



ELIPTIC User Forum Meeting

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Cost Benefit Analysis for some of ELIPTIC Use Cases



- A CBA to assess the cost-effectiveness of the ELIPTIC measures with a special emphasis on univocally identifying the lists of alternatives (given the difference among the EUCs);
- a cross-case analysis aimed at defining the factors of success/ failure (drivers or barriers) to transfer there ELIPTIC results elsewhere according to the reference/during variations detected.”

General Approach of the model supporting CBA



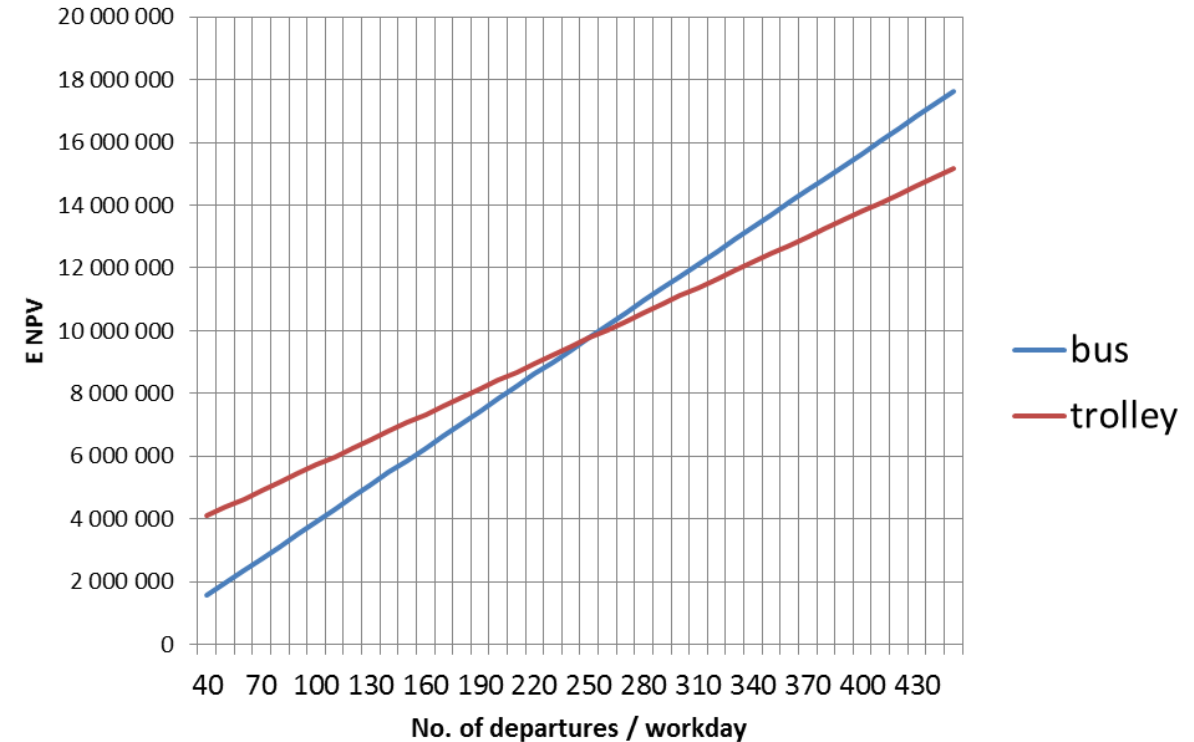
The evaluation will base on a typical Cost-Benefit-Analysis generic models, aiming to compare different conventional and innovative technologies, such as:

- diesel,
- ~~hybrid,~~
- electrobus,
- trolleybus.

with respect to local circumstances:

- cost level and structure,
- network specifics & inherited infrastructure,
- noise appraisal,
- energy-mix.

The model is inspired by a CBA elaborated within TROLLEY project, but deeply improved, refined and expanded.

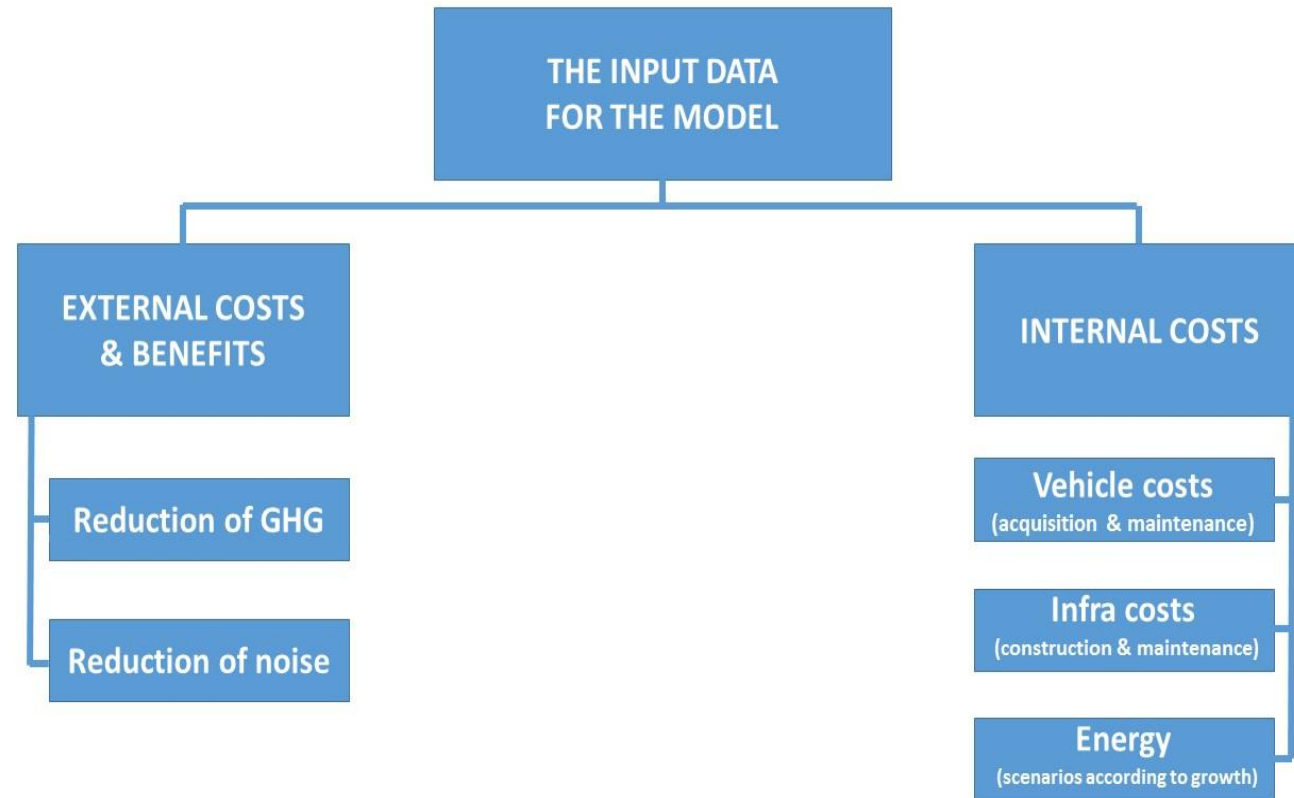


Exemplary result of calculation for TROLLEY project

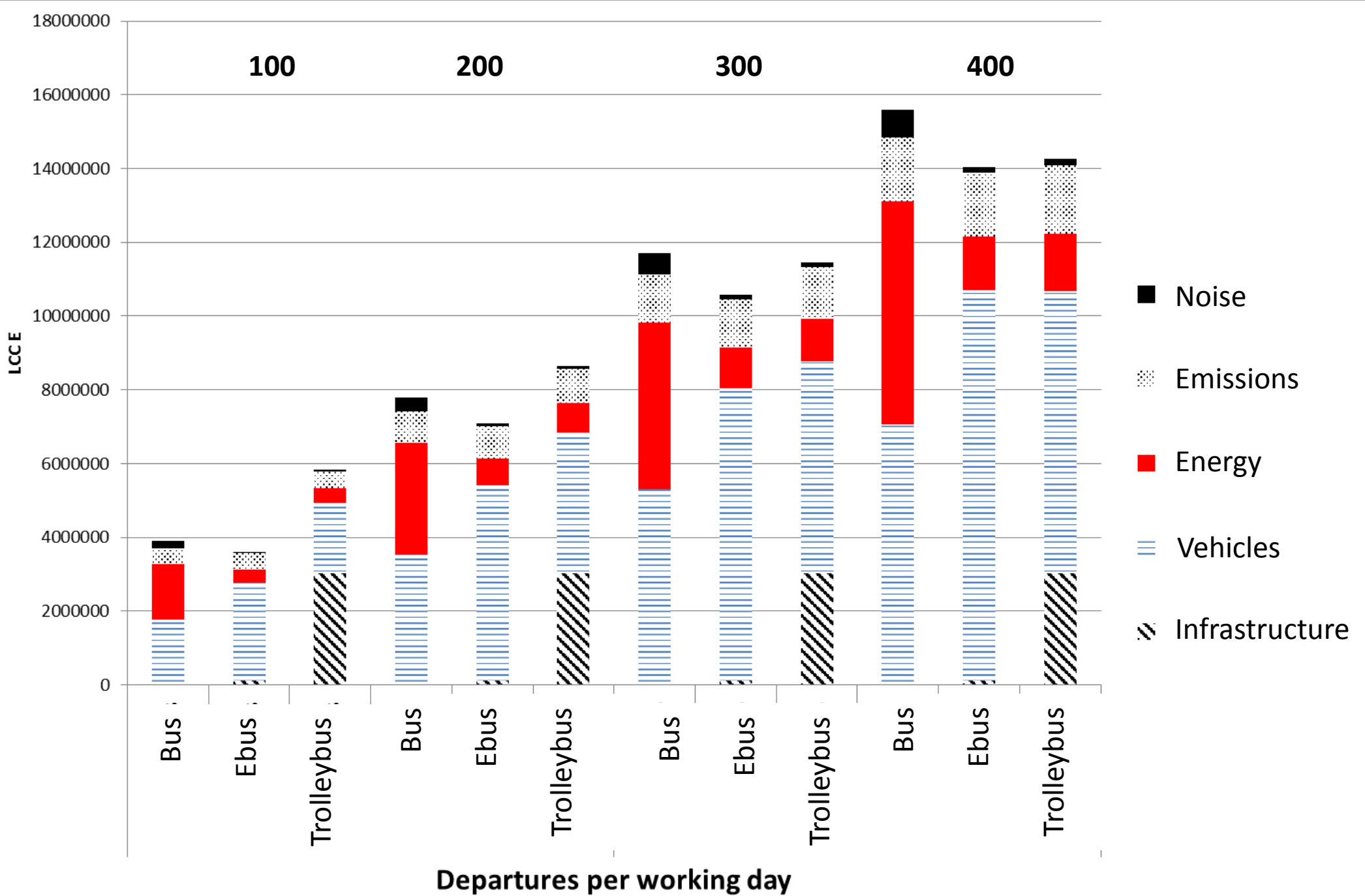
The model structure

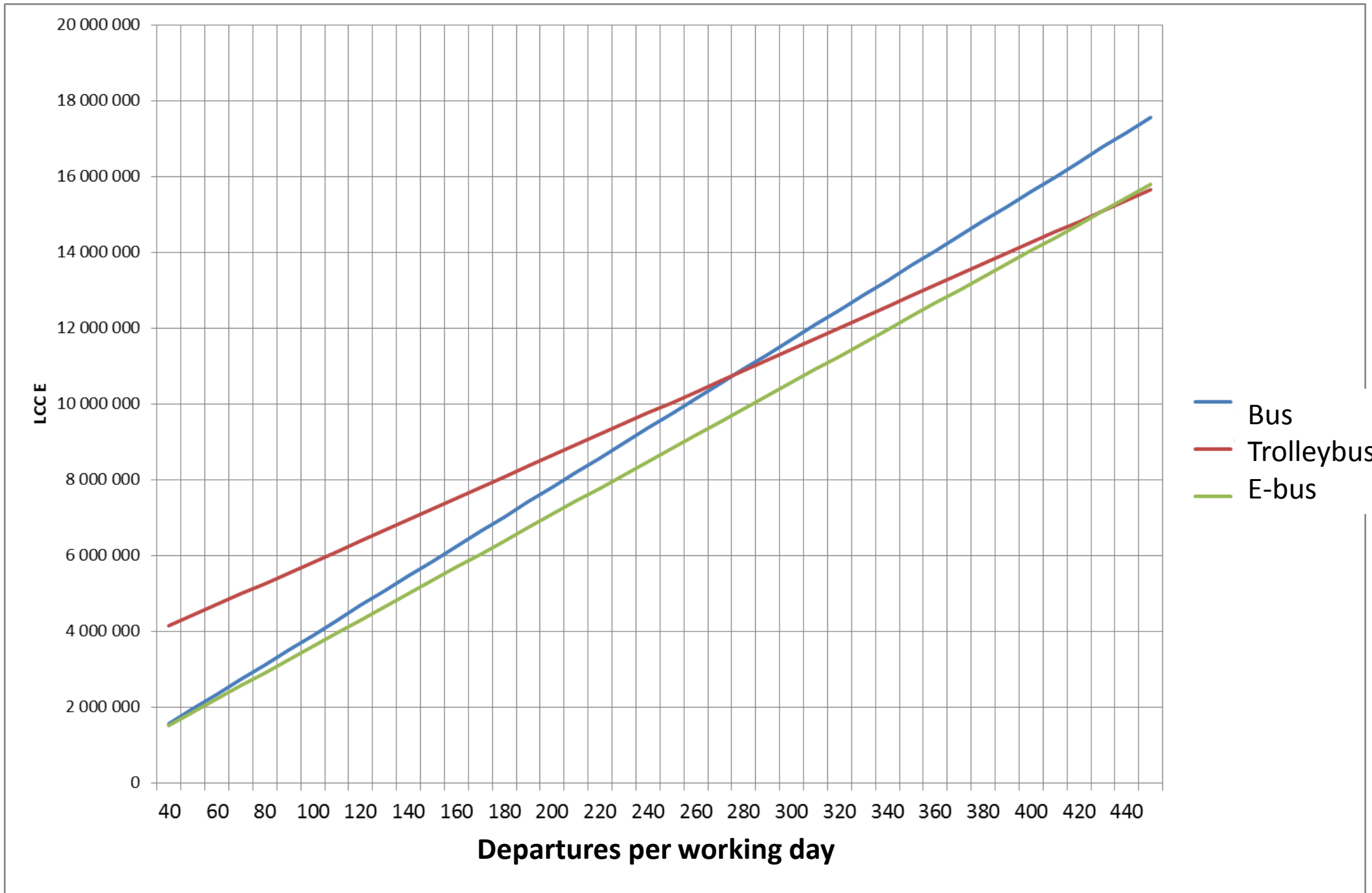


- The model uses the following input data:
- external costs and benefits:
 - noise (and its reductions);
 - GHG emissions (and its reductions);
- internal costs:
 - vehicle purchase and maintenance (given lifetime of a vehicle);
 - infrastructure construction and maintenance (given inherited infra and density of traffic);
 - energy (given different price growth scenarios).

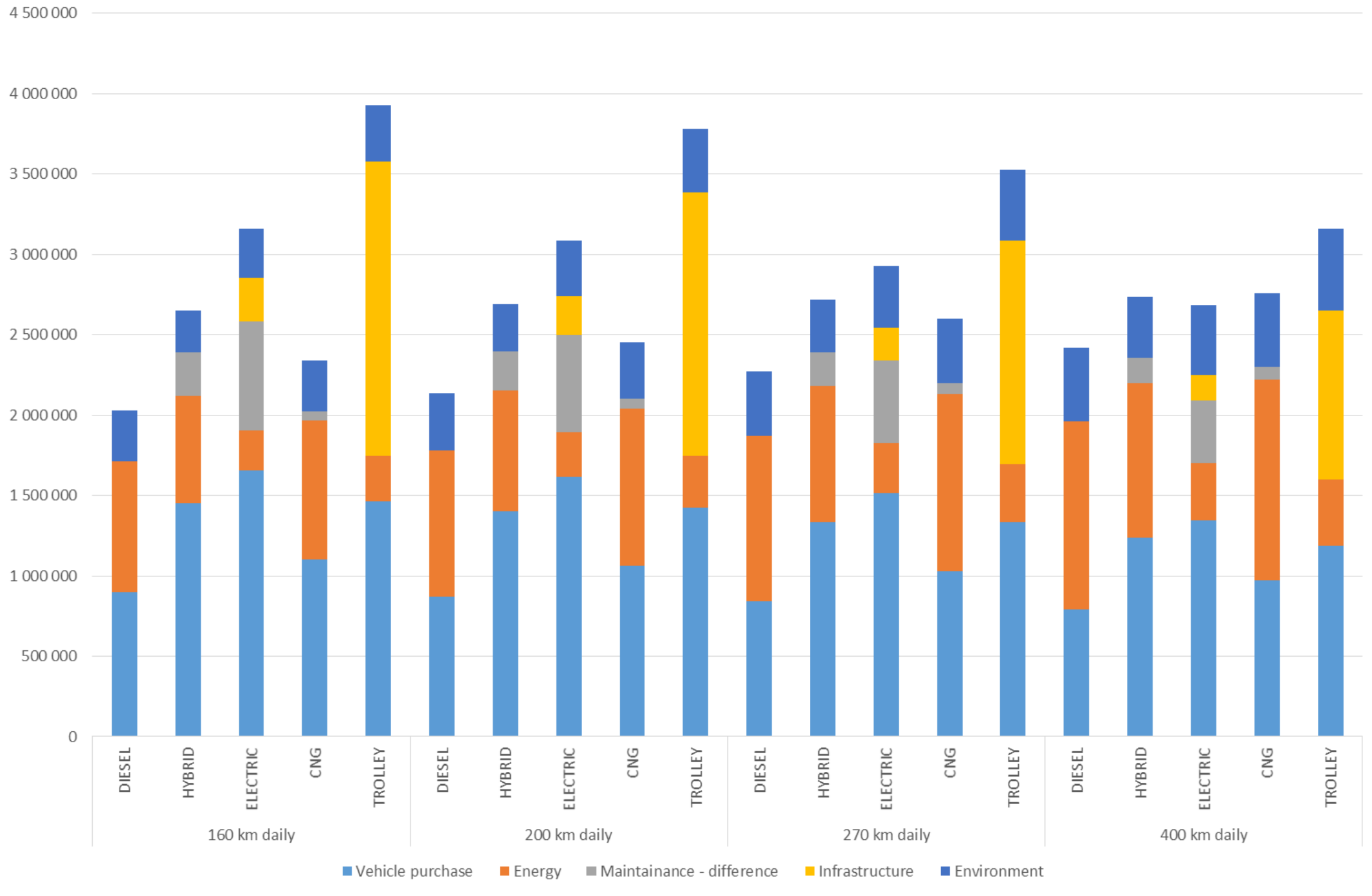


Poland





Another trial



Critical set of data and assumptions

- Data/assumptions on cost level and structure and others:

Ebus/trolleybus - purchase initial set of batteries separately;

Diesel Bus, trolleybus, ebus - lifetime [years];

Bus, trolleybus, ebus - maintenance [EUR/km];

battery exchange [EUR/km];

Ebus - other maintenance [EUR/km];

Ebus - battery cost [EUR/km];

Ebus - battery cost [EUR];

Ebus - battery life [km],

Costs of construction of charging infrastructure [EUR]

Lifetime of charging infrastructure [years]

Future demand for electricity [MWh]

Battery capacity development vs need for charging infra

Noise measurement?

- They might be found in your feasibility studies...;)



Last questions



- What type of projects / studies do you have / are you working on to share some data with us? (pre-feasibility study, feasibility study, preliminary study...)?
- How do you (if) calculate costs of noise in your CBAs?
- How do you (if) calculate costs of lack of local emissions in your CBAs?