

**Greenhouse Gas Emission Reduction Fund (GGRF)  
Quantification Methodology Frequently Asked Questions for the  
2015 Transit and Intercity Rail Capital Program (TIRCP)**

**April 10, 2015**

**1. *Can applicants quantify onroad emissions using emission factors generated by EMFAC2014?***

Projects applying to the 2015 TIRCP will utilize EMFAC 2011 values to quantify greenhouse gas (GHG) emission reductions. EMFAC2014 will be considered for use for future rounds of funding.

**2. *Can applicants use a mode shift factor (i.e., “A” adjustment factor to account for transit dependency), consistent with the America Public Transportation Association’s (APTA) Recommended Practice for Quantifying Greenhouse Gas Emissions from Transit? Can applicants use a project specific adjustment factor?***

The TIRCP Quantification Methodology uses a mode shift adjustment factor (defined as “A= adjustment factor to account for transit dependency”) which equals the portion of transit riders who previously did not use transit. ARB has provided default values if project specific values are not available (see Page 4). Applicants can use project specific values if available and must provide supporting documentation. Applicants cannot use default values provided by APTA.

**3. *EMFAC2011 emission factors are only available through 2035. Can my project life extend past 2035? If so, how do I calculate the emission reductions if my project life extends past 2035?***

Yes, the project life may extend past 2035. For clarification, the project life definition in Footnote 7 and in Step 3 should read: “Project Life, or PL, is the useful lifetime of the equipment, defined as 20 years, ~~or 2035, whichever comes first.~~”

If the project life extends past 2035, the applicant must use calendar year 2035 as a proxy for the final project year (YrF) for determining emission factors using EMFAC2011.

4. **What is the unit for Auto Fleet Average Running Factor (AREF) in the TIRCP QM Step 2b on Page 8? In the AREF calculation, should CO2\_STREX (Pavley I+LCFS) in grams/vehicle/day or CO2\_RUNEX (Pavley I+LCFS) in grams/mile be used?**

Applicants should use the EMFAC2011 emission factors for **CO2\_RUNEX (Pavley I+LCFS) in grams/mile** when calculating the Auto Fleet Average Running Factor (AREF).

In Step 2b on page 8 there is a typographical error.

The unit for Auto Fleet Average Running Factor (AREF) is reported in: **grams/vehicle/day**

The unit for Auto Fleet Average Running Factor (AREF) should be reported in: **grams/mile**

5. **The TREF value (19,600 grams CO2/mile) is listed on page 6 of the TIRCP QM. How do I account for CO2 emission reductions when replacing a train with a newer, more fuel-efficient train?**

An emission factor for a new, more fuel-efficient train can be estimated based on fuel savings % using manufacturer data for the new fuel-efficient engines.

(TREF<sub>new</sub>) can be estimated as follows:

$$TREF_{new} = TREF * (1 - Fuel\ Savings\ \%)$$

For example, based on manufacturer's testing the new fuel-efficient engines will result in an overall fuel savings of 8 percent (8% = 0.08).

$$TREF_{new} = 19,600 \frac{grams\ CO_2}{mi} * (1 - 0.08) = 18,032 \frac{grams\ CO_2}{mi}$$

6. **As listed on page 2 of the TIRCP Quantification Methodology, the applicant is required to provide GHG reduction benefits for the TIRCP program as follows:**

$$\frac{Metric\ tons\ (MT)\ of\ CO_2\ over\ the\ project\ life}{GGRF\ Funds\ Requested\ (\$)}$$

**Is it correct that the results can be a small value, in the range of 0.0002 MT CO2 per GGRF Funds Requested (\$)?**

Yes. The reporting metric specified is correct and can result in small values due to the units specified, the estimated reductions, and the funding requested.