Technical Assistance to Connectivity in the Western Balkans
EuropeAid/13785/IH/SER/MULTI

MONTENEGRO

Finalisation of Preliminary Design for Priority Bypass Component of the Adriatic-Ionian Highway Section in Montenegro (Budva Bypass) – EU standards

Partners:
- KreditanstaltfürWiederaufbau(KfW)
- The Government of Montenegro, Ministry of Transport and Maritime Affairs (MoTMA)

Budget of Technical Assistance:
- Euro 1,507,000

EU contribution[1]:
- As above (100%)

Technical Assistance provided by:
- CONNECTA (Technical Assistance to Connectivity in the Western Balkans)

Transport

A feasibility study was completed in 2017 for the Budva Bypass. The study followed a two-stage approach. In Stage I, the options for the bypass were developed considering engineering, environmental, traffic and economic aspects. These options were then assessed in a two-level multi-criteria analysis to determine the best variant. In Stage II, a Draft Preliminary Design was prepared for the chosen variant.

At the completion of Stage I, following the multi-criteria analysis, the recommendation was made that a bypass around Budva should be the priority. This recommendation was accepted by the MoTMA.

Stage II included the preparation of a general topographical mapping, initial geotechnical investigation, some environmental assessment an updated economic analysis and the development of the Budva bypass design to a Draft Preliminary level.

The CONNECTA assignment tasks followed this STAGE II and were grouped in 4 packages:

1) Package No1: Review of previous reports and finalization of smaller remaining parts of work previously undertaken, so that it can apply under WBIF Investment Grant Round 3;

2) Package No2: Finalisation of geotechnical, topographic and other ground investigations and surveys;

3) Package No3: Finalisation of preliminary design and associated reports and drawings, with the details developed according to best EU practice for all tunnels, viaducts, interchanges, access roads and other structures;

4) Package No4: Finalisation of Environmental Social Impact Assessment (ESIA) based on the preliminary design done in accordance with best EU practice.

Project Layout

Results achieved by the TA:

- Detailed review of previous studies resulted in best-fit alignment in a challenging terrain;
- Comprehensive geodetic surveys resulted in finding challenges which were not visible previously;
- Geological terrain mapping, exploratory boring (14 boreholes, max. 20m depth), core mapping, laboratory tests and geophysical tests resulted inidentifying more detailed soil constraints and limitations;
- The results of the Preliminary Design and option analysis were:
  - Finalising accurate alignment for next stages;
  - 3 Interchanges with access roads designed;
  - Bridge position and type defined;
  - Tunnels and equipment design according to EU directives and best EU practice;
  - Drainage system developed.
  - Noise protection barriers defined in accordance with ESIA study.
- Environmental and Social Impact Assessment study (ESIA) developed according to best EU practice consisting of the following reports:
  - Non-Technical Summary

[1] EU contribution concerns only Technical Assistance services for project development

Key recommendations and further actions:

- Prepare next stages of design in line with this preliminary design;
- Decide on construction stages – whole route or half of route;
- Update road related design standards in respective rulebooks as per project documentation.

- Impact Assessment
- Stakeholder Engagement Plan
- Environmental and Social Action Plan
- Resettlement Policy Framework

Rendering of a key structure

Detailed studies of legal and policy framework, identification of key stakeholders, communication and engagement methods, information disclosure & stakeholder engagement programme, grievance mechanism and a resettlement framework helped the local authority's smooth the transition into the next project stages.

Interchange "Budva"

The improved level of detail gave the opportunity to perform more precise calculation of quantities and apply prices related to the local construction market. This enabled estimation of total costs.

3d visualisation of option analysis of interchange "Bratešići"

Key conclusions:

The TA achieved established a solid basis for investment decision makers.

An added value of this consultancy was the clearing out all uncertainties of terrain, ground conditions and of protected areas.

Benefits expected due to Technical Assistance:

- Accelerated project cycle;
- Better estimation of costs;
- Improved design of the alignment.

Impacts anticipated: (from the construction of the bypass)

- Reduction in traffic accidents in Budva;
- Reduced journey times for through traffic;
- Reduction of vehicle operating costs for through traffic.

Transport