**Ex-post CBA R2 Pstruša - Kriváň**

The Grant Agreement for the expressway project „R2 Pstruša - Kriváň“ was signed on 18 November 2013. It was a financial contribution for the construction of 10.375 km of the expressway R2 Pstruša - Kriváň. The Beneficiary (National Motorway Company, hereinafter as “NMC“) received a financial contribution of **EUR 155 235 137**, consisting of the contribution of **EUR 131 949 866** from the European Regional Development Fund (85% of the total amount) and the contribution of **EUR** **23 285 271** from the state budget (15% of the total amount). The contribution was determined on the basis of the financial analysis of the project’s cost/benefit analysis (CBA) at the financial gap of **83.99% (meaning that 83.99% of the eligible project expenditure was provided from the Operational Programme Transport 2007 - 2013)**. The expressway R2 Pstruša – Kriváň is in operation since November 2015.

As the Managing Authority, the Ministry of Transport and Construction of the Slovak Republic proceeded to an ex-post review of CBA to improve the quality of future CBAs for road projects, to refine transport modelling of future projects and to help to update the CBA Methodological Guide (if proven necessary).

This activity will contribute to increasing the efficiency of expenditure of public and EU funds.

The following actual input data for the period from 2013 to 2018 were considered for the ex-post CBA:

*GDP - source: Statistical Office of the SR, Ministry of Finance of the SR, Slovak CBA Guide OPII*

*Inflation - source: Statistical Office of the SR*

*Fuel prices - source: Statistical Office of the SR*

*Investment costs - source: National Motorway Company accounting*

*Traffic intensity – source: Nation traffic census 2015, automated traffic counters of NMC*

*Operation and Maintenance costs - source: National Motorway Company accounting*

*Revenues - source: National Motorway Company accounting*

*Accidents - source: Police of the SR*

Subsequently, the CBA of the entire project was recalculated including predictions until 2041 using the currently valid methodology for the Operational Programme Integrated Infrastructure (2014 - 2020). The original CBA was calculated using the methodology of the previous Operational Programme Transport (2007 - 2013).

**Evaluation of financial analysis**

The financial gap has increased from **83.99% to 100%,** which means that the contribution from the operational programme resources should currently be higher than those in the Grant Agreement dated in 2013. The increase of the percentage of the financial gap is mainly due to decline of the real income generated by the project as well as higher amount of the investment cost.

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| **Investment cost** | original  **169 132 361 EUR** | updated  **171 344 217 EUR** | **+1.3%** |

The stated investment costs are undiscounted and excluding VAT.

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| **Residual value** | original  **6 501 206 EUR** | updated  **14 754 020 EUR** | **+127%** |

The residual value of the project in the previous CBA was calculated based on financial cash-flow as perpetuity. In accordance with the current CBA manual, the updated residual value was recalculated based on the basic life-cycle of project objects.

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| **Revenues** | original  **28 254 268 EUR** | updated  **2 190 744 EUR** | **-92%** |

Incremental toll revenues are directly dependent on the freight transport intensities. Freight transport intensities on the analyzed expressway section are lower compared to the expected traffic volumes from the original CBA.

Another reason for the decline in expected revenues is the change in the method for their calculation; whereas in the original CBA only the toll revenue on the newly built expressway section R2 was quantified, the updated CBA includes the difference of toll revenues between the R2 section and the parallel road I/50.

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| **Operation & Maintenance costs** | original  **8 806 418 EUR** | updated  **6 339 652 EUR** | **- 28%** |

A significant change concerns the operation and maintenance costs of the project, which is caused by the change in the method of calculation in the current version of the CBA Methodological Guide. The current maintenance costs and periodic maintenance costs are incrementally higher due to the new CBA methodology: the considered area is calculated based on the size of the surface of the road in square meters, which is greater for the newly built expressway than for the parallel road I/50.

However, there is a notable cost saving in the toll collection costs and therefore the overall cost of operation and maintenance of the infrastructure is lower. The savings are caused by the method of determining the toll collection costs since the tolled vehicles pass on the built expressway section only through two toll sections, whereas there are many more toll sections on the parallel road I/50.

**Evaluation of the economic analysis**

The cost benefit ratio (B/C) has decreased from **1.02 to 0.47**. The decrease of B/C value was caused mainly due to lower values of the indicators below, as well as due to the fact that the ex-post CBA was recalculated using the currently applicable methodology that contains different rates (such as lower Value of time).

The change from an economically beneficial project to inefficient was mainly due to the addition of the calculation of the impact of externalities and the lower traffic on the R2 road than was estimated in the original CBA.

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| **Passenger travel time savings** | original  **134 266 622 EUR** | updated  **51 328 466 EUR** | **-62%** |

Time savings have been reduced because of the use of the real traffic intensities, which are lower than those assumed by the transport model.

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| **Fuel costs savings** | original  **1 246 454 EUR** | updated  **-9 818 482 EUR** | **-** |
| **General vehicle operating costs savings** | original  **-15 747 479 EUR** | updated  **-14 808 576 EUR** | **-** |

Vehicle operating costs consist of the fuel consumption costs (where savings were not generated) and other operating costs of vehicles, such as depreciations, where the projects also does not generate savings.

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| **Accident costs savings** | original  **15 149 032 EUR** | updated  **30 717 695 EUR** | **+103%** |

The accident rate was calculated based on the number of accidents for years 2013 - 2018 (parallel road), respectively 2016 - 2018 (expressway R2). For a more accurate calculation of the accident rate, a longer period considered (than 3 years) would be beneficial.

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| **Emission costs savings** | original  **0 EUR** | updated  **-14 497 554 EUR** | **-** |

Emission savings were not quantified in the original CBA. Based on the incremental fuel consumption (these form the basis for calculation of emissions) over the entire reference period significant savings were also calculated.

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| **Noise costs savings** | original  **0 EUR** | updated  **295 062 EUR** | **-** |

Savings in the noise costs were not quantified in the original CBA. In general, construction of expressway sections means that the population is less exposed to noise from passenger and the freight traffic, which was also confirmed in the analyzed section of the expressway.

**Final evaluation**

The CBA's retrospective assessment showed justification for funding the project from EU funds. The financial analysis has confirmed the assumption that the project is unable to fully cover the expenditure of its revenue, and therefore a financial contribution from the European Regional Development Fund is justified.

However, the economic analysis did not confirm the efficiency of the spent public resources, mainly due to the change in the methodology for processing CBA, in particular the addition of the calculation of the impact of externalities and the lower real volume of traffic on the R2 expressway as estimated in the original CBA.