



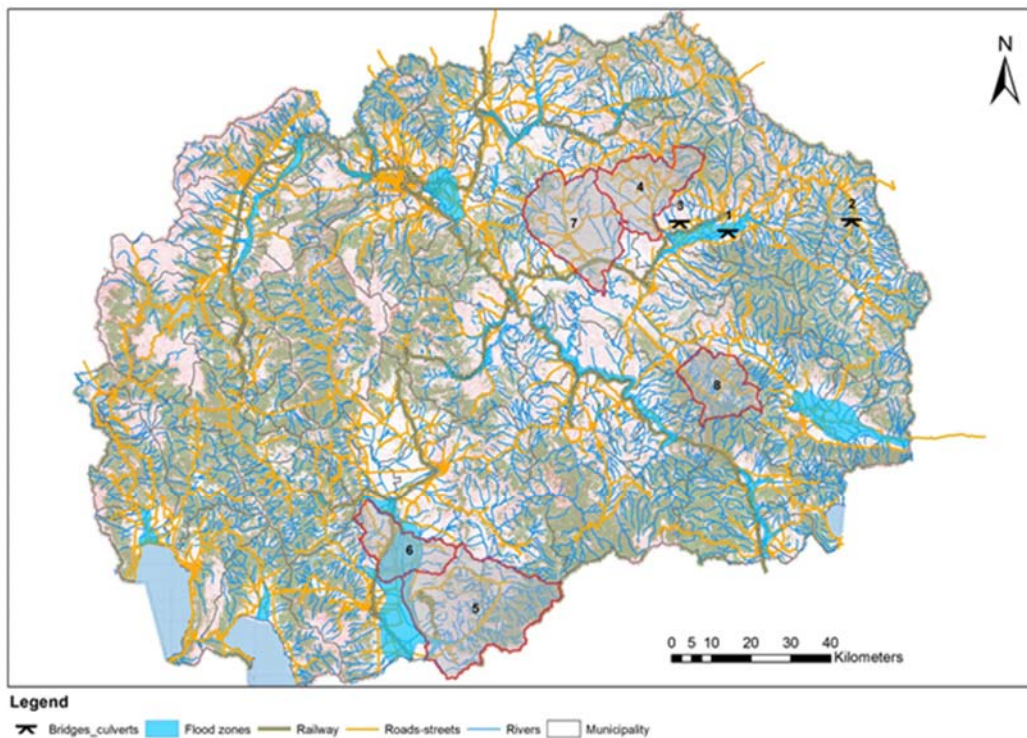
EU FLOODS RECOVERY PROGRAMME – RECONSTRUCTION AND REHABILITATION OF TRANSPORT INFRASTRUCTURE

PROGRESS REPORT

1. Introduction

The goal of the EU Floods Recovery Programme – Reconstruction and Rehabilitation of Transport Infrastructure is to assist the country's recovery efforts in the aftermath of the floods that occurred in early 2015 by reconstructing damaged transport infrastructure. The “building back better” approach is applied to maximize resilience to future floods and mitigate the risk of floods in the most sensitive regions throughout the country.

The Programme targets priority damaged transport infrastructure in eight locations in the country's East, Southeast and Pelagonija regions (Figure 1), with an emphasis on the reconstruction and rehabilitation of priority bridges and roads, as well as the stabilization of slopes and landslides affecting roads.



The following eight transport infrastructure recovery projects are part of the EU Flood Recovery programme – Reconstruction and Rehabilitation of Transport Infrastructure

1. In the mandate of the Public Enterprise for State Roads (regional transport infrastructure):
 - Stabilization of a landslide in Probistip (Krupiste)
 - Reconstruction of a culvert-bridge in Cesinovo – Oblesevo (Sokolarci)
 - Reconstruction of a bridge in Delcevo (Trabotiviste)
 - Reconstruction of a bridge in Zrnovci

2. In the mandate of municipalities (local transport infrastructure):
 - Rehabilitation of local roads in Mogila
 - Rehabilitation of a local road in Konce
 - Reconstruction of a bridge in Sveti Nikole
 - Reconstruction of a local road in Novaci

2. Project Progress

Overall, this component of the EU Flood Recovery Programme is carried out according to schedule with certain variations in the implementation of individual recovery projects depending on the conditions on sites, procedures for obtaining approvals from relevant institutions as well as the organizational capacities of contractors. During the reporting period, six out of eight recovery projects have either been handed-over to beneficiary institutions or nearly completed (landslide in Probistip, culvert/bridge in Cesinovo-Oblesevo, roads in Konce, roads in Mogila, road in Novaci and bridge in Sv. Nikole), and the work on the remaining two (bridge in Zrnovci and bridge in Delcevo) in underway. Currently only the bridge recovery project in Delcevo is facing challenges that require special attention.

Details of the status of each project are given below supported by photographs from the sites from before start of the works and during construction/after completion of works.

1. Stabilization of a landslide on the regional road R2236, Municipality of Probistip

1. Scope of works: Stabilization of a landslide (3,000 m²)
2. Status: Handed-over, 100% complete
3. Contractor: Granit, Skopje; Supervising Engineer: Atrium Studio, Stip

This recovery project included stabilization of a flood-activated landslide on the regional road R2236 connecting the municipalities of Probistip and Sveti Nikole, along with rehabilitation of the damaged road. The technical documentation developed earlier by the Public Enterprise for State Roads was reviewed and adjusted in line with project objectives and procurement needs.



After some delays in the start of activities, caused mainly by the procedures for obtaining consents and the time required for the contractor to mobilize resources and organize the construction site, works have taken a solid implementation pace. Substantive completion of works was achieved on time, and the finalization and commissioning of the were completed with a tolerable delay.

The reconstructed regional road and the stabilized landslide greatly improve region's connectivity, helping the 'normalization' of local activities that were disrupted by the 2015-floods.

2. Reconstruction of a culvert on the regional road R2342, Municipality of Cesinovo-Oblesevo

- Scope of works: Reconstruction of a culvert (12.67 m)
- Status: Handed-over, 100% complete
- Contractor: Zikol, Strumica; Supervising Engineer: Atrium Studio, Stip

This project involved reconstruction of a damaged bridge/culvert on the R2342 regional road, connecting 10 villages with the municipal center of Cesinovo-Oblesevo. The old concrete culvert near the village of Sokolarci was completely destroyed by the floods.

The newly built culvert/bridge already brings multiple benefits to the local communities, including: a) restored connectivity for the local population; b) reduced travel time (avoided alternative routes); c) reduced vehicle expenses for all road users. In addition, the increased discharge capacity of the new structure will directly increase resilience to future flooding.



Thanks to the commitment of all project partners, the timely response to technical and operational issues, as well as the high capacity of the contractor, this project was taken to its successful completion ahead of the deadline. The commissioning process verified the quality of works and the satisfaction of the local community has been communicated through media in multiple occasions.

3. Reconstruction of a bridge on the regional road R2346, Municipality of Delcevo

- Scope of works: Reconstruction of a bridge (62.8 m)
- Status: Ongoing, 10% complete
- Contract period: 7 months (20 December 2016 extended until 31 August 2017)
- Contractor: Granit, Skopje; Supervising Engineer: IRD Engineering, Skopje

This delicate and complex project involves reconstruction and fortification of a severely damaged 62.8 m bridge on the R2346 regional road that is the only road/link between Razlovci and Trbotvishte, i.e., the municipal center Delchevo. The design documentation was produced earlier by the Public Enterprise for State Roads.



This is the recovery project faced with the most serious challenges that generally result from: a) changes in the deformations of the structure since the time of assessment and design stage; b) additional disturbances in the structural stability of the bridge after the start of excavations around the foundations of bridge's pillars. This situation required developing of additional technical solutions, comprehensive structural analyses and planning for specific construction methods that weren't originally considered during the design stage. This has required lengthy processes of building consensus among experts from the contractor, supervision, design and review entities, also taking into account the remaining uncertainties and ensuring safety and longevity of the structure in line with the project objectives.

These new technical solutions have been defined and the contracting documentation (BoQ and technical specifications) have been updated to reflect the additionally required safety measures. The amendment to the contract has been approved by UNDP following the consent of the contractor on the works variation, new work plan, milestones and adjusted construction methods. Investing in finding better solutions is expected to pay off through more efficient implementation, greater safety of the structure and compliance with the 'build back better' principles.

The past and current challenges, as well as the additional time required to setup the construction works in accordance with the new technical solutions (e.g., manufacturing and delivering of a special support structure for the bridge) prevented the completion of the project, in line with the original timeline. The newly proposed deadline is set to 31 August 2017 which will become effective once the signed amendment to the contract is returned to UNDP by the contractor.

In addition to the ongoing bridge reconstruction works, additional protection measures were designed involving riverbed regulation upstream and downstream from the bridge that weren't considered in the existing recovery design. The design documentation has been completed, passing successfully the review process. These measures would bring extra safety to the recovered bridge but, since no extra funding for their realization can be made available under the EU Flood Recovery Programme, the entire technical documentation will be handed over to the authorities for further consideration and resource mobilization.

4. Reconstruction of a bridge on the regional road Kocani-Zrnovci, Municipality of Zrnovci

- Scope of works: Reconstruction of a bridge (81.2 m)
- Status: Ongoing, 35% complete
- Contract period: 12 months (20 June 2017)
- Contractor: Granit, Skopje; Supervising Engineer: Civil Engineering Institute (GIM), Skopje

This is the largest of all transport infrastructure recovery projects supported by the EU Flood Recovery Programme. The works include complete removal of the existing severely damaged bridge on the regional road R1309, linking two municipal centers – Zrnovci and Kocani, and building a new one in

line with the enhanced resilience objectives. The design documentation produced by the Public Enterprise for State Roads was reviewed and adjusted during the early stages of the project.



Considering the size and degree of complexity of interventions, as well as the impact the project will have on the lives of people during the construction period, series of activities have been completed in the course the preparatory stages of the project, including: a) ensuring the necessary permits and consents by multiple institutions (e.g., Ministry of Internal Affairs, Water Management Organization, power supply and telecommunications companies, public forest enterprise and the Municipality of Zrnovci); and b) overcoming possible opposition by local businesses and individuals potentially affected by the works/reduced connectivity.

Field activities have started after all the permits and consents from the state institutions were received, and all outstanding issues with the local community were resolved. The contractor has intensified the field works since then. The old bridge has been completely removed and the work on the new structure has started in line with the design documentation. The delays in the start of construction activities are expected to postpone the originally defined deadline. However, no major remaining risks are anticipated for the time being that may further complicate the works. Based on contractor's current analyses, the entire project can be completed by the end of August 2017.

5. Reconstruction of local roads and streets in Municipality of Mogila – Phase I

- Scope of works: Reconstruction of 27 local streets (8 km in total)
- Status: Handed-over, 100% complete
- Contract period: 7 months (25 October 2016)
- Contractor: Stenton gradba, Bitola; Supervising Engineer: Stolb, Bitola

The Municipality of Mogila was the only municipality that has provided technical documentation on the recovery projects, whose preparation was commissioned right after the floods in 2015. Following a process of review and adjustment of recovery designs, the works were organized in two phases to take into account the larger scope of interventions, access to sites and the seasonal activities of local population in the affected villages.

The first stage of the recovery works in the Municipality of Mogila has been fully completed improving greatly about 8 km of local transport infrastructure for the benefit of the local population and economic activities.



6. Reconstruction of local roads and streets in Municipality of Mogila – Phase II

- Scope of works: Reconstruction of 20 streets (5 km in total)
- Status: Handed-over, works 100% complete
- Contract period: 5 months (16 January 2016)
- Contractor: Granit, Skopje; Supervising Engineer: Stolb, Bitola



In parallel with the first phase of the recovery works, the technical documentation for the subsequent interventions was adjusted and a new contractor was selected. The contracted recovery works were implemented in line with the originally planned timeline.

7. Reconstruction of a regional road in Municipality of Konce

- Scope of works: Reconstruction of a road (6.5 km)
- Status: Handed-over, works 100% completed
- Contract period: 5 months (30 October 2016)
- Contractor: Zikol, Strumica; Supervising Engineer: Atrium Studio, Stip

The flood in Konce caused major damage to local transport infrastructure, most affected being a 6 km road connecting the villages of Dolno Lipovic and Rakitec. The Municipality of Konce was supported by the Public Enterprise for State Roads and the project to complete the technical documentation for the required works that provided the basis for the contracting procedures.

The recovery works have been completed on time and in line with the specified quality. Formal commissioning was also carried out upon verification of the quality of works completed. The local community already enjoys the benefits from using the improved local transport infrastructure.



Besides the road rehabilitation works, additional design documentation is being prepared for the regulation of a few torrential streams that cause damages to the road. The draft design documentation is in the final stages of review.

The implementation of these additional measures is subject to funds availability under the EU Flood Recovery Programme, as they were not considered for funding during the rapid damage and needs assessment stage that identified the road rehabilitation in Konce as a priority. Since no extra funding for their realization can be made available under the EU Flood Recovery Programme, the entire technical documentation will be handed over to the authorities for further consideration and resource mobilization.

8. Reconstruction of a bridge in Municipality of Sveti Nikole

- Scope of works: Reconstruction of a bridge (15 m)
- Status: Ongoing, works 90% completed
- Contract period: 5 months
- Contractor: Promonting, Skopje; Supervising Engineer: Brasnarski inženjering, Skopje

The formulation of a design solution for a new bridge in the Municipality of Sveti Nikole was based on a comprehensive process of extensive field investigations, hydrological and hydraulic modelling, as well as structural stability analyses in response to the complex set of factors that contributed to the damage of the previous structure. Besides building a bridge with improved discharge capacity, the recovery intervention involves regulation of the riverbed, all fully in line with the 'building back better' principles and ensuring functionality and resilience of the new structure.



The selected construction company is efficiently realizing the construction works, the majority of which have already been completed. The completion of the works and the formal commissioning on the new structure is planned to take place within the next 30-45 days.

9. Reconstruction of a local road in Municipality of Novaci

- Scope of works: Reconstruction of a road (2 km) and drainage channels (6 km)
- Status: Handing over next week, 100% complete

- Contract period: 3 ½ months
- Contractor: Stenton gradba, Skopje; Supervising Engineer: Medko, Bitola

Considering the size of flood impacts on local infrastructure in the Municipality of Novaci, a complex set of interventions were designed not only to restore existing infrastructure, but also to prevent its future damages from similar future events. Besides priority local road the recovery design includes upgrading existing flood control, by introducing drainage system of culverts and canals.



The Municipality of Novaci completed the permitting procedures efficiently, thus ensuring access to the site. The majority of construction works have already been completed and no major risks are anticipated that will delay their completion. The finalization of works and formal commissioning of the road is anticipated to take place within the following 30-45 days.

3. Detailed plan of activities

Output 1	Project Year 1										Project Year 2													
	ное.15	дек.15	ян.16	фев.16	мар.16	апр.16	мај.16	јун.16	јул.16	авр.16	сен.16	окт.16	ное.16	дек.16	јан.17	фев.17	мар.17	апр.17	мај.17	јун.17	јул.17	авр.17	сен.17	окт.17
Priority damaged transport infrastructure is reconstructed																								
Activity 1.1. Design, technical review and permitting of selected reconstruction projects																								
Reconstruction of bridge on regional road in the Municipality of Zrnovci																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Review (PLANNED)																								
Review (ACTUAL)																								
Reconstruction of bridge on regional road in the Municipality of Delchevo																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Review (PLANNED)																								
Review (ACTUAL)																								
Reconstruction of bridge/culvert on regional road in the Municipality of Cheshinovo – Obleshevo																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Review (PLANNED)																								
Review (ACTUAL)																								
Reconstruction of bridge on regional road in the Municipality of Probishtip																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Review (PLANNED)																								
Review (ACTUAL)																								
Rehabilitation fo Local Transport Infrastrucutre in the Municipality of Novaci																								
Selection of Design Company (PLANNED)																								
Selection of Design Company (ACTUAL)																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Design and Review (PLANNED)																								
Design and Review (ACTUAL)																								
Rehabilitation of Local Transport Infrastrucutre in the Municipality of Mogila																								
Selection of Design Company (PLANNED)																								
Selection of Design Company (ACTUAL)																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Design and Review (PLANNED)																								
Design and Review (ACTUAL)																								
Rehabilitation fo Local Transport Infrastrucutre in the Municipality of Sveti Nikole																								
Selection of Design Company (PLANNED)																								
Selection of Design Company (ACTUAL)																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Design and Review (PLANNED)																								
Design and Review (ACTUAL)																								
Rehabilitation to Local Transport Infrastrucutre in the Municipality of Konche																								
Selection of Design Company (PLANNED)																								
Selection of Design Company (ACTUAL)																								
Selection of Review Company (PLANNED)																								
Selection of Review Company (ACTUAL)																								
Design and Review (PLANNED)																								
Design and Review (ACTUAL)																								

Rehabilitation fo Local Transport Infrastrucutre in the Municipality of Mogila																		
Selection of Construction Contractor (PLANNED)																		
Selection of Construction Contractor (ACTUAL)																		
Selection of Supervising Engineer (PLANNED)																		
Selection of Supervising Engineer (ACTUAL)																		
Supervised Execution of Works (PLANNED)																		
Supervised Execution of Works (ACTUAL)																		
Commissioning of Infrastructure (PLANNED)																		
Commissioning of Infrastructure (ACTUAL)																		
Rehabilitation of Local Transport Infrastrucutre in the Municipality of Sveti Nikole																		
Selection of Construction Contractor (PLANNED)																		
Selection of Construction Contractor (ACTUAL)																		
Selection of Supervising Engineer (PLANNED)																		
Selection of Supervising Engineer (ACTUAL)																		
Supervised Execution of Works (PLANNED)																		
Supervised Execution of Works (ACTUAL)																		
Commissioning of Infrastructure (PLANNED)																		
Commissioning of Infrastructure (ACTUAL)																		
Rehabilitation fo Local Transport Infrastrucutre in the Municipality of Konche																		
Selection of Construction Contractor (PLANNED)																		
Selection of Construction Contractor (ACTUAL)																		
Selection of Supervising Engineer (PLANNED)																		
Selection of Supervising Engineer (ACTUAL)																		
Supervised Execution of Works (PLANNED)																		
Supervised Execution of Works (ACTUAL)																		
Commissioning of Infrastructure (PLANNED)																		
Commissioning of Infrastructure (ACTUAL)																		
Output 2																		
Lessons learnt and best practices are shared at national and local level																		
Activity 2.1 Communications, sharing lessons learnt and public awareness raising																		
Survey-opinion poll 1 (PLANNED)																		
Survey-opinion poll 1 (ACTUAL)																		
Survey-opinion poll 2 (PLANNED)																		
Survey-opinion poll 2 (ACTUAL)																		
Design of project brandbook (PLANNED)																		
Design of project brandbook (ACTUAL)																		
Focus groups consultations (6) (PLANNED)																		
Focus groups consultations (6) (ACTUAL)																		
Design, translation and editing and production of visibility documents and promotional materials (t-shirts, umbrellas, caps, etc.) (PLANNED)																		
Design, translation and editing and production of visibility documents and promotional materials (t-shirts, umbrellas, caps, etc.) (ACTUAL)																		
Video and photo production (PLANNED)																		
Video and photo production (ACTUAL)																		
Organization of 10 special events (technical equipment, sound systems invitations, transport for attendees, translators, etc.) (PLANNED)																		
Organization of 10 special events (technical equipment, sound systems invitations, transport for attendees, translators, etc.) (ACTUAL)																		

4. Visibility and communication plan

The communication and visibility activities are implemented in parallel to the recovery interventions. A number of feature stories and press releases have been publicized (for details see comment section in the results and resource framework) improving the knowledge of the beneficiaries about the importance of the Programme, its positive effects and the role of the EU in overcoming some of the greatest flood-related challenges in the country.

5. Conclusions

Overall, this component of the EU Flood Recovery Programme is carried out according to schedule with certain variations in the implementation of individual recovery projects depending on the conditions on sites, procedures for obtaining approvals from relevant institutions as well as the organizational capacities of contractors. All contractors' activities are closely monitored on site and through everyday communication on all project related issues. Monthly and ad-hoc meetings are held regularly and project progress is noted and compared against submitted programme of works.

Six out of eight recovery projects have either been handed-over to beneficiary institutions or nearly completed (landslide in Probistip, culvert/bridge in Cesinovo-Oblesevo, roads in Konce, roads in Mogila, road in Novaci and bridge in Sv. Nikole), and the work on the remaining two (bridge in Zrnovci and bridge in Delcevo) is underway. Despite the delays caused by the prolonged unfavourable weather conditions during the winter period, the anticipated works are planned to be completed within tolerable time limits on all eight projects. Currently only the bridge recovery project in Delcevo is facing challenges that require special attention.

6. Overview of implementation costs per project

So far the total value of contracted and committed amounts generally is in line with the estimated costs of reconstruction projects, even though it differs in distribution per projects compared to the pre-implementation estimations. Details, including corresponding savings and over-expenditures across projects can be seen in the following table:

	Recovery project	2015 Estimated Value (USD)	Actual Contract Value (USD)	Supervision & Design (USD)	Total Value (USD)	Variation in Project Value Estimated vs. Total (USD)
1	Landslide in Probistip	156,950.00	257,962.00	8,620.00	266,582.00	-106.632.00
2	Culvert/bridge in Cesinovo – Oblesevo	179,372.00	186.354.00	6,580.00	192,934.00	-13.562.00
3	Bridge in Delcevo	364,350.00	210,708.00	26,273.00	236.981.00	127.369.00
4	Bridge in Zrnovci	1,093,722.00	786,954.00	10,083.00	797.037.00	296.685.00
5	Roads in Mogila	728,700.00	689,163.00	9,437.00	698.600.00	39.100.00
6	Road in Konce	224,215.00	218,900.00	21,224.00	240.124.00	-16.000.00
7	Road in Novaci	280,269.00	231,546.00	14,746.00	246.292.00	33.977.00
8	Bridge in Sv. Nikole	168,161.00	277,285.00	11,704.00	288.989.00	-120.828.00
	Total:	3,195,739.00	2,858,872.00	108,667.00	2.994.539,00	240,109 USD