

The Grant Agreement for the motorway project "D1 Dubná Skala - Turany" was concluded on 26 October 2012. It was a financial contribution for the construction of 16.5 km of the motorway D1 including 1.9 km of the motorway feeder R3 Priekopa - D1 Martin. The Beneficiary (National Motorway Company, hereinafter as "NMC") received a financial contribution of **EUR 78 043 908** consisting of the contribution of **EUR 66 337 322** from the Cohesion Fund (85% of the total amount) and the contribution of **EUR 11 706 586** 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 **51.63 % (meaning that 51.63 % of the total eligible project expenditure was provided from the Operational Program Transport 2007 - 2013)**. The motorway D1 Dubná Skala - Turany has been in operation since July 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 the future CBAs for the road projects, to refine the transport modelling of the other following projects and to help updating of the CBA Methodological Guide.

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

The following input data actual for period 2015-2018 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 **51,63 %** to **58,54 %** which means that the contribution from the operational programme resources should currently be higher than those in the Grant Agreement dated in 2012. 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.

Investment cost	original 167 315 549 EUR	updated 174 773 029 EUR	+4,4 %
------------------------	---------------------------------	--------------------------------	---------------

The stated investment costs are undiscounted and excluding VAT. The increase in the investment costs was caused by concluded contracts for the work related to financing of unforeseen expenses such as flooding of the bridge structures.

Residual value	original 87 852 303 EUR	updated 84 240 402 EUR	-4,1 %
-----------------------	--------------------------------	-------------------------------	---------------

The residual value of the project in the original CBA was calculated based on the lifetime of the buildings. In accordance with the current CBA manual the updated residual value was recalculated using the "cash flow" method as the project generates net income.

Revenues	original 167 056 670 EUR	updated 87 027 799 EUR	-48 %
-----------------	---------------------------------	-------------------------------	--------------

Incremental toll revenue is directly dependent on the freight transport intensities. Freight transport intensities on the motorway section "D1 Dubná Skala - Turany" are lower compared to the expected traffic volumes from the original CBA. Significant increases in the passenger as well as freight transport intensities are expected following the opening of the neighbouring motorway sections "D1 Hričovské Podhradie - Dubná Skala" that were presumed to be opened earlier in the traffic model. Another reason for the decline in expected revenues is the methods of calculation; since in the original CBA the toll revenue only on the newly built section D1 was quantified, the updated CBA includes the difference of toll revenue between the D1 section and the parallel road I/18.

Operation & Maintenance costs	original 59 882 328 EUR	updated 7 880 813 EUR	-87 %
--	--------------------------------	------------------------------	--------------

A significant change concerns the operation and maintenance costs of the project, the calculation method has changed 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 counted in square meters is greater for the newly built motorway than for the parallel road I/18. However, there is a notable cost saving in the toll collection costs and therefore the overall cost of operating and maintaining infrastructure is lower. The savings are caused by the method of determining the toll collection costs as the tolled vehicles pass only through two toll sections whereas there are tens of the toll sections on the parallel road I/18.

Evaluation of economic analysis

The cost benefit ratio (B/C) decreased from **13,57** to **2,83**. The decrease of B/C value was caused by a different method of calculating the residual value, 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).

Despite the reduction in the cost benefit ratio we can conclude that the project is beneficial for society as the indicator B/C is far above value 1.

Passenger travel time savings	original 1 575 776 547 EUR	updated 313 956 431 EUR	-80 %
--------------------------------------	-----------------------------------	--------------------------------	--------------

Time savings have been reduced several times based on the real traffic intensities that are lower than those assumed by the transport model. As mentioned above, a significant increase in traffic intensities is expected after the completion of the entire section of the D1 motorway, especially following the opening of the sections "D1 Hričovské Podhradie - Dubná Skala" and "D1 Turany - Hubová".

Freight travel time savings	original 0 EUR	updated 40 660 156 EUR	-
------------------------------------	-----------------------	-------------------------------	----------

Saving the time of the transported goods was not quantified in the original CBA. This type of saving is foreseen in the updated CBA accordingly.

Vehicle operating costs savings	original 39 221 370 EUR	updated -13 759 219 EUR	-
Fuel costs savings	original 56 550 049 EUR	updated 11 381 592 EUR	-80 %
General vehicle operating costs savings	original -17 328 679 EUR	updated -25 140 811 EUR	-

Vehicle operating costs consist of the fuel consumption costs (where savings are generated) and other operating costs of vehicles, such as depreciations (with no savings at present). The biggest decrease of the savings in the other vehicle operating costs is caused by the fact that the parallel road I/18 is shorter than the motorway section "D1 Dubná Skala – Turany".

Accident costs savings	original 126 783 527 EUR	updated 47 171 956 EUR	-63 %
-------------------------------	---------------------------------	-------------------------------	--------------

The accident rate was calculated on the basis of the number of accidents for the years 2015 - 2017 (parallel road I/18) respectively years 2016 - 2017 (D1 motorway). For a more accurate analysis, a reference period longer than 3 years should be considered.

Emission costs savings	original 0 EUR	updated 14 935 664 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 we found out that there were also significant savings.

Noise costs savings	original 0 EUR	updated 9 550 629 EUR	-
----------------------------	-----------------------	------------------------------	---

Savings in the noise costs were not quantified in the original CBA. In general, construction of the motorway sections means that the population is less exposed to the noise from the passenger and the freight traffics, which was also confirmed in the analysed section of D1 motorway..

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 Cohesion Fund is justified. The economic analysis confirmed the efficiency of the public funds expenditures as well as justification of the project, since the project's benefits to the society as a whole, outweigh its costs.