



# ANNEX 3

LIST OF DATA SOURCES & MODEL FOR  
AVAILABLE SEATS ESTIMATE

GREEN BOND IMPACT REPORTING  
**MARCH 2024**

List of the data sources EUROFIMA used to produce the Impact Report.

Source of data [1/2]

| Factor  | Short name | Source  | Page  | Value                     |
|---|------------|---|---|---------------------------|
| Average Auto Consumption - Motorway                                     | ACM        | <a href="#">Ecopassenger Methodology Report</a>                               | Page 17   |                           |
| Average Auto Consumption - Rural  | ACR        | <a href="#">Ecopassenger Methodology Report</a>                               | Page 17   |                           |
| % of time traveled in a Motorway  | TM%        | Assumption  |   | 50%                       |
| % of time traveled in Rural roads                                       | TR%        | Assumption  |   | 50%                       |
| Average Auto Consumption - Travel                                       | ACT        | Calculated  |   |                           |
| Average Diesel Auto Consumption – Travel                                | ACTD       | Calculated  |   | 4.9 l/100km               |
| Average Petrol Auto Consumption – Travel                                | ACTP       | Calculated  |   | 6.7 l/100km               |
| % of Diesel cars in the European Fleet                                  | DC%        | <a href="#">ACEA (fleet type)</a>   |   | 42%                       |
| % of Petrol cars in the European Fleet                                  | PC%        | <a href="#">ACEA (diesel vs petrol)</a>                                       |   | 53.9%                     |
| Average car weight  |            | <a href="#">European vehicle market statistics</a>                            | Page 53   | 1395 kg                   |
| Average Auto Consumption  | AC         | Calculated  |   | 5.9 l/100km               |
| Passengers per kilometer by country/mode of operations                  | pkmC       | <a href="#">Eurostat - Rail transport of passengers</a><br>SCI Verkher GmbH   |   |                           |
| Passengers per kilometer by item of equipment                           | pkmT       | Calculated  |   |                           |
| Available seats by country/mode of operations                           | AvSC       | SCI Verkher GmbH  |   |                           |
| Available seats by specific item of equipment                           | AvST       | Railways/Manufacturer data sheet<br>Specific model for Loco-Coaches formation |   |                           |
| Numbers of specific green items   | #ST        | Project   |   |                           |
| Baseline GhG emissions per pkm, avoided                                 | EBA        | <a href="#">EU Taxonomy</a>   | Art. 24.1, Page 329   | 290 gCO <sub>2</sub> /vkm |
| Baseline GhG emissions per pkm, reduced                                 | EBR        | <a href="#">EU Taxonomy</a>   | Art. 24.1, Page 329   | 90 gCO <sub>2</sub> /pkm  |
| Passenger per vehicle   | PV         | <a href="#">Ecopassenger</a>  |   | 1.5                       |
| Project savings (CO <sub>2</sub> ) as reduced emissions                 | PSCDR      | Calculated  |   |                           |
| Project savings (CO <sub>2</sub> ) as avoided emission                  | PSCDA      | Calculated  |   |                           |
| CH <sub>4</sub> emitted by energy unit- Petrol                          | CKwhP      | <a href="#">UK Gov- GG Reporting- Conversion factors</a>                      | See table «Conversion factors 2020: condensed set (for most users)» | 0.00071 kg/kWh            |
| CH <sub>4</sub> emitted by energy unit- Diesel                          | CKwhD      | <a href="#">UK Gov- GG Reporting- Conversion factors</a>                      | See table «Conversion factors 2020: condensed set (for most users)» | 0.00002 kg/kWh            |
| N <sub>2</sub> O emitted by energy unit- Petrol                         | NKwhP      | <a href="#">UK Gov- GG Reporting- Conversion factors</a>                      | See table «Conversion factors 2020: condensed set (for most users)» | 0.00064 kg/kWh            |
| N <sub>2</sub> O emitted by energy unit- Diesel                         | NKwhD      | <a href="#">UK Gov- GG Reporting- Conversion factors</a>                      | See table «Conversion factors 2020: condensed set (for most users)» | 0.00331 kg/kWh            |
| Project savings (CH <sub>4</sub> ) as avoided emissions                 | PSMHA      | Calculated  |   |                           |
| Project savings (CH <sub>4</sub> ) as reduced emissions                 | PSMHR      | Calculated  |   |                           |
| Project savings (N <sub>2</sub> O) as avoided emissions                 | PSNOA      | Calculated  |   |                           |
| Project savings (N <sub>2</sub> O) as reduced emissions                 | PSNOR      | Calculated  |   |                           |
| Diesel Heating Value-by Kg  |            | <a href="#">Heating values</a>  |   | 45.5 MJ/Kg                |
| Energy consumption baseline per pkm, car                                | JBC        | <a href="#">Mobitool.ch</a>   |   | 1.30 MJ/pkm               |
| Energy consumption baseline per pkm, diesel equipment                   | JBD        | <a href="#">Ecopassenger Methodology Report</a>                               | Page 18   | 1.15 MJ/pkm               |
| Average Energy Consumption of the Green Asset per Pkm (CH,AT,DE, FR,IT) | JGA        | <a href="#">Mobitool.ch</a>   |   |                           |
| Average Energy Consumption of the Green Asset per Pkm (Other country)   | JGA        | <a href="#">Ecopassenger Methodology Report</a>                               | Page 18   | 0.32 Mj/pkm               |

List of the data sources EUROFIMA used to produce the Impact Report.

Source of data 2/2]

| Factor  | Short name | Source                         | Page | Value     |
|---|------------|--------------------------------|------|-----------|
| Project savings as reduced energy consumption | PSJR       | Calculated                     |      |           |
| Project savings as avoided energy consumption | PSJA       | Calculated                     |      |           |
| Heating value by liter -Petrol                | HVP        | <a href="#">Heating values</a> |      | 33.9 MJ/l |
| Heating value by liter- Diesel                | HVD        | <a href="#">Heating values</a> |      | 36.7 MJ/l |
| Reduction in fuel consumption- Avoided        | RFCA       | Calculated                     |      |           |
| Reduction in fuel consumption- Reduced        | RFCR       | Calculated                     |      |           |



## MODEL TO ESTIMATE THE SEATS TO BE ALLOCATED TO LOCOMOTIVES

| E464                        |            |            |           |                 |            |            |              |           |                 |            |            |      |                         |                              |           |           |                 |            |            |      |                 |             |
|-----------------------------|------------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|------|-------------------------|------------------------------|-----------|-----------|-----------------|------------|------------|------|-----------------|-------------|
| Type of coaches             |            | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |      | Unitary market value    |                              |           |           |                 |            |            |      |                 |             |
| Type of coaches             | % of usage | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Seats (whole formation) | Seats weighted by loco Value | 2nd class | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Formation value |             |
| MD                          | 50.0%      | 84         | 58        | 64              |            |            | 3            | 2         | 1               |            |            | 1    | 432                     | 334.4                        | 63,788 €  | 77,785 €  | 92,188 €        |            |            |      | 1,504,762 €     | 1,943,884 € |
| PR                          | 15.0%      | 84         |           | 61              |            |            | 5            |           | 1               |            |            | 1    | 481                     | 439.0                        | 24,000 €  | 24,000 €  | 24,000 €        |            |            |      | 1,504,762 €     | 1,648,762 € |
| NCDP                        | 10.0%      | 126        | 90        | 90              |            |            | 3            | 2         | 1               |            |            | 1    | 648                     | 176.8                        | 640,857 € | 659,328 € | 769,078 €       |            |            |      | 1,504,762 €     | 5,515,065 € |
| CDPTR                       | 10.0%      | 126        | 90        | 90              |            |            | 3            | 2         | 1               |            |            | 1    | 648                     | 130.9                        | 953,177 € | 978,250 € | 1,128,066 €     |            |            |      | 1,504,762 €     | 7,448,859 € |
| UIC- Z1                     | 10.0%      | 66         | 54        | 64              | 35         |            | 5            | 2         | 1               |            |            | 1    | 502                     | 297.8                        | 121,462 € | 124,346 € | 176,059 €       |            |            |      | 1,504,762 €     | 2,536,819 € |
| Night train (UIC X - WL FS) | 5.0%       | 66         |           | 64              |            | 36         | 2            |           |                 |            | 7          | 2    | 384                     | 157.3                        | 24,000 €  | 24,000 €  | 24,000 €        |            | 87,959 €   |      | 1,504,762 €     | 3,673,236 € |

E464 - # of weighted seats

301.5

| E403 FS                     |            |            |           |                 |            |            |              |           |                 |            |            |      |                         |                              |           |           |                 |            |            |      |                 |             |
|-----------------------------|------------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|------|-------------------------|------------------------------|-----------|-----------|-----------------|------------|------------|------|-----------------|-------------|
| Type of coaches             |            | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |      | Unitary market value    |                              |           |           |                 |            |            |      |                 |             |
| Type of coaches             | % of usage | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Seats (whole formation) | Seats weighted by loco Value | 2nd class | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Formation value |             |
| IC - Gran comfort           | 35.0%      | 48         | 48        | 41              | 35         |            | 5            | 3         | 1               |            |            | 1    | 425                     | 278.0                        | 117,236 € | 123,763 € | 175,141 €       |            |            |      | 2,141,433 €     | 3,274,044 € |
| IC MOD                      | 40.0%      | 78         | 52        | 64              | 35         |            | 5            | 3         | 1               |            |            | 1    | 610                     | 276.8                        | 224,848 € | 228,663 € | 768,321 €       |            |            |      | 2,141,433 €     | 4,719,982 € |
| Night train (UIC X - WL FS) | 25.0%      | 66         |           | 64              |            | 36         | 2            |           |                 |            | 7          | 1    | 384                     | 293.1                        | 24,000 €  | 24,000 €  | 24,000 €        |            | 87,959 €   |      | 2,141,433 €     | 2,805,146 € |

E403 FS - # of weighted seats

281.3

| E401 FS                     |            |            |           |                 |            |            |              |           |                 |            |            |      |                         |                              |           |           |                 |            |            |      |                 |             |
|-----------------------------|------------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|------|-------------------------|------------------------------|-----------|-----------|-----------------|------------|------------|------|-----------------|-------------|
| Type of coaches             |            | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |      | Unitary market value    |                              |           |           |                 |            |            |      |                 |             |
| Type of coaches             | % of usage | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Seats (whole formation) | Seats weighted by loco Value | 2nd class | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Formation value |             |
| IC MOD                      | 75.0%      | 78         | 52        | 64              |            |            | 4            | 2         | 1               |            |            | 1    | 480                     | 244.9                        | 117,236 € | 123,763 € | 175,141 €       |            |            |      | 928,483 €       | 1,820,095 € |
| Night train (UIC X - WL FS) | 25.0%      | 66         |           | 64              |            | 36         | 2            |           |                 |            | 7          | 1    | 384                     | 223.9                        | 24,000 €  | 24,000 €  | 24,000 €        |            | 87,959 €   |      | 928,483 €       | 1,592,196 € |

E401 FS - # of weighted seats

239.6

# MODEL TO ESTIMATE THE SEATS TO BE ALLOCATED TO LOCOMOTIVES

| E414              |            |            |           |                 |            |            |              |           |                 |            |            |      |                         |                              |           |           |                 |            |            |           |                 |
|-------------------|------------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|------|-------------------------|------------------------------|-----------|-----------|-----------------|------------|------------|-----------|-----------------|
| Type of coaches   |            | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |      | Unitary market value    |                              |           |           |                 |            |            |           |                 |
| Type of coaches   | % of usage | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Seats (whole formation) | Seats weighted by loco Value | 2nd class | 1st class | Driving trailer | Dining car | Wagon lits | Loco      | Formation value |
| IC - Gran comfort | 33.0%      | 48         | 48        | 41              |            |            | 5            | 3         |                 |            |            | 2    | 384                     | 121.3                        | 117,236 € | 123,763 € | 175,141 €       |            |            | 820,650 € | 2,598,770 €     |
| IC MOD            | 66.0%      | 78         | 52        | 64              |            |            | 5            | 3         |                 |            |            | 2    | 546                     | 129.8                        | 224,848 € | 228,663 € | 768,321 €       |            |            | 820,650 € | 3,451,527 €     |

E414 - # of weighted seats

125.7

| E402 B FS                   |            |            |           |                 |            |            |              |           |                 |            |            |      |                         |                              |           |           |                 |             |            |             |                 |
|-----------------------------|------------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|------|-------------------------|------------------------------|-----------|-----------|-----------------|-------------|------------|-------------|-----------------|
| Type of coaches             |            | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |      | Unitary market value    |                              |           |           |                 |             |            |             |                 |
| Type of coaches             | % of usage | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Seats (whole formation) | Seats weighted by loco Value | 2nd class | 1st class | Driving trailer | Dining car  | Wagon lits | Loco        | Formation value |
| IC - Gran comfort           | 35.0%      | 48         | 48        | 41              | 35         |            | 5            | 3         | 1               |            |            | 1    | 425                     | 208.6                        | 117,236 € | 123,763 € | 175,141 €       | 1,179,307 € |            | 1,092,248 € | 2,224,859 €     |
| IC MOD                      | 40.0%      | 78         | 52        | 64              | 35         |            | 4            | 2         | 1               |            |            | 1    | 480                     | 163.0                        | 224,848 € | 228,663 € | 768,321 €       |             |            | 1,092,248 € | 3,217,286 €     |
| Night train (UIC X - WL FS) | 25.0%      | 66         |           | 64              |            | 36         | 2            |           |                 |            | 7          | 1    | 384                     | 238.9                        | 24,000 €  | 24,000 €  | 24,000 €        |             | 87,959 €   | 1,092,248 € | 1,755,960 €     |

E402 B FS - # of weighted seats

197.9

| CLASS HLE 18    |            |            |           |                 |            |            |              |           |                 |            |            |      |                         |                              |           |             |                 |            |            |             |                 |
|-----------------|------------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|------|-------------------------|------------------------------|-----------|-------------|-----------------|------------|------------|-------------|-----------------|
| Type of coaches |            | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |      | Unitary market value    |                              |           |             |                 |            |            |             |                 |
| Type of coaches | % of usage | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Seats (whole formation) | Seats weighted by loco Value | 2nd class | 1st class   | Driving trailer | Dining car | Wagon lits | Loco        | Formation value |
| M6              | 100.0%     | 140        | 124       | 136             |            |            | 4            | 2         | 1               |            |            | 1    | 944                     | 239.4                        | 991,193 € | 1,014,887 € | 1,436,668 €     |            |            | 2,524,596 € | 9,955,808 €     |

Class HLE 18 - # of weighted seats

239.4

| CLASS HLE 19    |            |            |           |                 |            |            |              |           |                 |            |            |      |                         |                              |           |             |                 |            |            |             |                 |
|-----------------|------------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|------|-------------------------|------------------------------|-----------|-------------|-----------------|------------|------------|-------------|-----------------|
| Type of coaches |            | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |      | Unitary market value    |                              |           |             |                 |            |            |             |                 |
| Type of coaches | % of usage | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Seats (whole formation) | Seats weighted by loco Value | 2nd class | 1st class   | Driving trailer | Dining car | Wagon lits | Loco        | Formation value |
| M6              | 100.0%     | 140        | 124       | 136             |            |            | 7            | 3         |                 |            |            | 2    | 1352                    | 218.8                        | 991,193 € | 1,014,887 € | 1,436,668 €     |            |            | 2,389,216 € | 14,761,442 €    |

Class HLE 19 - # of weighted seats

218.8

A locomotives in itself carries no passengers; therefore, to estimate the available seats (as a basis to derive the pkm) we have to develop a model that properly weight the following factors:

- a) The frequency of use of the specific formations that are utilized.
- b) The passengers cars, in terms of class, type and numbers and seats of the single coach, which form the relevant formation.

Here below we have described the single steps to calculate the available seats, using the Locomotive E403 FS as example; the other locomotives use the same logic.

- 1) We first define the different passengers car and relevant % of usage (E403 FS utilizes IC- Gran comfort cars 35% of the time, IC MOD Cars 40% of the time and night formation for 25.% of the time) and then the formation and relevant seats by type of passengers (i.e. the loco E403 FS carries 5 second class [48 seats available each], 2 first class [48 seats available each] and 1 driving trailer [41 available seats] of the coach type IC- Gran Comfort).
- 2) We then calculate the seats of each complete formation (i.e. the formation with the IC-Gran comfort cars has  $48*5+48*3+41*1=425$  seats) and define the market value (as estimated by EUROFIMA proprietary model developed in cooperation with SCI Verkehr) of the single formation component, cars and locomotives, as the parameter to derive the "weighted seats" of the locomotive (i.e. the value of the formation with the IC-Gran comfort is 3.274.044€, while the loco value is 2.141.433€).
- 3) As a next step, we calculate the "weighted" number of seats of each formation that can be allocated to the loco as pro rata of the market value (i.e. in the formation with the IC-Gran comfort cars the seats allocated to the loco are  $[425/3.274.044€*2.141.433€]=278.0$ ).
- 4) Finally, we estimate the average seats allocated to the loco E403 FS, weighing the available weighted seats of a formation with the frequency of utilization (i.e.  $278.0*35%+276.8*40%+293.1*25%=281,3$ ). This is the value we use for a single locomotive (see cells in green).

| NCDP |            |           |                 |            |            |              |           |                 |            |            |                         |                      |      |           |           |                 |            |            |      |                 |
|------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|-------------------------|----------------------|------|-----------|-----------|-----------------|------------|------------|------|-----------------|
|      | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |                         | Unitary market value |      |           |           |                 |            |            |      |                 |
|      | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Seats (whole formation) | Loco                 |      | 2nd class | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Formation value |
|      | 126        | 90        | 90              |            |            | 3            | 2         | 1               |            |            |                         | 648                  | E464 | 1         | 640,857 € | 659,328 €       | 769,078 €  |            |      | 1,504,762 €     |

|                                   |             |             |             |          |          |
|-----------------------------------|-------------|-------------|-------------|----------|----------|
| <b>NCDP - # of weighted seats</b> | <b>75.3</b> | <b>77.5</b> | <b>90.4</b> | <b>0</b> | <b>0</b> |
|-----------------------------------|-------------|-------------|-------------|----------|----------|

| CDPTR |            |           |                 |            |            |              |           |                 |            |            |                         |                      |      |           |           |                 |             |            |      |                 |
|-------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|-------------------------|----------------------|------|-----------|-----------|-----------------|-------------|------------|------|-----------------|
|       | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |                         | Unitary market value |      |           |           |                 |             |            |      |                 |
|       | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Seats (whole formation) | Loco                 |      | 2nd class | 1st class | Driving trailer | Dining car  | Wagon lits | Loco | Formation value |
|       | 126        | 90        | 90              |            |            | 3            | 2         | 1               |            |            |                         | 648                  | E464 | 1         | 953,177 € | 978,250 €       | 1,128,066 € |            |      | 1,504,762 €     |

|                                    |             |             |             |          |          |
|------------------------------------|-------------|-------------|-------------|----------|----------|
| <b>CDPTR - # of weighted seats</b> | <b>82.9</b> | <b>85.1</b> | <b>98.1</b> | <b>0</b> | <b>0</b> |
|------------------------------------|-------------|-------------|-------------|----------|----------|

| IC-MOD |            |           |                 |            |            |              |           |                 |            |            |                         |                      |      |           |           |                 |            |            |      |                 |
|--------|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|-------------------------|----------------------|------|-----------|-----------|-----------------|------------|------------|------|-----------------|
|        | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |                         | Unitary market value |      |           |           |                 |            |            |      |                 |
|        | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Seats (whole formation) | Loco                 |      | 2nd class | 1st class | Driving trailer | Dining car | Wagon lits | Loco | Formation value |
|        | 78         | 52        | 64              |            |            | 4            | 2         | 1               |            |            |                         | 480                  | E401 | 1         | 224,848 € | 228,663 €       | 768,321 €  |            |      | 928,483 €       |

|                                     |             |             |              |          |          |
|-------------------------------------|-------------|-------------|--------------|----------|----------|
| <b>IC-MOD - # of weighted seats</b> | <b>35.3</b> | <b>35.9</b> | <b>120.8</b> | <b>0</b> | <b>0</b> |
|-------------------------------------|-------------|-------------|--------------|----------|----------|

| M6 |            |           |                 |            |            |              |           |                 |            |            |                         |                      |             |           |           |                 |             |            |      |                 |
|----|------------|-----------|-----------------|------------|------------|--------------|-----------|-----------------|------------|------------|-------------------------|----------------------|-------------|-----------|-----------|-----------------|-------------|------------|------|-----------------|
|    | # of seats |           |                 |            |            | # of coaches |           |                 |            |            |                         | Unitary market value |             |           |           |                 |             |            |      |                 |
|    | 2nd class  | 1st class | Driving trailer | Dining car | Wagon lits | 2nd class    | 1st class | Driving trailer | Dining car | Wagon lits | Seats (whole formation) | Loco                 |             | 2nd class | 1st class | Driving trailer | Dining car  | Wagon lits | Loco | Formation value |
|    | 140        | 124       | 136             |            |            | 5            | 2         | 1               |            |            |                         | 1084                 | Clas HLE 18 | 1         | 991,193 € | 1,014,887 €     | 1,436,668 € |            |      | 2,524,596 €     |

|                                 |             |              |              |          |          |
|---------------------------------|-------------|--------------|--------------|----------|----------|
| <b>M6 - # of weighted seats</b> | <b>98.2</b> | <b>100.5</b> | <b>142.3</b> | <b>0</b> | <b>0</b> |
|---------------------------------|-------------|--------------|--------------|----------|----------|

## MODEL TO ESTIMATE THE SEATS TO BE ALLOCATED TO PASSENGERS CARS

A passengers car, in itself, has no power and it always coupled with a locomotive; the number of available seats must be properly weighted and depends on the following factors:

- a) The most frequent formation, in terms of type, number and seats and locomotive class, the passengers car is operated under.
- b) The value of the single passenger car type as % of the value of the entire configuration.

Here below we have described the single steps to calculate the available seats, using the passengers car NCDP as example; the other passengers cars use the same logic:

- 1) We first define the most common formation the NCDP runs under; in this case the passengers cars are coupled with a E464 locomotive and the formation consist of 3 second class coaches (126 seats), 2 first class coaches (90 seats) and 1 driving trailer (90 seats).
- 2) We then define the market value (as estimated by Eurofima proprietary model developed in cooperation with SCI Verkehr) of the single formation component, cars and locomotives, as the parameter to derive the “weighted seats” of the passengers cars (i.e. the value of the formation is 5.515.065€, while the 2nd class car value is 640.857€).
- 3) Finally, we calculate the “weighted” number of seats of each passengers car type as pro rata of the market value (i.e. weighted seats of the 2nd class passenger car are  $[126 * 640.857€ / 5.515.065€] = 75.3$ ). This is the value we use for a single passenger cars type (see cells in green).



## LIST OF AVAILABLE SEATS BY ASSET CLASS

| Asset class     | Type of passengers car | Seats |
|-----------------|------------------------|-------|
| CDPTR DT        | Driving trailer        | 98.1  |
| CDPTR IC        | First class            | 85.1  |
| CDPTR IC        | Second class           | 82.9  |
| CIVIA 463       |                        | 169.0 |
| CIVIA 464       |                        | 223.0 |
| CIVIA 465       |                        | 277.0 |
| CLASS 2400 CFL  |                        | 334.0 |
| CLASS 447 RF    |                        | 234.0 |
| CLASS 449       |                        | 263.0 |
| CLASS 6111 ZPCG |                        | 165.0 |
| CLASS 640/2     |                        | 221.0 |
| CLASS 650/2     |                        | 140.0 |
| CLASS HLE 18    |                        | 239.4 |
| CLASS HLE 19    |                        | 218.8 |
| E401 FS         |                        | 239.6 |
| E402 B FS       |                        | 197.9 |
| E403 FS         |                        | 281.3 |
| E414            |                        | 125.7 |
| E464            |                        | 301.5 |
| ETR 324 JAZZ    |                        | 202.0 |
| ETR 425 JAZZ    |                        | 290.0 |
| IC MOD-DT       | Driving trailer        | 120.8 |
| IC MOD-INT      | First class            | 35.9  |
| IC MOD-INT      | Second class           | 35.3  |
| M6 SNCB         | First class            | 100.5 |
| M6 SNCB         | Second class           | 98.2  |
| M6 SNCB         | Driving trailer        | 142.3 |
| MINUETTO E      |                        | 169.0 |
| MR 08 DC        |                        | 232.0 |
| MR 08 MS        |                        | 232.0 |
| NCDP DT         | Driving trailer        | 90.4  |
| NCDP IC         | First class            | 77.5  |
| NCDP IC         | Second class           | 75.3  |
| RABDE 500       |                        | 431.0 |
| RABDE 502       |                        | 577.0 |
| RABE 503        |                        | 422.0 |
| RABE 511-4      |                        | 337.0 |
| RABE 511-6      |                        | 535.0 |

| Asset class   | Type of passengers car | Seats |
|---------------|------------------------|-------|
| RABE 514      |                        | 384.0 |
| RABE 520      |                        | 128.0 |
| RABE 521      |                        | 161.0 |
| RABE 522      |                        | 161.0 |
| RABE 523      |                        | 161.0 |
| RABE 523 F3   |                        | 161.0 |
| RABE 524-4    |                        | 182.0 |
| RABE 524-6    |                        | 250.0 |
| RABE 524-6 F3 |                        | 250.0 |
| RABE 526-3    |                        | 106.0 |
| RABE 526-4    |                        | 163.0 |
| S-104         |                        | 237.0 |
| S-114         |                        | 237.0 |
| TAF FS        |                        | 475.0 |