Comments revised version ACM0016

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1. **Applicability conditions:** We suggest to remove applicability condition 2: "The segregated BRT bus lanes or the rail-based MRTS replaces existing bus routes (e.g. through scrapping units or through closing or re-scheduling existing bus routes) operating under mixed traffic conditions". We consider this applicability condition as not necessary and as difficult to proof. It is not necessary as the existence of riders on the new system which would formerly have used buses shows that people move from buses which due to market based mechanisms lead to reactions of bus operators to change routes, remove units or change frequencies. The monitoring of the leakage "occupation rate buses" thereafter shows if this market mechanism actually works or not i.e. if this is not the case then the occupation rate of remaining buses will drop and this is monitored by the project. Thus the inclusion of the applicability condition is redundant and in fact controlled and monitored by the project thus making its inclusion not necessary.

2. **Baseline Determination:** From the new version it is not clear how the baseline scenario is determined. It is indicated in chapter I: "The methodology assumes that the most plausible baseline scenario is the continuation of the use of current modes of transport.". This should be repeated in the chapter II baseline to prevent questions of validators.

3. **Additionality Step 2**: The term public transit has to be defined well. According to the section below this does not include taxis or motorized rickshaws, tuck-tucks etc. We recommend to include taxis as well as rickshaws as public transit means, as they are non-private means of transit i.e. non-individual modes of transit. Many cities in developing countries rely much more on such modes of transit than "city buses". Also drawing the line between taxis and buses can be very difficult e.g. in many countries so-called collective taxis are very common (e.g. South Africa, Tunis, Bolivia, Peru just to name a few)

4. **Additionality Step 2**: This should include idem to step 1 the sentence: "Other MRTS CDM project activities (registered project activities and project activities which have been published on the UNFCCC website for global stakeholder consultation as part of the validation process) should not be included in this analysis."

5. **Additionality Step 3**: With this benchmark you will effectively eliminate all future MRTS from the CDM. If this is the intention of the UNFCCC then why not make it transparent and declare it publicly that the UNFCCC does not want any public transport projects. That would be far more honest than putting a benchmark that nobody can fulfil. If the same benchmark would be applied to industrial or energy efficiency projects also none would fulfil. How about asking a grid connected natural gas power plant using AM0029 to cover 60% of their operational cost with CDM??? Relating CDM income to operational costs is not related at all to project additionality. MRTS cover their operational costs basically with ticket revenues. The barrier towards implementing such projects is the risk of running deficits. Nobody

assumes that CDM will cover your operational costs but it can reduce the risk and magnitude of potential deficits. This barrier is core and unique to MRTS. See B. Flyvberg, "Cost Overruns and Demand Shortfalls in Urban Rail and Other Infrastructure", Transportation Planning and Technology, February 2007, Vol. 30, No. 1, pp. 9_30. In the report of Flyvberg looking at 22 urban rail projects actual passenger demand is 51% lower than forecast with European projects having better forecasts than those of other world regions. Only 2 out of 22 projects achieved the forecasted values. 75% of projects had 40% les passengers than forecasted. 25% of projects had at least 68% less passengers than forecasted. Flyvberg states: "In sum, for urban rail projects forecast ridership is routinely far from achieved. Low actual ridership combined with a high standard deviation show that uncertainty and risk are very high for ridership forecasts for urban rail. To the extent that ridership is the basis for revenues, which is almost always the case, then the high risk regarding ridership translates into an equally high economic risk. The figures show this risk should be taken very seriously in urban rail projects and should occupy a central place in preparing, deciding, and operating such projects." and "The analysis of construction costs show that urban rail projects on average turn out substantially more costly than forecast. At the same time the analysis of ridership show urban rail to achieve considerably fewer passengers than forecast and thus lower revenues. Urban rail is therefore economically risky on two fronts, both as regards costs and as regards revenues. Urban rail is doubly risky and the possibilities for financing cost escalations incurred during construction through increased revenues from more passengers during operations will often be limited". The risk of having thus projections which are far off the reality is real and has been experienced by numerous MRTS projects. This risk is the barrier so any additionality benchmark should be related to the actual barrier. The chosen benchmark is not related to this barrier, arbitrary in its magnitude and will make no project eligible. Our suggestion would be to replace the benchmark with the following wording:

3.1. Is this the first MRTS project of this public transport category (see step 2 for public transport categories) in the country put into operations in the last 30 years[1]?

Yes: the project is additional (first of its kind)

No: go to step 3.2.

3.2. The project is additional if the average of all MRTS implemented (commissioning start) in the country in the last 30 years has experienced any of these 3 conditions:

a). 30% or less passengers than expected comparing feasibility report (last approved version prior project construction start) with actual figures

b). 30% or less revenue than expected comparing feasibility report (last approved version prior project construction start) with actual figures

c). 30% or more investment cost overrun comparing feasibility report (last approved version prior project construction start) with actual figures

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[1] Last 30 years as elder systems where made under a different constellation

In no methodology is the CDM revenue the core additionality criteria. There are registered CDM projects which with CER revenues fall below the self-declared benchmark (see e.g project ID 4755 registered 25/07/2011). The argument is in all projects that the project is non viable or has barriers without CDM and then CDM has a contribution towards eliminating this barrier or financial hurdle. This is the same above where the risk is reduced with CDM income. The ex-ante exactitude of any projection in MRTS is extremely difficult as no survey can be made of a non-existing system. Thus using CDM revenue to proof additionality is prone to gaming and is in fact, even using the best of techniques, very, very difficult as you simply do not know precisely the baseline modes that would have been used and the trip distances and the Origin-Destinations in absence of a MRTS line before such a line operates and you can ask the passengers.

6. Additionally we would like to inform you that the "operational costs you list are non – understandable and do not comply in any form with cost lists like used in BRTs or in rail-based system. We asked several MRTS operators and they could not identify what is meant with these parameters.

7. Leakage Induced Traffic/Rebound: "Monitoring is realized in the years 1, 4, 7 and 14." The sentence should be clarified by stating: "Monitoring is realized in the years 1, 4, 7 and 14 of the crediting period".

8. Leakage speed: : "Monitoring is realized in the years 1, 4, 7 and 14." The sentence should be clarified by stating: "Monitoring is realized in the years 1, 4, 7 and 14 of the crediting period".

9. Formulas 20 and 21 are not correct. Corinair expresses these formulas not as Emissions but as Fuel consumption. Both formulas need to be multiplied with NCV and EF_{CO2} of the relevant fuel. Also the formulaes are from the old version of Corinair. As formulaes used by Corinair as well as parameters used change over time I suggest to delete these 2 formulas and put in a reference stating that the last available version of Corinair should be used.

10. Section Data and Parameters not Monitored: We suggest to change the parameter N_i and $N_{x,i}$ to 1 new parameter $N_{x,i}/N_i$ expressed as percentage. The parameter is required as percentage in calculations as it is required to determine the share per fuel type per vehicle category to calculate the EF per vehicle category. In some countries and cities it is difficult to find absolute vehicle numbers while fuel shares per vehicle type can be found more readily or can be determined based on surveys. In the section measurement procedure we suggest to include the option of surveys e.g. based on countings at gas stations to determine the fuel share per vehicle category as many countries and especially LDCs lack this information.

11. Section Data and Parameters not Monitored Parameter AD_T: The measurement procedure has been changed. However the correction is not OK. The simple measurement procedure is to take a random sample reading the odometer. Odometer distance in km /vehicle age in years

gives the annual average distance of this specific taxi. The average of the sample gives the average annual distance driven of all taxis.

12. Section Data and Parameters Monitored Parameters BTD_P, $IPDT_P$, P_{SPER}, FEX_P, are resultants from the survey (see Annex 3). They are calculated per surveyed passenger and then expanded to the total of passengers in the monitored time period: This is in therefore not monitored but calculated per surveyed passenger and then expanded. I would thus not include this as a monitored parameter.

13. Section Data and Parameters Monitored. The parameters DPE and IDPE are calculated and not monitored values and should therefore not be listed.

14. Section Data and Parameters Monitored: whenever the years 1,4,7 and 14 is mentioned it should be clarified that these are years of the crediting period (the project might have started prior crediting period starting date)

15. Section Data and Parameters Monitored. Following parameters should be added:

Data / Parameter:	$EF_{KM,B,CH4}$
Data unit:	gCO_{2eq}/km
Description:	CH_4 emission factor of CNG buses per kilometre in CO_{2eq}
Source of data to be used:	IPCC 2006, table 3.2.4.
Description of measurement methods and procedures to be applied:	IPCC value Monitoring frequency: annual
QA/QC procedures to be applied:	Any future revision of the IPCC Guidelines is taken into account.
Any comment:	The methodology requires that CH_4 emissions of vehicles using gaseous fuels are included. Value of 7,715 mg CH_4 of IPCC is multiplied with the GWP of 21 for CH_4 to calculate CO_{2eq}

Data / Parameter:	$EF_{KM,C/T/TR,CH4}$

Data unit:	gCO_{2eq}/km
Description:	CH_4 emission factor of CNG cars. Taxis and motorized auto-rickshaws per kilometre in CO_{2eq}
Source of data to be used:	IPCC 2006, table 3.2.4. (average of upper and lower boundary)
Description of measurement methods and procedures to be applied:	IPCC value as no national measurements exist Monitoring frequency: annual
QA/QC procedures to be applied:	Any future revision of the IPCC Guidelines is taken into account.
Any comment:	The methodology requires that CH_4 emissions of vehicles using gaseous fuels are included. Average of 725 mg and 215 mg CH_4 of IPCC is multiplied with the GWP of 21 for CH_4 to calculate CO_{2eq}

Data / Parameter:	EC_{PJ}
Data unit:	MWh
Description:	Electricity consumed by project system for traction
Source of data to be used:	Project owner
Description of measurement methods and procedures to be applied:	Traction energy only Monitoring frequency: Continuously, aggregated at least annually
QA/QC procedures to be applied:	Control with electricity invoices.
Any comment:	Used to calculate together with the emission factor grid the DPE as per the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption".

Also the EF_{Grid} and TDL are not listed but I assume that this is true to the fact that they are listed in the electricity tool