology to accurately quantify the greenhouse gas ("GHG") emissions from public transportation in its full context, and in referencing our standards and research on the subject, to assist in streamlining the environmental review process and promote low-emission projects. In our assessment, however, the proposed methodology overemphasizes upstream construction GHG emissions while neglecting downstream displacements resulting from land use improvements. Additionally, the methodology's application features inconsistencies and data accuracy issues that we think require rectification. As it stands, this methodology would ultimately discount transit's role in contributing to local, regional, and state GHG reduction initiatives and not recognize the land use benefits that transit ultimately provides.

We highlight the following five points:

1. Materials should not be part of construction-related emissions factors
2. Litigation issues may arise due to data quality/limitations of construction-related emissions factors
3. Better recognize transit-oriented development and the land use effect in displacing greenhouse gas emissions
4. Incorporate and clarify the methodology for calculating displaced vehicle miles traveled
5. Grant exemption for light rail, streetcar, and BRT projects from completing GHG assessments

### **Materials should not be part of construction-related emissions factors**

We appreciate the need to account for upstream emissions resulting from the construction of public transportation facilities and infrastructure. However, draft FTA Report No. 0097 does not discuss the nuance associated with identifying an appropriate Scope 3 boundary for construction-related emissions factors. As stated there:

*In the construction phase of a transit project, upstream emissions are the emissions associated with the extraction, transport, and production of the materials used in the construction of the facilities (e.g., asphalt, concrete, base stone, and steel)... [Federal Highway Administration's Infrastructure Carbon Estimator] lifecycle emissions include those resulting from the operation of construction vehicle and equipment and the embodied energy and emissions associated with the extraction, transport, and production of the materials (i.e., asphalt, concrete, base stone, and steel) used in the construction of the transportation facilities. (page 11)*

Emissions resulting from the extraction, transport, and production of the materials used in the construction of the facilities are ultimately the direct emissions of suppliers and manufacturers, and are emission factors beyond the control of a transit agency. APTA supports best practices in environmentally-preferable purchasing as part of an agency's procurement decision-making process. However, transit agencies cannot directly mitigate the emissions resulting from the upstream decisions of other entities. As a result, we ask that FTA exclude emissions resulting from these sources in the final analysis.

In the alternative, we ask FTA to propose recommendations to transit agencies on how they can better procure materials in quantities significant enough to further mitigate an agency's GHG emissions that reflects the current state of practice in procurement policy (i.e. Buy America requirements, competitive contracting, etc.). Additionally, if FTA chooses to not do this, we ask FTA to make clear that these emissions are ultimately the direct responsibility of the suppliers and manufacturers of these products.

### **Litigation issues may arise due to data quality/limitations of construction-related emissions factors**

APTA is concerned that the assessment does not account for how materials manufactured in different regions have different emission factors, and that emission factors cited for construction-related materials that we think are inaccurate. These issues give us concern that third parties would use these potential inconsistencies to initiate litigation against transit agencies.

Geographical variances of emission factors are not directly discussed in the assessment report, but intimated with various references to EPA's eGRID on the impact of electricity sources on transit agency operations:

*In the United States, electricity is generated using a variety of energy resources, including coal, natural gas, nuclear power, and renewable energy. The GHGs emitted by electricity use depend on the fuel source used to generate it (i.e., the electricity mix). The estimated net GHG difference between a transit project powered by cleaner energy sources and the same project powered by electricity with a less renewable environmental profile is substantial. (page 27)*

For example, a good manufactured in Nebraska will have a different emission factor than the same good manufactured in Kansas (per eGRID), even though the states border one another. Similarly, copper has differing emission factors based upon site of production. Research cited by FTA<sup>1</sup> that derives emission factors for copper<sup>2</sup> does not take this into account. The copper emission factors developed by EPA in 2005 are now over 11 years old. Since then, grid efficiencies have increased dramatically and caused these emission factors to no longer reflect current conditions. Additionally, the Hanson et al. study does not specify the type of copper used per the EPA factors (i.e. source reduction versus recycled), resulting in vagueness about how the authors reached their conclusions. As a result, cited copper emission factors are not appropriate for use in this methodology.

We are concerned about liabilities that could arise if transit agencies refer to sample transit projects that are located in a region different from their own or use inaccurate emission factors, potentially embroiling agencies in litigation that this programmatic assessment is designed to avoid. As a result, we ask FTA to more explicitly state the caveats of this methodology and its sample transit projects with regard to regional-specific emission factors, and to update its emission factors using more accurate data from [the Federal Lifecycle Assessment Commons](#).

### **Better recognize transit-oriented development and the land use effect in displacing greenhouse gas emissions**

We appreciate FTA's recognition of displaced emissions resulting from transit. For programmatic purposes, we appreciate FTA's desire to make this as accessible as possible for transit agencies with limited resources to conduct a full GHG emission analysis (thus streamlining the process), as stated in the assessment report abstract:

*This programmatic assessment serves to (1) report on whether certain types of proposed transit projects merit detailed analysis of their GHG emissions at the project level and (2) be a source of data and analysis for FTA and its grantees to reference in future environmental documents for projects where detailed, project-level GHG analysis is not vital. (page ix)*

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<sup>1</sup> Christopher S. Hanson, Robert B. Noland, Christopher D. Porter, "Life-cycle GHG Emissions Associated with Construction of Commuter Rail Projects," Presented at TRB Annual Meeting, Washington, DC, January 2014, <http://docs.trb.org/prp/14-0350.pdf> (accessed December 29, 2016).

<sup>2</sup> US Environmental Protection Agency, "Streamlined Life-Cycle Greenhouse Gas Emission Factors for Copper Wire," June 2005, <https://www3.epa.gov/warm/pdfs/Copperreport6-2.pdf> (accessed December 29, 2016).

However, we strongly disagree with FTA's decision to not incorporate the land use effect through more compact, transit-oriented development on this basis, as stated in footnote 25 of the assessment report:

*Regarding the land use effect, TCRP Report 176 offers a calculator for estimating the associated GHG emissions reductions. The calculator could not be applied at a programmatic scale due to its location-specific nature. (page 17)*

In many cases, the land use benefits of public transportation are well recognized and offer the greatest GHG emission reduction opportunities. We think that not incorporating the land use component as an optional methodology at the project level and part of the estimator ultimately discounts transit's contribution to local, regional, and statewide GHG reduction strategies. The resulting methodology does not fully assess lifecycle emissions, emphasizing upstream emissions that are out of an agency's control too strongly and discounting the role that infrastructure (which is under a transit agency's direct control) has in displacing GHG emissions.

We find it contradictory that the methodology recommends amortizing construction emissions over a 50-year period since it is the minimum useful lifespan of facilities (see page 19 quote below), while it does not recommend a land use component since benefits begin occurring "over a decade or longer timeframe given the relatively slow pace of land development" (page 17):

*The project team amortized construction emissions over a 50-year period, which corresponds to the **minimum** useful lifespan of facilities. (page 19, bold emphasis added)*

FTA assumes that the facility will exist for at least 50 years, yet it contradicts itself by recommending transit agencies to ignore the land use effects and changes that will occur after the first 10 years' elapse and the facility continues to operate for at least 40 additional years. As a result, the methodology is placing too strong of an emphasis on the upstream emissions while not similarly crediting the downstream displacements. Additionally, given the capital-intensive nature of major infrastructure programs that require NEPA review, it is highly unlikely that service at these facilities will cease once built. When facilities are upgraded after the 50-year minimum, the land use benefits will still be in place for future generations. This translates into vehicle miles traveled ("VMTs") displacement since more compact station areas provide greater accessibility to housing, jobs, goods, and services via public and active transportation, resulting in fewer trips generated by automobile.

Already, states are reshaping the pattern of regional growth based on the long-term land use benefits promoted by investments in high capacity transit infrastructure. The [State of California's Sustainable Communities and Climate Protection Act of 2008](#) (Senate Bill 375), a bill designed around reducing GHGs through VMT reductions, recognizes the land use benefits of transit in meeting this goal through transit priority projects, which are exempt from California Environmental Quality Act requirements. Investments in high capacity transit service with development focused around transit stations is not only a tenet of this act, but it also provides streamlined environmental regulatory approval

for new developments that are consistent with the act's requirements and located within ½ mile of a major transit stop<sup>3</sup> or high-quality transit corridor<sup>4</sup>.

As a result, we ask FTA to provide an optional methodology for the land use effects, as based upon TCRP Report 176, and incorporate it as part of the estimator. For TCRP Report 176, the data burdens on transit agencies would not be as severe to the extent that FTA is concerned with delaying project delivery. The [Excel-based tool for TCRP Report 176](#) provides transit agencies with the opportunity to develop custom regional bases to help assess the land use benefits of a new transit corridor, and to assess station-area impacts that also uses custom project-specific data. The data, however, are readily available from transit agencies, MPOs, and the Census, and can be easily imputed to generate land use impacts. FTA can still provide sample transit projects for transit agencies to assist in streamlining project review, but for transit agencies looking to use the estimator to calculate these impacts in-house and save on consultant expenses, the land use component must be incorporated in order to fully communicate the full displacement of GHG emissions that transit provides.

### **Incorporate and clarify the methodology for calculating displaced vehicle miles traveled**

Similarly, we appreciate FTA's recognition of displaced VMTs in this assessment as a GHG benefit of expanded transit service. We noticed, however, that the assessment and estimator does not incorporate a methodology for calculating VMTs and the associated displaced GHG emission. Appendix C simply states annual displaced VMT figures without reference to how those numbers were generated, and how transit agencies can generate these figures for themselves. The calculator, likewise, does not provide a method for calculating these VMTs and assumes that the user has these figures available. Transit agencies that do not have this data or neglect to insert it in the calculator end up having their displacements go unrecognized, eliminating the only avenue that transit agencies have to report the GHG benefits of their project.

As a result, we ask FTA to develop a methodology for calculating displaced VMTs, explicitly describe it in the assessment, incorporate it into the calculator. APTA thinks that TCRP Report 176 and [the STOPS tool](#) would serve as suitable tools for FTA to use as methodologies in this case. If such a methodology already exists as part of the assessment, we ask FTA to clarify it in the aforementioned manner.

### **Grant exemption for light rail, streetcar, and BRT projects from completing GHG assessments**

Given the samples from the programmatic assessment demonstrating that the emissions from light rail, streetcar, and BRT projects are consistently low or displace more than emit, we request that these projects undergoing NEPA review are exempt from having to participate in a GHG assessment.

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<sup>3</sup> Per California Public Resources Code Section 21064.3, a major transit stop is "a site containing an existing rail station... or the intersection of two or more major bus routes with a 15 minute headway during peak morning and afternoon commute periods."

<sup>4</sup> Per Senate Bill 375, a high-quality transit corridor is "a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours."

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We appreciate the opportunity to assist FTA in this important endeavor. For additional information, please contact Linda Ford, APTA's chief counsel (effective January 9), at (202) 496-4808 or [lford@apta.com](mailto:lford@apta.com).

Sincerely yours,

A handwritten signature in blue ink, appearing to read "Duff", with a stylized flourish extending to the left.

Daniel Duff  
Chief Counsel

DD/mdt