



1. Project Data

Project ID P108005	Project Name CORRIDOR X HIGHWAY PROJECT	
Country Serbia	Practice Area(Lead) Transport	
L/C/TF Number(s) IBRD-77460,IBRD-86550	Closing Date (Original) 31-Dec-2015	Total Project Cost (USD) 375,553,887.62
Bank Approval Date 09-Jul-2009	Closing Date (Actual) 30-Sep-2019	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	388,000,000.00	0.00
Revised Commitment	426,900,000.00	0.00
Actual	375,553,887.62	0.00

Prepared by Ebru Karamete	Reviewed by Peter Nigel Freeman	ICR Review Coordinator Victoria Alexeeva	Group IEGSD (Unit 4)
-------------------------------------	---	--	--------------------------------

2. Project Objectives and Components

a. Objectives

The same statement of Project Development Objectives (PDO) was used in the Loan Agreement (LA, page 6) and Project Appraisal Document (PAD, page 9), which was :**“to increase transport efficiency and improve traffic safety on the three project sections of Corridor X, between Nis and Dimitrovgrad and Grabovnica and Donji Neradovac respectively, and to improve road management and road safety in Serbia”**.



b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Will a split evaluation be undertaken?

No

d. Components

The project had four components:

1. The M-1 road to the former Yugoslav Republic of Macedonia* (E-75) - Corridor Xd. Estimated total cost: EUR149.1 million (US\$210.2 million equivalent); Actual Cost: EUR297.0 million (US\$359.6 million equivalent), which includes actual cost under Component 2 as well.

This component financed the construction of two sections of motorway totaling 31.9 km between Grabovnica and Grdelica, and between Vladicin Han and Donji Neradovac (Corridor Xd), half on new alignment, half involving an upgrading of the existing road. The component included the relevant electrical and mechanical (E&M) facilities, annex areas, toll plazas and buildings, interchanges, and some interconnecting roads to improve integration with the local road network.

2. The M 1-12 Road to Bulgaria (E-80) - Nis' - Dimitrovgrad – Corridor Xc. Estimated cost: EUR113.3 million (US\$159.7 million equivalent); Actual Cost is combined with the actual cost under Component 1.

This component funded the construction of 8.67 km of motorway on a section of the corridor between Dimitrovgrad and the border with Bulgaria. The component includes the relevant electrical and mechanical (E&M) facilities, annex areas, toll plazas and buildings, interchanges, and some interconnecting roads to improve integration with the local road network.

3. Road Safety: Estimated total cost: EUR2.1 million (US\$2.9 million equivalent); Actual Cost: EUR1.68 million (US\$2.01 million equivalent).

This component supported plans for: (i) road safety capacity building to support the establishment of a Lead Agency in the form of the National Road Safety Council (NRSC); (ii) creation of a road safety performance framework; (iii) developing and launching a national road safety strategy; (iv) preparation and piloting of two multi-sectoral road safety pilots; and (v) the establishment of a road safety database and other road safety equipment.

4. Implementation Assistance and institutional Support: Estimated cost: EUR9.98 million (US\$14 million equivalent); Actual Cost: EUR10.74 million (US\$13.00 million equivalent).

The component provided project management and implementation assistance to the Corridor of Serbia (CoS) consisting of (i) a separate independent environmental and social supervision; (ii) provision of project managerial support; (iii) an independent technical audit of the civil works for the implementation of the project; (iv) procurement assistance and other technical assistance as individual consultants; (v) vehicles, training, incremental operating expenses; (vi) technical assistance to support institutional strengthening in



Public Enterprise 'Putevi Srbije' (PEPS) through the development of Reform Action Plan and its implementation.

**Following the resolution of a dispute with Greece the name Macedonia is now replaced with North Macedonia.*

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost: At appraisal, the original cost estimate was EUR318.2 million (US\$448.4 million). At ICR submission, the actual cost was EUR316.2 million (US\$375.5 million) (ICR, page 8 and World Bank Operations Portal) (99.4 percent of the appraised amount in EUR).

Financing/Borrower Contribution: At appraisal, expected financing sources were: EUR275.2 million, L77460, (US\$387.8 million) by IBRD, and EUR43.0 million (US\$60.6 million) was the government's contribution to cover physical and price contingencies. Additional financing was approved in October 2016 for EUR35 million, L86550, (US\$38.9 million equivalent) to enable financing of cost overruns. At closing, the IBRD financing was EUR310.2 million (US\$375.6million) and contribution from the Borrower was EUR5.98 million (US\$7.24 million). The ICR did not provide information on why the borrower contribution was significantly lower than planned.

Dates: The Project was approved on July 9, 2009 and became effective on November 6, 2009. The Mid-Term Review (MTR) was completed on March 28, 2014. Original closing date was December 31, 2015 and the Project was closed about three and a half years later, on September 30, 2019. The delays were due to contract terminations caused by the poor performance of the contractors and, also due to landslides caused by unexpected weather conditions.

Restructuring: There were two Level II restructurings on February 11, 2014 and June 25, 2018; and one additional financing on October 25, 2016. The restructurings were mainly to extend the project closing dates. Additional financing was provided to finance cost overruns resulting from contractor claims, the impact of delays caused by expropriation of land, unexpected geological conditions, design changes, utility relocations, floods, unexploded ordinance, and the reservation of archeological sites. Use of surplus funds and savings enabled the construction of a 5.8 km extension of the E-75 motorway (Project Restructuring Paper, page 1).

3. Relevance of Objectives

Rationale

Country and Sector Context: Serbia has an important geographic position, positioning the country on two segments of the Pan-European networks, Corridor X and Corridor VII. Corridor X with its three branches (Xb -Belgrade-Budapest, Xc - Nis-Sofia, and Xd - Nis-Skopje) form the core network of South East Europe Transport Observatory, with a total of 792 km of roads and 760 km of railways. Serbia regarded the development of Corridor X as its key priority and wished to develop and complete the core road infrastructure of Corridor X. The main reason was to facilitate sustainable economic development and ensure that the country would continue capitalizing on its geographical position as a key transit country on



the Trans-European Network. In addition, while the number of registered vehicles were increasing at the time of appraisal (5-7 % annually), there were key issues in terms of road network quality, limited maintenance and road safety (number of serious accidents and injuries were increasing) (ICR, page 5).

Relevance to Government Strategies: The PDO was highly relevant to the government's strategies. The Government of Serbia (GoS) had recognized the transport sector as one of the priorities of the country's further development. Serbia prepared a transport strategy in 2007 with support from the European Union, highlighting the importance of (i) integrating the transportation network of the country into the Trans-European Network, (ii) enhancing multimodality of transport, (iii) increasing traffic safety and security, (iv) gradually deregulating the transport market, (v) decreasing environmental impacts of transport, and (vi) establishing stable financing for the transport sector. The GoS also adopted a Road Safety Law in May 2009, incorporating many relevant aspects of EU laws and legislations.

Relevance to World Bank Strategies: The World Bank agreed to finance the development of Corridor X together with the GoS, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the Hellenic Plan for the Economic Reconstruction of the Balkans. Corridor X was to comprise a full 2x2 lane tolled motorway mostly as a greenfield project. Specifically, the World Bank agreed to fund four components under this project: two road construction components, road safety plans and activities, as well as implementation assistance and institutional support.

The PDO was highly relevant to the 2008-2011 CPS (Report No. 41310) for Serbia through private sector led growth among other things promoted by infrastructure investment. The PDO remained relevant with the 2012-2015 CPS (Report No. 65379) where the project directly supported the infrastructure improvement Competitiveness pillar (Pillar 1). At the time of closing, the project was still highly relevant with the actual 2016- 2020 Country Partnership Framework (CPF) (Report No. 94687), supporting two sub-objectives: sub-objective 1d – More efficient public transport companies and sub-objective 2d – Enhanced infrastructure networks. The sub-objectives were based on a Systematic Country Diagnostic, where the State Owned Enterprises (SOE) reform (Priority 3) for specific public road companies (Public Enterprise 'Putevi Srbije' - PEPS and Corridor of Serbia - CoS), and enhanced international, regional and domestic connectivity through improved quality of infrastructure (Priority 5) were consistently identified as major priorities. During the 10 year project period, the project was recognized in each CPS/CPF as one of the major pillars of support to Serbia.

Rating

High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To increase transport efficiency on three sections of Corridor X, between Nis and Dimitrovgrad and Leskovac (Grabovnica) and Donji Neradovac respectively.



Rationale

Theory of Change (TOC)

The project's TOC included appropriate and linked activities and outputs to achieve the objective. Constructing sections of Corridor X highway, together with other international financing institutions (IFIs), was intended to increase transport efficiency. These outputs would lead to reductions in travel cost. The reduction of road user costs would be the result of the lower travel time and lower vehicle operating costs. The critical assumptions included that contractors should have sufficient capacity and design skills and the government should have sufficient capacity to support the results. The contractor capacity assumption proved to be unrealistic as the project had to terminate two contracts due to poor performance of the contractors. The Project team subsequently stated that the contractor capacity assumption was realistic as it reflected the situation at design and the issues emerged as a result of spillover effects of the economic crisis.

The PDO indicators were at the outcome level and were adequately designed to include the reduction in travel costs, as well as in the number of accidents. However, an indicator to measure road quality level could have been included as well to supplement the evidence base.

Outputs

All the World Bank- financed sections of Corridor X (E-75 and E-80) were mostly completed and opened to traffic by project closing. The final completion date of Dimitrovgrad Bypass (on E-80) was two months later than the closing date, and the remaining works were fully completed using government funds. All the WB-financed sections, including Dimitrovgrad Bypass roadway, were open to traffic before the closing date (while the slope protection works were still ongoing); all the intended physical works were substantially achieved by the closing date.

Outcomes

The road user costs for the WB financed road sections on E-80 (Nis- Dimitrovgrad) and E-75 (Grabovnica-Donji Neradovac) were reduced by 23% and 13% respectively compared to the baseline, which was higher than the 10% target.

Rating

Substantial

OBJECTIVE 2

Objective

To improve traffic safety on three sections of Corridor X, between Nis and Dimitrovgrad and Leskovac (Grabovnica) and Donji Neradovac respectively.

Rationale

Theory of Change (TOC)



Constructing sections of Corridor X highway together with other donors, including road safety measures, was intended to lead to reductions in the number of accidents through a safer motorway design that would significantly decrease the risk of vehicle collisions, thus improving traffic safety.

Outputs

Same as under Objective 1.

Outcome

Road safety targets were significantly exceeded, namely a 25% reduction of road crash related deaths and serious injuries on E-80, and a 64% reduction on E-75 (as against the target of 10 %, which seemed to be set quite low though). The reduction was much less on E-80 (Nis-Dimitrovgrad) compared with E-75 is because the major part of E-80 (other IFI financed sections: 22.5 km from total 86.5 km) opened in November 2019, and its impact was not fully captured in the data by project close.

Rating

High

OBJECTIVE 3

Objective

To improve road management in the Borrower's territory [Serbia].

Rationale

Theory of Change (TOC)

The institutional support for the reform of the public enterprise was expected to lead to improved road management. It was, however, not fully clear from the TOC what aspects of the road management were to be improved, i.e., specific outcomes that would be achieved through the project were not specified.

The PDO indicator was:

- Action Plan for Reform of the public enterprise 'Putevi Srbije' adopted.

The project team subsequently stated that one reason for not having other specific indicators was that at the start of the Corridor X project the Bank did not have enough knowledge of the road management issues to be able to set realistic and precise targets at that time. According to the PAD, the project intended to provide support in developing a reform action plan, and after adoption, assist in the implementation.

Results

The Reform Action Plan to improve institutional aspects of road management through reforms at Public Enterprise 'Putevi Srbije' (PEPS) was adopted meeting the PDO target. The Plan for PEPS was prepared in 2012 but its implementation was delayed until the project's closing date (the ICR did not provide the reasons for the delay in implementation). The GoS shared the PEPS Reform Action Plan with potential donors,



identifying the need of the future operations in the sector. The follow-up Bank operations in Serbia (Road Rehabilitation Safety Project, and Enhancing Infrastructure Efficiency and Sustainability Project) included recommendations to enhance Performance-based Maintenance Contracts, Service Level Agreements to rationalize the relation between the government and PEPS, as well as Road Asset Management System (RAMS), for the continuation of road management capacity improvements in Serbia.

The ICR (page 12) notes that overall the project ensured certain road management improvements, particularly for the motorway operation- related aspects. The project helped to convert the open toll system to a distance- based closed toll system (i.e., a charge is based on the distance travelled and embedded in the whole motorway network system of the country). As reported, for the first time in Serbia, it provided an Intelligent Transport System (ITS) for tunnel operations in compliance with the relevant EU directive and made this a standard for all Corridor X tunnels for safety operations.

The achievement of this objective is rated modest for lack of evidence on improvement in road management in Serbia as intended through a reform of the public enterprise PEPS. There is no clarity on progress with regard to the institutional aspects of road management after 10 years of project implementation in line.

Rating
Modest

OBJECTIVE 4

Objective

To improve road safety in the Borrower's territory [Serbia].

Rationale

Theory of Change (TOC)

Project activities on road safety strategy, establishment of a lead agency, road safety pilots, and a database were expected to lead to the achievement of the objective of improved road safety.

The PDO indicator was:

- National Road Safety Strategy developed and launched.

Results

The National Road Safety Strategy was developed and launched achieving the PDO indicator target.

The National Road Safety Council (NRSC), established under the project, has been making a number of key decisions on road safety actions based on the National Road Safety Strategy (NRSS). The Road Accident Database based on EU standards, was launched on the road agency website for external public use, providing regular data updates on road accident information to the public. The results of the pilot road safety projects (such as, safety education for children, a seatbelt usage media campaign, a road safety inspection, and a comparative safety analysis of selected road sections) have been reported and disseminated to the road safety society of Serbia for supporting the expansion of similar activities with the support of the



government and other donor organizations. The ICR noted that while Serbia still shows a high public risk of traffic accidents compared with the EU average, the number of road accidents and fatalities have been steadily decreasing (ICR page 12). The ICR did not provide figures to substantiate this statement, however.

Rating

Substantial

OVERALL EFFICACY

Rationale

The achievement of Objective 1 was substantial due to reductions in travel costs and high for Objective 2 for significantly reducing road-related accidents on the constructed corridor. The achievement of Objective 3 was modest for insufficient evidence on road management improvement as intended through the project support. Substantial progress was made on road safety improvements under Objective 4. On balance, the overall efficacy is rated substantial.

Overall Efficacy Rating

Substantial

5. Efficiency

Economic and Financial Efficiency: Ex-ante and an ex-post economic analyses were done using the Highway Development and Management Model (HDM-4), which considered the benefits in terms of vehicle operating costs, travel time costs, and accident costs savings over a 25-year analysis period. The overall Economic Rate of Return (ERR) ex-ante and ex-post were 12.5 % and 10.2 % respectively (the discount rate of 6 %). The lower ERR was due to a lower than expected actual traffic volume (46 % of the appraisal estimate in 2018 due to the fact that the new motorways would not be fully operational until 2019).

A financial analysis was also carried out for the entire E-75 and E-80 sections of Corridor X. This included not only the World Bank-financed sections but also the sections financed by other IFIs. The financial analysis estimated the Financial Internal Rate of Return (FIRR) for the period of 25 years using toll revenue, deducting the road agency capital costs, operating costs and maintenance costs borne by the public enterprise (PEPS), in discounted values. Hence, it was a financial analysis of the road entity PEPS with the understanding that the agency had not incurred the initial investment, as defined at appraisal. Although the result is not entirely attributable to the World Bank-financed sections of the Corridor X alone, this was a reasonable proxy for the financial implication of the PEPS. The overall ex-post FIRR of the entire Corridor X (12.8%) was lower than the appraisal estimate (15.0%). This was mostly because of lower total toll revenues, which were not fully compensated by the lower overall road agency capital, operating and maintenance costs.



The ICR did not provide any sensitivity analysis.

Administrative and Operational Efficiency: The project took 10 years before closure against the original plan of 6.5 years. While, all the Bank- financed sections opened to traffic after 8 years, the remaining time was utilized in providing technical support for the slope protection works. Section 1 experienced substantial delays because of two contract terminations caused by the poor performance of the contractors and, also due to landslides caused by unexpected weather conditions. These events were essentially outside of the control of the project but were properly managed.

Even though most of the sections experienced a number of cost increases because of unexpected physical factors during implementation such as landslides of cut slopes, the final civil works costs were well managed, staying within the appraisal estimate.

Although the project experienced significant delays, because of substantial economic and financial rates of return, the overall efficiency of the project is rated substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	12.50	100.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	10.20	100.00 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The project development objectives were highly relevant to respond to the country development challenges and the World Bank strategies. The reduction in travel costs and in number of accidents showed increased transport efficiency and improved traffic safety on the corridor; the project support led to improved results on road safety, but limited results on improved road management. The project efficacy is rated substantial on balance, provided there are multiple objectives, with one or more rated high. Efficiency is rated substantial based on substantial economic and financial efficiency, despite significant delays during implementation. The overall outcome is Satisfactory.

a. Outcome Rating

Satisfactory



7. Risk to Development Outcome

The ICR considered the risk to development outcomes as moderate. IEG concurs with ICR's risk assessment.

Adequate and sustained operation and maintenance of Corridor X is expected. Part of Corridor X (e.g. Nis-Grabovnica on E-75) had already been operated with an open toll system before the project, but through the completion of the entire motorway, the toll system has been transformed to the full closed system to be charged based on the distance travelled, and embedded into the whole motorway network system of the country. The operation and maintenance of the completed motorways is expected to be well managed by PEPS, which has been operating and maintaining the entire toll motorway network of Serbia with a good record.

There are technical risks of recurrent landslides on the motorway slopes throughout E-75 and E-80, where a number of advanced geotechnical solutions had to be implemented. However, the experience that the government gained with technical assistance provided under the project is expected to be adequately transferred to PEPS so that appropriate maintenance and repairs are expected when future flood or landslides occur on the motorways.

The financial risk of lower than expected toll revenues will continue to be a risk for the financially sustainable operation of the toll motorway, but this risk is likely low given the projected traffic growth.

8. Assessment of Bank Performance

a. Quality-at-Entry

The project was prepared in consultation with other IFIs and in line with the Hellenic Plan for the Economic Reconstruction of the Balkans (HiPERB). The Bank was asked to act as the lead IFI for the entire program for E-75 and E-80, the two southern sections of Corridor X. During the project preparation, the Bank led the assessment review of technical and economic viability, the preparation review of the Resettlement Policy Framework (RPF), the two corridor-level EIAs and the review of the proposed engineering designs. The Bank also agreed to finance the supervision service for the entire road, including not only the World Bank- financed sections but also the European Investment Bank (EIB) and European Bank for Reconstruction and Development (EBRD) financed sections. This was due to the lack of the initial financing mechanism for this aspect by the other IFIs, but it eventually enabled the effective construction supervision of the whole facility, which was a critical factor of quality assurance of construction of the entire project.

The Bank carried out reviews of the preliminary designs of E-75 and E-80 and made several specific recommendations to improve their quality. The technical assistance sub-components were based on the previous engagement from the Bank in analytical works (such as the Road Safety Capacity Management Review (FY07), the iRAP Survey of the Road Network (FY09), a Policy Note on Options for the



Development of Corridor X and the paper on Improving the Management of the Road Sector in Serbia (FY08).

The project duration was underestimated at the appraisal. Even though the readiness at appraisal looked promising for smooth implementation, the total project duration estimated at appraisal (6.5 years from the Loan Agreement to the original closing date) was too optimistic for a large-scale greenfield motorway construction project with a number of land acquisition and anticipated geological challenges at site.

The project risks were realistically assessed in general except the risk of land acquisition and resettlement, which later became one of the major issues delaying the implementation. This should have been highlighted more prominently, but it was not flagged as a major risk at appraisal due to the experience record of the responsible agency, PEPS.

Quality-at-Entry Rating

Satisfactory

b. Quality of supervision

The project experienced initial delays due to inadequate performance of Dimitrovgrad Bypass works (Lot 1 and 2) contractors, delays in the completion of land acquisition, delays in procurement of the remaining works of E-75 and E-80 (Dimitrovgrad Bypass Lot 3). Additionally, the initial disbursement was quite slow. The Bank periodically sent missions that not only expressed warnings and concerns, but actively contributed to the improvement of project performance. In addition, close monitoring of the TA components achievement led to the eventual achievement of the intended outcomes, including the road safety capacity building and institutional strengthening of the PEPS and the GoS.

As reported by the ICR, the Bank flexibly supported the Borrower in adopting the necessary changes resulting in the successful completion of the project. The 2014 Restructuring enabled the usage of saved funds from Lot 6 on E-75, which could not be covered by EIB. The 2016 Additional Financing enabled the continuation of the project to cover the cost overrun and enhance the implementation of road sector reforms that had not yet commenced by then (AF Project Paper 2016, page 5). The 2018 Level 2 Restructuring enabled the extension of loan closing date in order to complete the delayed works. The Bank fielded a task team that comprised an appropriate mix of expertise in the required fields, and when necessary, involved external specialists for additional implementation support. During the latter period of implementation, the team was mostly based in Belgrade and provided close dialogue with the government.

The ICR does not address the reason for lack of progress on the planned road management reforms in Serbia supported by the project during a 10-year implementation period and issues under the Bank control. But the fact that the sector did not act on the reform plan developed under the project in 2012 point to shortcomings in the implementation support.

Due to unsatisfactory management of site safety that resulted in separate fatal accidents at sites (at Grabovnica-Grdelica in September 2013; at Dimitrovgrad Bypass in November 2014 and February 2017), the Bank supervision rating is downrated. As reported by the ICR, the Bank introduced additional



safety measures following the first two accidents and that the overall safeguards compliance was deemed adequate.

Quality of Supervision Rating

Moderately Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The PDO was specific on increasing transport efficiency and improving traffic safety and road management associated with the development of the designated sections of Corridor X motorway. The results indicators were kept relevant to the project components. They were capturing (i) the road user cost reductions and road crash related death and serious injuries for the entire Corridor X project, assuming that other IFI-financed sections would be completed in coordinated time horizon, and (ii) the adoption of the PEPS Reform Action Plan and the development and launch of the National Road Safety Strategy as realistic and specific targets during the project period. The Intermediate Results Indicators (IRIs) were simply made to confirm the output achievements of the intended objectives.

The PDO indicators to measure institutional objectives on improving road safety and management in the country were output oriented. Under the road management objective, it was not clear what reform of the public enterprise was expected and there were no indicators identified explaining the institutional aspects for road management or capturing relevant progress. The project team subsequently stated that one reason for not having other specific indicators was that at the start of the Corridor X project the Bank did not have enough knowledge of the road management issues to be able to set realistic and precise targets at that time.

b. M&E Implementation

The M&E data were collected during the project implementation in an acceptable manner defined by the government, but these data were mostly available for collection only at the end of the project due to their nature.

The expectations and outcomes in relation to the PDO on road management improvement were not updated/ clarified during the project implementation.

The project intended to produce the socio- economic impact assessment that resulted in a study summarizing anecdotal socio-economic benefits, for quality issues of the final report (ICR, page 17; ISR #22, October 2019).



c. M&E Utilization

The M&E data utilization for assessing the final outcome achievement was effective, however its utilization for measuring the intermediate performance and results progress was not. The main reason for this was that most of the indicators, except for the constructed/upgraded length of motorways were associated with the final outcome.

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

Environmental Safeguards: The Project was categorized as Category A (full assessment) for environmental safeguards triggering the following safeguard policies: Environmental Impact Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04) and Involuntary Resettlement (OP/BP 4.12). Two corridor level Environmental Impact Assessments (EIAs) for the entire E-75 and E80 were prepared, reviewed and cleared prior to appraisal in May 2009. The associated seven sub-section EIAs for E-75 and five sub-section EIAs for E-80 were prepared and consolidated into the corridor-level EIAs. The site-specific Environmental Management Plans (EMPs) were prepared along with the EIAs and provided with the bidding documents for each works contract. There were times when the implementation of environmental measures stipulated in EIAs were delayed, particularly during 2013-2014. There were several reasons for the delays, such as borrow pit usage prior to official permits on E-75, conformity to the blasting procedures on E-80 tunnels, unsatisfactory management of site safety related to the fatal accidents at sites (in September 2013 at Grabovnica-Grdelica, November 2014 and February 2017 at Dimitrovgrad Bypass). The ICR (page 21) reports the measures undertaken that included the implementation of the Health and Safety (H&S) Audit Report and the Site Safety Action Plan for the fatal accidents in the first two cases, and H&S audit and introduction of additional safety measures in the third case. The ICR reported that the overall compliance with the environmental safeguards policies was adequate (ICR page 21).

The ICR did not provide information on the project's compliance with the Natural Habitats (OP/BP 4.04) safeguards policy. The project team subsequently provided the following information: "The compliance with OP/BP4.04 has never been an issue during implementation. During the project preparation, as a part of the Corridor Level EIA the requirements from OP 4.04 were addressed and specific requirements included in ToRs for preparation of section specific EIAs and corresponding EMPs. During project implementation – for each section funded by the World Bank, as a part of the preparation of section-specific EIAs and EMPs the baseline identified relevant sites, authorities issued relevant conditions for works within these areas and EMPs identified necessary technical measures that need to be implemented. These measures were implemented as a part of EMPs' implementation, and documented through periodic EMP implementation reports and World Bank implementation support missions. Based on information received, there were no major non-conformities in implementation of respective measures. Minor issues were noted and corrected by the the contractors as soon as they were noted".



Social Safeguards: The ICR notes that (page 21) the land acquisition associated with the original three sections of the project amounted 322.7 ha involving 2,092 cases of affected landowners; this was later increased to 371.8 ha with 2,491 cases with the addition of Lot 6 on E-75. The beneficiary of expropriation was the PEPS as the owner of the acquired land. There were delays in compliance of the Resettlement Action Plans (RAPs) due to the slow expropriation process during 2011-2012 and 2015. The reasons for the delays were related to the lack of expropriation funds, disputes on the expropriations, and delays in providing subsistence allowances and transitional allowances to displaced families. Nevertheless, the expropriation process of the entire project was substantially completed by 2016. Overall, the implementation of expropriation related impacts was consistent with the Bank endorsed RAPs and was in compliance with OP4.12 provisions.

b. Fiduciary Compliance

Financial Management: The project had appropriate financial management (FM) arrangements. The FM unit was adequately staffed with experienced and qualified finance professionals who were permanent employees of the government. The internal control system was sufficient. The quarterly Interim Financial Reports were submitted to the Bank on time, and the reports were acceptable. The audit of the entity financial statements, which was considered as the audit of the project, provided sufficient details about the project transactions. The FM performance was assessed throughout implementation as acceptable.

Procurement: The procurement plan was updated with various amendments, and bidding processes for works and selection of consultants were managed adequately for all the contracts throughout the implementation, including the termination of Lot 1 and 2 on Dimotrovgrad Bypass and the two-time re-bidding processes, appropriate extension of contracts associated with the loan closing date extensions. The project's procurement management was assessed by the ICR as satisfactory (ICR page 22).

c. Unintended impacts (Positive or Negative)

Positive livelihood impacts of the Corridor X Highway Project are expected to be visible in respect of tourism, local communities, and the economy. Corridor X is one of the most important pan-European transport corridors that run through Serbia and connects Austria, Hungary, Slovenia, Croatia, Serbia, Bulgaria, North Macedonia and Greece. By joining this corridor, the transport system of Serbia becomes compatible with the transport system of the European Union standards. The new highway is expected have a positive impact on commercial and trade activities in the region, and will contribute to the regional development and cohesion of the wider Balkan area.

d. Other

Gender: The project did not explicitly incorporate a gender dimension into its design or implementation, but has confirmed that women got a certain share of local employment contract. Also, the Road Safety Action Plan was prepared in a gender sensitive format confirming that the road safety actions have a focus on women's issues, who are often categorized as transport poor. Related indicators on these were added in 2016 AF Project Paper, and confirmed its achievements as expected. At its final stage the project also



supported delivering the Gender in Transport study in Serbia. The study was first of its kind in the region. It analyzed gender induced differences in traveling patterns and preferences, obstacles in accessing the transport services, availability and safety, among other things. The study provided first insights into the gender induced differences and policy recommendations and provided the basis for gender-informed adjustments of transport and mobility services in Serbia.

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Moderately Satisfactory	Due to unsatisfactory management of site safety related to separate fatal accidents at sites.
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

12. Lessons

The following four lessons in the ICR stood out as important and relevant to other projects in the road sector and are presented here with some editing.

To maximize the impact of a large-scale transport project, it can be designed in the context of Integrated Territorial Development (ITD), including multi-sector regional and urban programs.

The ITD is a tool suggested by the EU to implement multi-sectoral territorial strategies in an integrated manner. It allows governments to implement operational programs in a cross-cutting manner drawing funding from several priority axes of multiple operational programs based on an integrated strategy for a specific territory, such as South-eastern region of Serbia in this case. It is essential to develop a cross-sectoral integrated development strategy that addresses the development needs of the region at the planning stage, as well as design to build synergies produced by coordinated implementation.

When different sections of a highway construction project are funded by multiple IFIs via parallel financing, consolidating the supervision arrangement under one International Financing Organization (such as the World Bank) may have positive impacts on implementation.

The project experience showed that such a supervision arrangement can make a significant impact on the quality, schedule and cost control aspects. It can also make a positive impact on overall coordination of the whole project. Enabling the supervision engineer to compare and examine cross-learning cases to come up with optimal solutions in similar technical situations. This is especially important in countries that have low contract management capacity.

Adequate design quality and planning can help minimize time and cost overrun risks; project timelines should be planned more generously for complex transport projects. It is important to



ensure thorough geotechnical investigations, particularly for mountainous road works. In addition, the duration of implementation should be realistic considering the local conditions and availability of resources. Works should be strategically packaged in lots taking into account the markets and likely efficiency of works implementation. The cost estimate should reflect a realistic cost of the local conditions and markets without overly relying on the standard schedule of rates.

The environmental and social (E&S) management requirements under works contracts should be standardized and clarified in the bidding documents and requirements. Whereas the E&S safeguards of construction works have been a priority for a long time, cost allocation is often underestimated. E&S management should be an integral aspect of contract award criteria. The cost of Environmental and Social Management Plans (ESMPs) implementation should be specifically budgeted. The new World Bank guidelines of Contractor's ESMP requirements and introduction of E&S Performance Security should be standardized to ensure the E&S aspects to be fully costed for proper management.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR provides a good contextual overview of the project and a sound Theory of Change framework. It is candid in presenting the key factors that affected implementation and outcomes as well as the risks to development outcomes. The lessons are useful and are based on the specific experiences and findings of the project. In addition to achievement of the objectives, the ICR provides positive account on unintended results achieved and/or expected from project. Regarding the quality of the evidence and of the analysis, the ICR could have been more comprehensive and provided more outcome- level information (results, or lack of results) on road management aspects of the PDO. In addition, actual figures could have been provided on the main parameters under the economic analysis. Reasons were not given as to why the Reform Action Plan for PEPS was delayed until the end of the project. Apart from stating 'unsatisfactory management of site safety', the ICR does not provide details on sufficiency of safety measures to ensure the safety of construction workers as part of the E&S framework (whether there was negligence and whether the accident could have been avoided), as there were three fatalities during highway construction. Lastly, Natural Habitats safeguard compliance was not covered.

a. Quality of ICR Rating

Substantial

