

Calculating track access charges

This text gives a detailed description of the actions taken if parameter 20 (Amount of funding for retrofitting with K) or parameter 36 (Amount of funding for retrofitting with LL) is used as a variable for the break-even point calculation.

In this case, the remaining funding needed for every K/LL vehicle and the remaining funding needed for all K/LL vehicles is calculated. In addition, a track access surcharge for CI vehicles and a track access discount for K/LL vehicles is factored into the calculation to make the retrofitting scenario cost-neutral.

File Language

Edit scenario

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Parameters No. of vehicles according to years Diagram number of vehicles Noise emission Calculation results Diagram run parameter Result break-even point Track access charge

Remaining funding needs for K/LL-vehicles / calculation track access charges

Value selection: Duration of funding for retrofitting with K = 2 a

Year	Funding per LL-vehicle	Funding per K-vehicle	Remaining funding needs per K/LL-vehicle	Funding needs for all K/LL-vehicles	Discount for track access charge for K/LL-vehicles	Additional track access charge for CI-vehicles
1	1.000,00 €	4.000,00 €	1.417,21 €	171.019.419,43 €	0,1386 €	-0,0088 €
2	1.000,00 €	4.000,00 €	676,73 €	168.724.432,29 €	0,0683 €	-0,0093 €
3	1.000,00 €	0,00 €	1.583,11 €	201.972.671,20 €	0,0491 €	-0,0123 €
4	1.000,00 €	0,00 €	1.106,92 €	197.963.263,07 €	0,0344 €	-0,0134 €
5	1.000,00 €	0,00 €	850,12 €	195.625.449,75 €	0,0264 €	-0,0149 €
6	0,00 €	0,00 €	730,77 €	192.924.447,12 €	0,0213 €	-0,0167 €
7	0,00 €	0,00 €	608,61 €	189.887.245,21 €	0,0178 €	-0,0192 €
8	0,00 €	0,00 €	518,16 €	186.539.137,04 €	0,0151 €	-0,0227 €
9	0,00 €	0,00 €	448,29 €	182.903.816,87 €	0,0131 €	-0,0278 €
10	0,00 €	0,00 €	392,55 €	179.003.472,96 €	0,0114 €	-0,0363 €
11	0,00 €	0,00 €	346,94 €	174.858.875,34 €	0,0101 €	-0,0531 €
12	0,00 €	0,00 €	308,86 €	170.489.458,60 €	0,0090 €	-0,1036 €
13	0,00 €	0,00 €	276,52 €	165.913.400,15 €	0,0081 €	0,0000 €
14	0,00 €	0,00 €	-40,21 €	-24.128.685,26 €	-0,0012 €	0,0000 €
15	0,00 €	0,00 €	-43,29 €	-25.974.347,63 €	-0,0013 €	0,0000 €
16	0,00 €	0,00 €	-46,23 €	-27.736.662,86 €	-0,0013 €	0,0000 €
17	0,00 €	0,00 €	-49,03 €	-29.419.394,75 €	-0,0014 €	0,0000 €
18	0,00 €	0,00 €	-51,71 €	-31.026.137,17 €	-0,0015 €	0,0000 €
19	0,00 €	0,00 €	-54,27 €	-32.560.321,68 €	-0,0016 €	0,0000 €
20	0,00 €	0,00 €	-56,71 €	-34.025.224,88 €	-0,0017 €	0,0000 €

Explanation of columns:

- **Funding per LL vehicle:** This column displays the amount of public funding per vehicle for retrofitting with LL brake blocks.
- **Funding per K vehicle:** This column displays the amount of public funding per vehicle for retrofitting with K brake blocks.
- **Remaining funding needs per K/LL vehicle:** As the first set of K or LL brake blocks is not included in the parameter *Onetime retrofitting costs for K/LL* (parameters 23 and 24), the operator is always initially faced with additional costs. For example, even when *Funding per vehicle* is equal to *Onetime retrofitting costs*, the operator is faced with additional costs for the more expensive K or LL brake blocks. The K/LL brake blocks reduced maintenance costs result in corresponding annual



reductions in funding requirements.

- Funding needs for all K/LL vehicles: This item is calculated based on the following formula:

(public funding + remaining funding needs per vehicle) x number of retrofitted vehicles

This amount must be raised through public funding in order to guarantee cost neutrality for the operator.

- Additional track access charge for CI vehicles: This calculation is based on the following formula:

*(1-percentage of public funding)*funding needs for all K/LL vehicles/(number of CI brake block vehicles)/average mileage per year*

Total funding would thereby be distributed equally among the loud vehicles.

- Discount for track access charge for K/LL vehicles: At the same time that loud vehicles pay a surcharge on the track access charge, the quiet K and LL vehicles would get a discount. This discount is based on the formula:

*(1-percentage of public funding)*funding needs for all K/LL vehicles/(number of K/LL brake block vehicles)/average mileage per year*

Here too, the entire funding is equally distributed. In the final analysis, the operator faces no additional costs, as the total discount is exactly equal to the total surcharge (namely the total funding requirements). The concept of track access charges is therefore cost-neutral to the operator and there is a strong incentive for retrofitting with K or LL brake blocks.

Independent of the question of track access charges, the total required funding must be raised through public funding in order to guarantee cost neutrality for the operator.



Do you have any questions regarding the application?

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