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# World Bank Project Performance Assessment Report: Croatia, Emergency Transport and Mine Clearing Project

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**Document of  
The World Bank**

**Report No.: 28381**

**PROJECT PERFORMANCE ASSESSMENT REPORT**

**CROATIA**

**HIGHWAY SECTOR PROJECT  
(LOAN 3869-CR)**

**EMERGENCY TRANSPORT AND MINE CLEARING PROJECT  
(LOAN 4104-CR)**

**March 30, 2004**

*Sector and Thematic Evaluation Group  
Operations Evaluation Department*

## Currency Equivalents (end-of-period)

*Currency Unit = Kuna (HRK)*

1994	US\$1.00	HRK
1995	US\$1.00	5.32 HRK
1996	US\$1.00	5.54 HRK
1997	US\$1.00	6.30 HRK
1998	US\$1.00	6.25 HRK
1999	US\$1.00	7.65 HRK
2000	US\$1.00	8.16 HRK
2001	US\$1.00	8.36 HRK
2002	US\$1.00	7.18 HRK

## Abbreviations and Acronyms

BiH	Bosnia and Herzegovina
BMS	Bridge Management System
CR	Croatian Roads
CAE	Country Assistance Evaluation
ERL	Emergency Recovery Loan
ERR	Economic Rate of Return
FSRY	Former Socialist Republic of Yugoslavia
HAC	Croatian Highway Agency
HC	Croatian Roads Authority
HZ	Croatian Railways
ICB	International Competitive Bidding
ICR	Implementation Completion Report
MOP	Memorandum of the President (to the World Bank Executive Directors)
MPW	Ministry of Public Works
MUNGOS	National Landmine Clearing Company
PMS	Pavement Management System
PSR	Project Status Report
QAG	Quality Assurance Group
SAR	Staff Appraisal Report
TA	Technical Assistance
UNPA	United Nations Protected Areas
vpd	Vehicles per Day

## Fiscal Year

Government: January 1 – December 31

Director-General, Operations Evaluation	:	Mr. Gregory K. Ingram
Director, Operations Evaluation Department	:	Mr. Ajay Chhibber
Manager, Sector and Thematic Evaluation	:	Mr. Alain Barbu

**OED Mission: Enhancing development effectiveness through excellence and independence in evaluation.**
**About this Report**

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

**About the OED Rating System**

The time-tested evaluation methods used by OED are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. OED evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (more information is available on the OED website: <http://worldbank.org/oed/eta-mainpage.html>).

**Relevance of Objectives:** The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

**Efficacy:** The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

**Efficiency:** The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

**Sustainability:** The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

**Institutional Development Impact:** The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

**Outcome:** The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

**Bank Performance:** The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

**Borrower Performance:** The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

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## Principal Ratings

### Highway Sector Project (Loan 3869-CR )

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Moderately Unsatisfactory	Unsatisfactory
Sustainability	Likely	Likely	Likely
Institutional Development	Modest	Modest	Modest
Bank Performance	Highly Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Unsatisfactory	Unsatisfactory

### Emergency Transport and Mine Clearing Project (Loan 4104-CR)

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Satisfactory
Sustainability	Likely	Highly likely	Likely
Institutional Development	High	High	Substantial
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

\* The Implementation Completion Report (ICR) is a self-evaluation by the responsible operational division of the Bank. The ICR Review is an intermediate OED product that seeks to independently verify the findings of the ICR

## Key Staff Responsible

### Highway Sector Project (Loan 3869-CR)

<i>Project</i>	<i>Task Manager/ Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Enn Vasur	Hans Apitz	Kemal Dervis
Completion	Peter Parker	Eva Molnar	Andrew Vorkink

### Emergency Transport and Mine Clearing Project (Loan 4104-CR)

<i>Project</i>	<i>Task Manager/ Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Sue Rutledge	Hans Apitz	Jean Michel Severino
Completion	Peter Parker	Eva Molnar	Indira Konjhodzic





## **Preface**

This is a Project Performance Audit Report (PPAR) for two projects in Croatia. The Highway Sector Project (Loan 3869-CR) was approved for a loan of US\$80 million equivalent on April 20, 1995, and closed on June 30, 2001, six months behind schedule. An undisbursed amount of US\$0.1 million was cancelled. The Emergency Transport and Mine Clearing Project (Loan 4104-CR) was approved for a loan of US\$102 million equivalent on November 21, 1996, and closed on December 31, 2001, 18 months behind schedule. The loan was fully disbursed.

This report is based on reviews of the Implementation Completion Report (ICR), the Staff Appraisal Report (SAR), loan documents, project files, transcripts of Board proceedings, and other Bank documents, and on discussions with Bank staff. An OED mission visited Croatia in May 2003 and reviewed the projects with officials responsible for the transport sector and for clearing of landmines. Their kind assistance is gratefully acknowledged.

The PPAR was undertaken in support of an OED Country Assistance Evaluation for Croatia. The PPAR gives special attention to the allocation of resources and funding for maintenance in the highway sector project and to the impact, both domestically and internationally, of reestablishing physical links through the emergency transport and mine clearing project.

Following standard procedures, copies of the PPAR was sent to the Croatian authorities for comments but none were received.



## Summary

The **Highway Sector Project**, approved in 1995, aimed to support and speed up the modernization and transformation of the highway system in Croatia with special emphasis on the main road network and Croatian Road Authority (HC). The project's main component financed three years of the HC's investment program. The project also involved road safety, vehicle emissions, and technical assistance to prepare the restructuring of Croatian Railways and a Master Plan for Rijeka, Croatia's main seaport. A key aspect of the project was its sectoral approach to Croatia's road system.

The **Emergency Transport and Mine Clearing Project**, approved in 1996, covered the first phase of a larger reconstruction program following the breakup of the former Yugoslavia, ensuing hostilities, and the subsequent Dayton peace agreement (signed in December 1995). The project objectives were to (i) repair and reconstruct the surface transport networks within Croatia, especially those leading to Bosnia and Herzegovina (BiH), and (ii) clear landmines specifically in areas of high economic priority for reconstruction, starting with the transport networks. While the transport component was straightforward with established agencies, mine clearing was complex because no established organization existed to handle the work in a civilian reconstruction context.

In the **Highway** project, physical implementation of the road works was conducted largely as expected — some 1,600 kilometers of roads, two-thirds of the original target, were rehabilitated and 45 kilometers of trunk and primary roads were built, meeting targets. The other activities, technical assistances, studies and training, were also carried out as intended. Despite this, the project's *outcome* is rated **unsatisfactory** for two reasons. First, because the government launched an additional, large motorway program in 1998. The program largely consisted of uneconomic investments with low economic returns. Second, because the overall condition of Croatia's road network improved only marginally or was worse at the end of the project than at the beginning, mainly because of inadequate funding for road maintenance. *Sustainability* is rated **likely** because the government in 2001 created separate agencies for managing the existing road network (Croatian Roads, CR) and for developing and managing motorways (Croatian Motorways), each with dedicated, off-budget funding from a surcharge on gasoline tax, which appears to be adequate for the maintenance of each of the two systems. Furthermore, the motorway construction program has been scaled down considerably. *Institutional development* is rated **modest**, since the road pavement management system, the project's main institutional component, was still not fully operational by project completion. *Bank performance* is rated **satisfactory**, since the project was well prepared and supervision was effective, and the Bank did its utmost to promote economic efficiency in the road sector, including preparation of a high-quality sector paper that analyzed the economic and financial issues posed by the motorway program. *Borrower performance* is rated **unsatisfactory** due to the double misallocation of resources: the large amount of funds for the motorway program and insufficient funding of road maintenance. On the other hand, implementation performance by the road agency was generally very good.

In the **Emergency Transport and Mine Clearing** project, about 13 square kilometers were cleared, and about 1,500 landmines and 3,200 pieces of unexploded ordinance were removed to enable infrastructure work to go ahead. Repair or reconstruction of transport infrastructure, made possible by this, either met or exceeded targets and included 180 kilometers of roads, 32 bridges, reconstruction of two railway lines (Lika and Novska-Sisak), and piers, terminals, and equipment in the Port of Ploce. *Outcome* is rated **satisfactory**. The project was instrumental in reestablishing physical links between Croatia and Bosnia and Herzegovina. Making operational the 10 bridges connecting the two countries across the Sava and the Una rivers dramatically improved the prospects for trade and movement of persons between the two countries. The reconstruction and improvement of Ploce port, BiH's main maritime outlet, also is a major contributor to improving BiH logistical conditions, although port activity has not yet reached the expected levels mainly due to the slow recovery of BiH's economy. The project also improved important sections of Croatia's domestic land transport system. *Sustainability* is rated **likely**: clearance of mines has permanently freed key areas for reconstruction, funding for road maintenance is likely to be adequate, and structural reforms of the railway sector are proceeding faster than expected. The weak point is the Port of Ploce, where traffic is only gradually picking up. *Institutional development* is rated **substantial**, even though it was not a primary focus of this emergency operation, on account of (i) the extension of competitive bidding introduced under the project for demining to all mine clearing operations and development of a local demining industry, and (ii) the creation of CROMAC, the effective national agency in charge of mine clearing. *Bank and borrower performance* are rated **satisfactory**.

The following lessons emerge from these projects:

- Highway 'sector' projects need to take a comprehensive view of the sector, and include appropriate sector-wide performance indicators. The overall condition of the road network is one such key indicator, since it is useful to judge the level of resources allocated for maintenance of the network and the efficiency of road maintenance planning and operations. Highway agencies should have in place a reliable system to monitor road network condition.
- Separation of agencies and funding sources for the maintenance and improvement of the national road network and for the construction of modern motorways, as Croatia did in 2001, can be an effective way to ensure a stable level of funding for road maintenance. But stringent operating rules are necessary to ensure that resources are used efficiently, especially as regards motorways.
- Bank-financed projects, by requiring competitive procurement and exemplifying its advantages, can lead to the establishment of competitive procurement throughout a whole industry and to the development of qualified domestic contractors
- The need to improve transparency of its public procurement process is an important issue in Croatia's public policy.

Gregory K. Ingram  
Director-General  
Operations Evaluation

## 1. Background

1.1 This PPAR reviews two transport projects that were first Bank operations for Croatia in the sector. Each project covered various modes within the transport sector. The *Highway Sector Project* (hereafter the “highway” project), was approved before the Dayton Peace agreements for Bosnia Herzegovina (signed on December 14, 1995). It focused on the highway system in the territory that was under government control at the time (about two-thirds, the remaining third being Protected Areas under the control of the United Nations). The project also supported studies related to preparing reforms and investments for Croatia’s railway and for the port of Rijeka, Croatia’s main port.

1.2 The *Emergency Transport and Mine Clearing Project* (hereafter the “emergency transport” project), approved after the Dayton agreements, complemented the highway project in two ways: First, it supported improvements of the road network, focusing on road sections that, before the peace agreements, were located in conflict areas and therefore not possible to repair. Second, it financed repair of key rail lines and reconstruction of the infrastructure in the Port of Ploce, Croatia’s second-busiest port, serving especially BiH’s foreign trade. Clearing of landmines, covered by project, was designed to permit repair and operation of transport routes. The project followed the Emergency Reconstruction project (Loan 3760, for \$128 million, approved in June 1994 and closed in December 1999). This earlier project also financed some transport investments, especially equipment and vehicles for roads and railways, but it focused mainly on power, community reconstruction, and water supply.

1.3 The war following the breakup of Yugoslavia and the establishment of the Republic of Croatia cost thousand of lives and caused considerable damage to physical infrastructure, schools, hospitals, commercial and public buildings, and housing. Transport infrastructure, because of its logistical function during the war, was also hard hit. Practically all bridges along the Sava river separating Croatia from Bosnia Herzegovina were destroyed, as were railway lines and port facilities serving both countries.

1.4 During the period since approval of the highway project, and especially after the Dayton agreement, Croatia’s economy has made an erratic and rather modest recovery, with average annual GDP growth over five percent in 1996-97 and 2002, and below three percent (including one negative year) during 1998-2000. GDP per capita PPP was about \$8,000 in 2002. The restructuring of the economy has reduced the movement of heavy goods and favors road transport, and international trade is increasingly oriented toward Western Europe.

1.5 The Bank’s involvement in Croatia’s transport sector continues at present with two projects, both of which had preparation assisted by the projects under review in this PPAR: the Railway Modernization and Restructuring project (Loan 4433 for \$101 million, approved in January 1999 and expected to close in June 2004) and the Rijeka Gateway Project (Loans 47140/47150/47160/P3910, for \$156.5 million, approved in July 2003 and expected to close in September 2009).

## OBJECTIVES BOX 1. PROJECT OBJECTIVES AND COMPONENTS

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### Highway Sector Project

#### **Objectives**

- **Support and speed up the modernization of the transport sector, especially the main road network and HC, with the following specific objectives:**
  - Support government road investment program, address road maintenance and construction of a few, well-justified road sections
  - Develop modern management tools
  - Improve road safety
  - Decrease road vehicle emissions
  - Maintain or increase road user charges
  - Support restructuring of railway company and reduce subsidies
  - Contribute to preparation of master investment plan for Rijeka port

#### **Components**

- Three-year slice (1995-97) of road expenditure program (repair war-damaged roads, road maintenance, and completion of selected sections) and provision of maintenance equipment
- Technical assistance and studies (rail restructuring, traffic safety, pavement management, Rijeka port plan)
- Training of highway agency staff

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### Emergency Transport and Mine Clearing Project

#### **Objectives**

- Repair and reconstruct surface transport networks within Croatia, especially those leading to BiH<sup>1</sup>
- Clear landmines in areas of high economic priority for reconstruction

#### **Components**

- Roads and bridges
    - Zupanja-Orasje bridge
    - 130 kilometers of roads
    - About 30 bridges
    - Upgraded access to Ploce port
  - Railways
    - Reconstruction of Lika line (45 kilometers of track and related equipment)
    - Reconstruction of two bridges on Novska-Sisak line
  - Ploce Port
    - Reconstruction of two piers
    - Repair of other infrastructure and equipment, and provision of container handling equipment
  - Mine clearing, with first priority to project areas
- 

1. The SAR formulation says..."within Croatia and between Croatia and BiH", which is less clear.

## 2. Relevance and Design

### Highway Sector

2.1 The project's main goal, to support modernization and transformation of Croatia's transport system, with special emphasis on the road network, supported the objectives of the 1995 Country Assistance Strategy, especially related to improving efficiency of the public sector. During the war, road and other infrastructure had been seriously damaged and maintenance neglected, and the transition economy was bound to place increasing reliance on the road as the predominant transport mode.

2.2 With its main focus on supporting the 1995–97 road expenditure program, the project was rightly designed as a sector operation, with components and levels of expenditures considered as tentative and subject to review annually with the Bank. The design decision was based on the importance of supporting the government's road program, Croatia's long experience with Bank highway projects as part of the former Yugoslav Republic,<sup>2</sup> and the strong technical capabilities of Croatia's highway management and technical staff.

2.3 The project emphasized the maintenance of existing assets, given the adequate length of the country's road network, but its poor and deteriorating condition. The appraisal documents noted that under the 1995–97 program, road maintenance expenditures were expected to increase by some 90 percent per year of the program relative to the previous four years. As a sectoral project, concerned with the whole road network rather than individual road investments, the project was right in taking a comprehensive view of road system expenditures. At the same time, in view of the project's emphasis on maintenance, it would have been useful to include in the appraisal report a performance indicator describing the condition of the overall road network and targets for improvement that the intended modernization of the road network would bring about. Such indicator would also have served to assess the adequacy of road maintenance funding.

2.4 Legal agreements under the project aimed to ensure that investments during the period would reflect the maintenance focus of the 1995–97 program, and to prevent uneconomic investments. New road construction was expected to be limited to the completion of works underway.

2.5 In hindsight, the government, in its 1995–97 road plan, and the project, in consequence, could have recognized the foreseeable changes in transport demand patterns, for trade and tourism, away from Belgrade-centric flows of FSRY, a greater role for road transport, and changes in the relative importance of various routes and itineraries. A question then would have been how to attend to the new demand patterns, in a way consistent with available resources and economic efficiency.

2.6 The project objective to ensure that the level of road user charges would be maintained or increased (and the associated conditionality regarding the level of the road vehicle fuel tax) had no value from either an economic or a financial standpoint, and therefore was unnecessary—it only served to clutter the already long list of objectives. On the economic side, revenues from road users stemming from the fuel tax were double what was needed for the road sector, and thus could be considered to cover the economic cost of road use. Appraisal documentation provided

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2. HC had been the implementing agency in 12 Bank highway projects for the Socialist Republic of Yugoslavia.

no suggestion that the government might have intended to decrease the level of user charges. On the financial side, fuel tax revenues were collected by the central government but were not dedicated for road maintenance; therefore maintaining the level of user charges provided no comfort that adequate funding for road maintenance would be provided.

## **Emergency Transport**

2.7 Rebuilding Croatia's economic infrastructure, some of which was inoperative because it had been damaged during the war, or because it was unsafe due to landmines or unexploded ordnance, or both, was clearly a priority. For infrastructure that was mined, clearing the mines was an obvious first step in reconstruction. At the same time, giving priority to repairing links within Croatia that connected with BiH routes were of importance to BiH and supported the Dayton peace agreements. The transport sector was an obvious candidate for the Bank because key, but not all, necessary agreements between Croatia and BiH had been signed, a joint implementation committee had been established, and implementation work had begun.<sup>3</sup>

2.8 The preparation of the mine clearing component was expected to benefit from the experience with the processing a few months earlier of a land mine clearing project in BiH (approved in July 1996, or four months before the Emergency Transport project) especially through Bank procurement guidelines developed for the project. The Croatia project provided a stronger requirement for competition in procurement, since it required use of international competitive bidding for all works and goods contracts over \$2 million, rather than \$5 million, as in the Bosnian program.<sup>4</sup> Yet, as noted in a parallel PPAR of the BiH project, preparation of the BiH project left much to be desired, and serious problems of misprocurement arose during its implementation. Overall, the BiH demining project failed to achieve its objectives, that were much broader than those for the Croatia operation.

2.9 The PPAR for the Emergency Reconstruction project raised doubts about the designation of "emergency" given that project, considering that it became effective in August 1994, more than two and half years after the ending of the 1991–92 hostilities. While the Emergency Transport project was approved more than two years later than the Emergency Reconstruction project, the fact that it focused on the reconstruction of infrastructure in areas that were not in full government control prior to the signing of the Dayton agreement makes it a legitimate emergency project under Bank guidelines for Emergency Recovery Projects (OP8.50), which specifically include reconstruction following war. As noted in the MOP for the Emergency Transport project, the Government's control over all the areas within internationally recognized borders was implemented over several phases. It was only in May and August 1995 that the Government regained control of three out of four areas that had so far been in the United Nations Protected Areas (UNPA); the fourth area in November 1995 was placed under a United Nations transitional administration. The four areas amounted to about one-third of the country. Prior to 1995, reconstruction of infrastructure had been limited to areas directly under Government control or in locations sufficiently distant from front lines to justify investments.

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3. The Dayton Agreements, in Annex 9, establish Bosnia and Herzegovina Transportation Corporation to "organize and operate transportation facilities, such as roads, railways and ports."

4. According to ETMC project appraisal documentation.



2.10 The project was processed as an emergency operation (for example, with a Memorandum of the President instead of a full Staff Appraisal Report)<sup>5</sup>. However, total processing time of 15 months from initial identification (November 1995) to project effectiveness (March 1997) was overly long, thus negating the benefits of speedier processing allowed by emergency operations. Confusion about the project designation as an ERL arose because the project is wrongly classified in the Bank's Legal database as a Specific Investment Loan (SIL).

2.11 Processed as an emergency operation, no economic analysis of the project-financed investments was carried out. This approach is allowed under BP8.50 when essential data cannot be obtained within a reasonable period. This PPAR finds that an effort should have been made, even with sketchy data, to carry out economic analysis, at least for the transport investments, which accounted for 72 percent of total project costs. Such investments, consisting mainly of spot or short section repairs allowing larger components of the transport network to operate correctly, would normally yield high economic returns.

### 3. Implementation

3.1 *Readiness.* The highway project was ready for implementation and procurement started on schedule. However, a review by the PPAR of the list of contracts for road works found some significant variance between base contract and invoiced values (several subprojects ended up costing 50 percent and up to 100 percent more than the initial contract), suggesting that significant changes in scope took place in those subprojects, probably because of inadequate engineering at the outset or due to upgrading design standards after the contracts had been signed.

3.2 Implementation of the emergency transport project was substantially slower than expected. Delays at the start of the project in programming the clearing of land mines were substantial, mainly as a result of weak coordination and lax identification of priorities on the transport side. At the same time, there was little institutional capacity to prepare bid documents (including description of the sites to be demined) since mine clearing in Croatia traditionally had been done by the army. A few months before project approval the government created a state mine clearing company (MUNGOS) to take over this responsibility. Therefore, there was no experience in Croatia with mine clearing by civilian contractors, the same constraint identified in BiH by OED's parallel PPAR of the Emergency Landmines Clearance Project (Credit 2905) there. This is a recurrent issue in emergency projects, where the need to make repairs urgently conflicts with inadequate data and weak institutional capacities.

3.3 *Costs.* In the highway project, which had a sector-wide approach, actual cost of the overall road program, due to new road construction, especially the inclusion of a new motorway program not originally foreseen, was US\$1.6 billion, almost three times the SAR estimate. In the emergency transport project, actual project cost was \$131.2 million, 7 percent higher than expected, mainly because some 40 percent more kilometers of roads were rehabilitated than originally estimated. Actual costs were divided 75 percent for transport and 25 percent for demining, in line with SAR estimates. In the highway sector project, contract prices were, on average, 15 percent lower than appraisal estimates. However, as noted above, final prices turned

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5. During early preparation, the project initially intended to cover restoration of public services in several sectors, and was not originally conceived as an ERL. However, internal Bank discussion during preparation suggested that it should be a much more focused operation, and for the sake of speed that the project should be processed as an ERL. As required by OP8.50, an Ad Hoc Advisory Committee was established early on.

out to be substantially higher. In the transport project, the cost of demining dropped from 18 HRK (US\$2.92) per square meter at the start of the project to 11 HRK (US\$1.32) (including insurance) in 2001.<sup>6</sup> Increased competition and lower unit costs also were aided by the return to civilian rule, and the more stable conditions obtained after the signing of the peace agreements.

3.4 *Institutional changes during implementation.* The highway sector project was affected by erratic provision of funding for maintenance and by reforms to the highway agency. The reform was positive for the management of the road sector, especially as it reclassified and decentralized the road network. When the project was practically completed, another reform created a new highway agency with autonomous financing based on dedicated user charges. However, uncertainties during preparation of the reform and adapting to the new structure affected project implementation, especially the design and implementation of the pavement management system.

3.5 The emergency transport project was similarly affected. First was the transfer of demining responsibility from the army to the newly created MUNGOS, under the Ministry of Interior (MI), which happened just before the start of the project. PPAR discussions in the field found that MUNGOS officials initially believed that Bank funding would directly support MUNGOS demining activities. Second, a year into implementation, the MI transferred this responsibility to the newly created Croatian Mine Action Center (CROMAC), a government agency set up to manage the demining process through contracts awarded after competitive bidding. This required (i) early during implementation, clarifying with MUNGOS and other government officials the project's procurement rules and (b) a number of time-consuming legislative changes to eliminate restrictions to international competitive bidding.

3.6 Implementation of the emergency transport project was, as noted in the implementation completion report, also delayed because of complaints by unsuccessful bidders for landmine clearing contracts. This same issue was noted in the emergency reconstruction project.<sup>7</sup> This suggests that transparency needs to be improved in the procurement process.

## 4. Outcome

### Highway Sector

#### *Output*

4.1 *Road investments.* The project financed maintenance, strengthening, and rehabilitation of some 1,600 kilometers, or about 20 percent of the main road network. This represents about 67 percent of the total output (2,387 kilometers) expected at appraisal.<sup>8</sup> The project also financed construction of about 28 kilometers of trunk roads and about 17 kilometers of primary roads, meeting appraisal targets. In addition, dangerous road sections were eliminated.

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6. The reduction was much more and final unit costs were significantly lower than in the neighboring BiH, where they fell from US\$3.00 to US\$1.70 per square meter after the project there, even though BiH's labor costs are half Croatia's. There is no valid data to make international cost comparisons based on area cleared, which is the relevant measure of demining costs. However, it is apparent that the starting prices both in BiH and Croatia, which were similar, were high because competition was in practice restricted to domestic companies. This changed in both countries over the course of project implementation.

7. The PPAR (para. 3.5) for this project noted that the Bank paid careful attention to complaints, and concluded that they reflected "fractious competition among suppliers rather than corrupt practices."

8. ICR for works done and SAR for targets.

4.2 *Technical assistance.* All three studies: restructuring of Croatian railways, Master Plan for Rijeka Port, and road safety were successfully completed. Training was carried out for the pavement and bridge management systems.

## **Results**

4.3 *Road Condition.* This is a key indicator of project outcome. At appraisal, it was estimated, based on a visual survey of the major and regional roads, that 34 percent of the roads surveyed were in good condition, 39 percent in fair condition, and 27 percent in poor condition.<sup>9</sup> No recent surveys are strictly comparable. The ICR reports that at project completion in 2001, of the 6,800 kilometers under HC's responsibility, 45 percent were in good condition, 39 percent in fair condition, and about 16 percent in bad condition. If the pre- and post-project estimates were made on the same basis, this would mean a fairly significant improvement. However, the ICR assessment is limited to the country's main roads, which normally are kept in better condition. More significantly, data obtained by the PPAR mission during discussions in Zagreb, indicate a cloudier and more negative picture: the percentage of roads in good condition would range between 18 and 30 percent, depending on the measurement criteria (Table 1). Either of these numbers would indicate deterioration rather than improvement in road condition. These numbers also are supported by a Bank report on Croatia's transport sector.<sup>10</sup>

4.4 It could be argued that, in some cases, just preventing further deterioration of the road network would be a satisfactory result. However, this reasoning does not apply to Croatia. The country had (i) the necessary financial resources, had it wished to allocate them, to properly maintain and significantly improve the network's condition and (ii) highly qualified professionals who could plan and carry out the maintenance works as required.

**Table 1. Road Condition, 2002–03, According to Different Assessment Criteria**

	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
Based on measures of pavement roughness, rut, distress	18	36	46
Based on pavement roughness and traffic levels	30	46	24

*Source:* PPAR discussions with CR during field visit.

4.5 *Maintenance Funding.* Provision of funds was erratic during the period, but overall it was substantially below \$170 million per year, the level recommended at appraisal as necessary to catch up with the maintenance backlog. Inadequate funding is the main reason behind the unsatisfactory condition of the road network.

4.6 Total expenditures in maintenance and highway reconstruction and rehabilitation (HRR) during 1995–97, the original plan period supported by the project, attained \$278 million (\$93 million per year, on average). This was close to the appraisal figure, \$293 million, considered the very minimum maintenance funding required during the period. However, expenditures fell again in subsequent years to an annual average of \$78 million during 1998–2001. The figures for

9. Appraisal report.

10. The Bank's paper "Croatia: Policy Directions for Transport," issued in June 1999, noted, "it is generally agreed that the main road network is presently in worse condition than it was at the beginning of the nineties." Since funding for maintenance plus HRR did not improve afterward (see table in this chapter) there is no reason to believe that road conditions would have improved since 1999.

2002 and 2003 are substantially higher, but the 2002 figure has not been validated, and the figure 2003 is a budget estimate. In the past, budget estimates have been notoriously unreliable. For example, an approved budget for maintenance plus HRR of \$220 million in 2001<sup>11</sup> turned out to be only \$67 million in reality. Dedicated funding of road expenditures based on gasoline tax surcharge started in mid-2001. This is likely to improve the resources available for road maintenance. A separate agency, Croatian Motorways (CM), with own funding also based on gasoline tax surcharge, is responsible for carrying out maintenance of the existing motorways and for future motorway development.

**Table 2. Road Expenditures, 1995-2003 (US\$ million)**

	1995	1996	1997	1998	1999	2000	2001	2002	2003 budget
Maintenance	30	59	75	80	57	39	66	127 <sup>b</sup>	158
Reconstruction, rehabilitation (HRR)	17	59	38	1	50	19	1	47	62
TOTAL maintenance and rehabilitation	47	118	113	81	107	58	67	171	220
New construction <sup>a</sup>	82	148	133	306	157	192	224	674	789
<b>TOTAL</b>	<b>129</b>	<b>266</b>	<b>246</b>	<b>387</b>	<b>264</b>	<b>250</b>	<b>291</b>	<b>848</b>	<b>1008</b>

Source: Appraisal documentation, Rijeka Gateway Project, May 9, 2003.

a/ Includes motorway construction and upgrading of expressways to motorway standard.

b/The PPAR mission was unable to verify this figure

4.7 *Allocation of Resources.* Designed as a sector project, rather than a specific investment operation, the project sought government assurances that resources available for the road sector would be allocated on the basis of economic efficiency. Priority would be given to preserving existing road assets (which yield the highest economic returns) with some essential road construction mainly to complete missing links. However, the intended priority was not realized at any point during project implementation, with the more severe violations occurring in the later years of the project. During 1995–97, new construction attained \$363 million, while maintenance plus HRR attained \$272 million, or 75 percent of the construction amount. In contrast, the appraisal had estimated that resources for maintenance plus HRR would be almost double the amount devoted to construction.

4.8 The launching of a massive motorway construction program in 1998 further tilted the allocation of road funding toward construction. During 1998–2002, construction amounted to \$1.55 billion, more than three times the amount allocated for maintenance and HRR (\$0.48 billion).

4.9 The diversion of resources away from maintenance and toward construction had two negative consequences. First, resources allocated to maintenance were insufficient. Second, the construction program was essentially for new motorways, which, maybe with the exception of short sections in the outskirts of the larger cities, did not have enough traffic (at least 15,000 vehicles per day) to justify their high cost. The motorway program, when launched, was especially inefficient because some of the new investments were arranged in direct negotiations with a contractor, rather than through competitive bidding, leading to very high unit costs.

11. Reported in the Implementation Completion Report for the Highway Sector Project.

4.10 During PPAR discussions in Zagreb, senior government officials defended the motorway program as essential for Croatia to catch up with Western Europe, and to provide expeditious access to ports and tourist areas. As noted earlier, significant changes in transport demand patterns could have been expected given the prospects for restructuring and reorientation of the economy following independence. It was clear that the country needed to put in place a highway improvement and modernization program to meet the new demands. However, the PPAR finds that most of the motorway investments currently do not have an economic justification, and that the magnitude of the program is just too big for the country's resources.<sup>12</sup> A more cost-effective program could have been adopted limiting motorway construction to just those sections with high traffic, making more use of semi-motorways (2-lane, access-controlled roads) and expanding the capacity of other roads by more focused improvements. The semi-motorway Jankomir-Zapresic, visited by the PPAR mission, which carries over 10,000 vehicles per day, supports the validity of this concept.

4.11 *Pavement/Bridge Management System.* The appraisal expectation that the PMS/BMS would be fully operational by 1997 was not met. As of mid-2003, according to PPAR discussions with HC officials, software has been installed, initial surveys have been carried out, and the system is being used in a limited way only, mainly to test strategic maintenance options for some of the main corridors.<sup>13</sup> The expectations were not met in part because of implementation delays, and in part because the system, and the allocation of maintenance resources it should produce, have not been endorsed at high government levels.

4.12 *Rail, port, and road safety studies.* These studies were useful. The railway study's recommendations for restructuring are being implemented and expected to continue under the ongoing Railway Modernization and Restructuring Project. Similarly, the Master Plan for Rijeka port provided practical recommendations, and served as a basis for the preparation of the ongoing Rijeka Gateway project. The safety study produced recommendations that helped reduce traffic fatalities.

## **Emergency Transport and Mine Clearing**

### ***Output***

4.13 *Clearing of Landmines.* About 13 square kilometers were cleared, and about 1,500 landmines and 3,200 pieces of unexploded ordinance were removed. Project-financed demining cleared 26 bridges (21 road and 5 railway), some 280 kilometers of state, county, and local roads and rights of way, and 150 kilometers of railway lines. Documentation reviewed by the PPAR mission, as well as discussions in the field, suggest that most of the mine clearing took place in or around transport infrastructure, and that the demining locations were identified from among affected infrastructure by officials from the transport and public works agencies.

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12. The Aide-Memoire of the February-March supervision mission identified some road construction that appeared to be highly uneconomic: the Sveti Rok tunnel, the motorway from Varazin to the Hungarian border, Breganza-Sisak Road, Zagreb-Gorican motorway (with traffic estimated to be 1,500–6,250 vehicles per day).

13. The Aide-Memoire for the supervision mission in October 1999 was very clear regarding what should be expected from the PMS/BMS: In essence, it noted that the PMS should be considered implemented when routinely used in selecting roads and bridges for repair, allocate funds among competitive requirements, determine overall network needs, and justifying needs to government authorities and the public.

4.14 *Transport.* The mine clearing operations allowed the repair and reconstruction (R&R) of transport infrastructure to proceed. In some cases, the R&R work took place where infrastructure had been damaged by military action, although the area itself may not have been mined. In other cases, transport infrastructure may not have been damaged, and little or no reconstruction work was required, but mines had to be cleared to allow safe use of the infrastructure. Transport infrastructure repair or reconstruction work consisted of: (i) 180 kilometers of roads (130 kilometers at appraisal) and 32 bridges (30 at appraisal); (ii) reconstruction of Lika and Novska-Sisak railway lines, including 45 kilometers of track renewal and spare parts for locomotives. All the works and equipment foreseen at appraisal were carried out; and, (iii) in the ports, rehabilitation of piers, improvement of the roll-on/roll-off terminal, and delivery of handling equipment for Ploce Port was carried out as expected. The only item not carried out was the upgrading of the road access to Ploce port.

### **Results**

4.15 The project was instrumental in reestablishing transport routes between Croatia and BiH. The fact that all 10 bridges connecting the two countries across the Sava and the Una rivers are now operational has dramatically enhanced the possibilities for trade and movement of persons between the two countries. The reconstruction of the demolished bridge between Zupanja in Croatia and Orasje in BiH, on the European route M18 is especially important. Reestablishment of the cross-border linkages is of high benefit to BiH, because of its landlocked condition,<sup>14</sup> and because transport overland through Croatia is practically the only way to connect BiH with Western and Central Europe. The reconstruction and improvement of Ploce port, BiH's main maritime outlet, also is a major contributor to improving BiH logistical conditions (see Map)

4.16 The project also improved important sections of Croatia's domestic land transport system. Probably the more significant is the mine clearing and reconstruction of the Zagreb-Split (Western) rail line that goes solely through Croatia's territory. While this line is longer than the parallel (Eastern) line running partially through BiH (the preferred line during the Yugoslav Republic), it is the only practical option for Croatia, while allowing it to fully control operations and avoid time-consuming border crossings.

4.17 The project failed to improve road access to Ploce port. This investment, estimated at \$1 million at appraisal, was not a major component of the project, and road access is not a critical issue since Ploce traffic is still substantially below expectations due to the slow recovery of BiH's economy and foreign trade. However, this road is indicative of the problems facing Croatia and BiH regarding investments where the main, or a major, beneficiary is BiH. A Ploce Agreement between Croatia and BiH<sup>15</sup> stated, "the Republic of Croatia is required to maintain land transit routes (roads and rail) from the Port of Ploce to the point where it enters Federation territory." Croatia, therefore, was not obligated to go beyond maintaining the existing land transit route. Revised engineering during project implementation raised the cost of the proposed improvement to about \$15 million. While this better, but expensive, road improvement would have been more effective in reducing traffic congestion in the port area, the main beneficiaries would have been truckers carrying cargo to or from BiH. The issue of who bears the cost (normally the transit country) and who the benefits (normally the landlocked country) of

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14. While BiH has a small coastal section on the Adriatic at Neum, it has no port there, since it is near Ploce, which has better conditions for a port and had traditionally been the port serving Bosnia under the FSRY.

15. Dated May 11, 1966.

investments to facilitate transit traffic is a recurrent issue in countries involved in transit arrangements.

4.18 Unlike the earlier operation in BiH, this project did not intend to increase the level of awareness of the dangers of mines, probably because that activity was supported by other agencies.<sup>16</sup> The focus of that activity is mainly urban areas with high population density, and villages, rather than transport routes or the areas around them. The PPAR mission visited some roads that had been improved under the highway project, where no mines were planted on the roadway itself. Yet, a CR staff member advised the evaluator not to walk in the hilly areas immediately outside the direct right-of-way, as they potentially could be mined areas. However, there were no signs warning of the potential danger, pointing to the need for CROMAC and/or the transport authorities to ensure that non-urban transport facilities are properly marked with clear warning signs when risks of mines are present.

## 5. Ratings

### Outcome

#### *Highway Sector*

5.1 Outcome is rated **unsatisfactory**, mainly because project objectives lost much of their original relevance, which was to focus on rehabilitation and maintenance of the road network. Major deviations in resource allocation for the sector over the course of the project with respect to the intended focus results in a mixed assessment of the relevance of the sector program. The deviations were caused by the government launch of a large program of motorway construction without economic justification, in some cases with procurement methods that increased costs and further negated the justification of the investments. Regarding efficacy, physical outputs required to meet objectives were close to appraisal targets and all three studies were satisfactorily completed. The project had no targets regarding the condition of the road network. Yet, this should be an essential indicator, particularly in highway sector projects. However, the main objective of the project was ‘modernization of the transport network, especially the main road network’, and an obvious implicit goal is the improvement of the whole road network. As noted earlier, despite investments under the road sector program, the most reliable measures suggest that overall road network condition was worse at the end of the project than at the start. This indicates a low level of efficacy. Assessment of efficiency faces similar problems. The ICR estimates a return for the whole project to be about 45 percent, higher than the 40 percent estimated at appraisal. The high return is mainly due to the high yield of road maintenance and improvements.<sup>17</sup> However, the ICR estimate is limited to Bank-financed investments (and a road co-financed by EBRD) and omits references to the large motorway investments carried out by the government in the last years of the project. While such investments were not part of the 1995–97 road program supported by the project, they are an integral part of the road sector investments during the project period. As noted earlier, such investments were massive and, in

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16. Mainly the UNICEF and the International and the Croatian Red Cross.

17. The ICR recalculated the ERR for a sample of 14 betterment contracts and found the ERR to range between 34 percent and 98 percent. These estimates are credible, and result from higher traffic levels and lower unit costs than estimated at appraisal. The ICR also notes that the EBRD-financed Ostravnica-Delnice road had an ERR of about 20 percent.

fact, dwarfed the resources allocated to maintenance, and had low returns. Therefore, considering the sector as a whole, efficiency was low.

### *Emergency Transport*

5.2 Outcome is rated **satisfactory** as the objective to repair and reconstruct surface transport and clear landmines was achieved. Relevance of demining affected infrastructure and improving key transport routes is high because these activities were essential for the physical and economic reconstruction of Croatia. Efficacy, to the extent of available targets, was high on the physical side, but activity at the port and the connecting railway has not yet reached the expected levels. Efficiency can be assessed by considering both the transport and the landmine clearing. On the former, while the project did not include economic analysis of the investments, the type of works carried out, spot repairs and reconstruction of infrastructure, normally have high returns. This is confirmed by a partial economic analysis provided in the ICR, which showed a weighted average ERR of 43 percent for 14 road rehabilitation sub-projects. On the latter, the decrease in the unit costs of demining is an indicator of improved efficiency.

### **Institutional Development**

#### *Highway Sector*

5.3 Institutional development is rated **modest**. The PMS/BMS system, the project's most important institutional component, was not fully operational in 1997 as the SAR expected, nor was it fully operational by project completion. On the positive side, the government carried out a reform of the road sector organization and management, that included decentralization, and division of the road maintenance units into separate commercial companies, with joint ownership by the highway agency and the counties. This is a step in the right direction, but still leaves the governments (central and local) as owners of the maintenance companies.

#### *Emergency Transport*

5.4 Institutional development is rated **substantial**. As an emergency operation institutional development was not envisaged. Yet, introduction of competitive bidding required under the project for mine clearing activities (and later extended beyond the Bank project to all demining activities) and development of a local demining industry is a major achievement, and led to a substantial drop in the cost of mine clearing. While the Bank project financed only some 13.1 square kilometers of demining (under 19 contracts with 10 companies or joint-ventures) the adoption of competitive bidding for all demining meant that while in 1998 there were 4 companies registered in Croatia with 250 deminers, by 2001 there were 23 companies employing 450 deminers. Bank staff during project supervision also helped set up CROMAC, the national agency in charge of implementing demining policy.<sup>18</sup>

5.5 The transport side of the project helped develop cooperation between Croatia and BiH in infrastructure reconstruction, a cooperation that had not existed since the breakup of Yugoslavia.

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18. The supervision Aide-Memoire of January 15, 1997, asked for the establishment of an agency authorized to keep the central database, to prepare mine clearance maps, and to issue the quality control certificates for areas that had been cleared of mines.



## Sustainability

### *Highway Sector*

5.6 Sustainability is rated **likely**. The technical and economic sustainability of the road maintenance and improvement program is not in doubt. While maintenance finance has been erratic and generally insufficient in the past, the establishment in 2001 of dedicated funding, based on user charges, for the road system exclusive of the motorways, and the creation of an autonomous highway agency (CR) with assured funding, should make it possible to provide at least the minimum level required to prevent further deterioration. The motorway program has been reduced and, while the uneconomic investments already made cannot be reversed, the dedicated funding for the motorway system (also established in 2001 and equally based on user charges) should provide enough revenues to attend to maintenance requirements.

### *Emergency Transport*

5.7 Sustainability is rated **likely**. Clearance of mines has permanently freed key infrastructure for reconstruction and re-use. Maintenance of the roads improved under the project is likely to be conducted properly, based on the improvements in the funding for road maintenance discussed in the previous paragraph. On the railway side, most indicators of operational and financial performance under the ongoing railway project have been met, and structural reforms have proceeded at a faster change than originally anticipated.<sup>19</sup> The railway appears well prepared to adjust to the changes in transport demand that have favored road traffic. The Zagreb-Split line, the repair of which was supported under the project, should remain an important part of Croatian Railways. The port of Ploce is the weak point in term of sustainability, since it still has substantially less traffic than had been hoped, and requires continuous subsidies for operations. Ploce being BiH's maritime outlet, its traffic and financial situation should gradually improve as BiH's economy picks up.

### **Bank Performance**

5.8 Bank performance is satisfactory in both projects, as explained below. Yet, in both projects there were major delays between project appraisal and effectiveness. Few resources were allocated to supervision (slightly more than one mission per year), that severely limited provision of expertise on technical issues. On the other hand, strategic and economic supervision was strong, notably in the highway sector project, as discussed below.

### *Highway Sector*

5.9 Bank performance is rated **satisfactory**. The supervision reports were clear about the issue of resource allocation and the inefficient diversion of funding toward motorway construction. On occasion, supervision ratings appeared to be too generous. For example, the supervision report of December 1997 rated Development Objectives as highly satisfactory while noting problems with implementation of the PMS/BMS and noting the probability that the maintenance backlog would increase even further. Also, despite the resource allocation issue and

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19. PSR dated October 8, 2003.

slow progress with the PMS/BMS, project development objectives and implementation progress were rated unsatisfactory in only one supervision report (April 1999).

5.10 The borrower's motorway program violated a financial covenant requiring investments over \$5 million to show a rate of return over 12 percent (Section 4.04 of Loan Agreement). Rather than suspending the loan, Bank management decided to continue its implementation, but to press the case for economic efficiency. In addition to strong calls of attention on the issue by the supervision missions, the Bank prepared a sector paper that provided detailed analytical assessment and practical recommendations on the issue. The Bank also funded an advisor to help prepare the 2001–04 road program. Keeping the dialogue open, both through the project and the sector paper, may be credited with being an important factor in the government's decision to downsize the motorway program to a more reasonable scale (although still containing uneconomic investments). The PPAR finds that the benefits to Croatia's economy of this outcome justify the decision by Bank management not to suspend the loan.

### *Emergency Transport*

5.11 Bank performance is rated **satisfactory**. The project was prepared at high speed and still achieved satisfactory quality. While it took a long time (nine months) for an emergency project from appraisal to loan approval, this was mainly due to a series of international agreements between Croatia and BiH that needed to be completed as condition of negotiations. Supervision missions, although relatively few for a project that faced significant institutional and implementation challenges in the mine clearing component especially, were good. The Bank was effective in insisting on the application of competitive bidding and in persuading authorities to make the necessary legislative changes, and in promoting the creation of CROMAC. On the negative side: (i) CROMAC report submitted to the PPAR mission notes problems at the start of project implementation due to "frequent replacement of World Bank personnel responsible for the project.", and (ii) the Bank could have learned from the early implementation experience in BiH which showed little competition and high prices, to take a firmer stand in the Croatia project to ensure a competitive market there.

## **Borrower Performance**

### *Highway Sector*

5.12 Borrower performance is rated **unsatisfactory**. The main factor in this rating is the misallocation of resources in the road sector, that is, the motorway program and the inadequate funding of maintenance. The motorway program appears to have been promoted by the Ministry of Reconstruction. As noted above, this program was in conflict with the Bank loan's financial covenants. Inadequate funding for maintenance was a direct consequence of the increased funding for the motorway program. The Ministry of Finance and related central economic agencies could have exerted their leverage for more fiscally responsible investments, since, largely because of the motorway program, the government would be spending 5 percent of GDP (substantially more than most countries) in transport development.<sup>20</sup> The highway agency, first

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20. As noted in the Bank paper "Policy Directions," the government would be spending close to 5 percent of GDP in transport development, while a more focused and efficient program would only reach about 3 percent of GDP. This big program suggests that the "development" side of the government is prevailing over fiscally responsible policies that should concern the Ministry of

HC and then CR, performed well, sometimes excellently, in the physical implementation of the road maintenance and improvement investments. Technical quality of the works was good, as confirmed by field visits carried out by the PPAR mission. The decentralization of the road system and the move towards commercializing road maintenance were clearly good policies, as were the creation in 2001 of separate agencies for the main road network and for motorways, independently managed and funded. On the other hand, the HC and the CR did not appear interested in, or lacked the discipline for, establishing road condition measurements necessary to assess the condition of the network on a consistent basis over time.

### *Emergency Transport*

5.13 Borrower performance is **satisfactory**. All agencies on the transport side and the mine clearing side of the project performed well. Implementation of the mine clearing posed the most potential problems. There were significant legal and administrative difficulties inherent with adopting competitive procurement for mine clearing, compounded by initial misunderstanding as to how procurement would be done. Yet, the borrower was able to take the necessary actions to reduce delays and to pass remedial legislation twice (1998 and 2000) to move away from restrictive procurement and contracting conditions. CROMAC, although a newly created agency, was rigorous in monitoring procurement, as evidenced by a detailed table of demining contracts provided to the PPAR mission.<sup>21</sup> Initial coordination delays between transport and mine clearing, and low identification of transport infrastructure priorities for demining prevent giving the borrower the highest rating.

## **6. Lessons**

6.1 The following lessons emerge from the two projects:

- Highway ‘sector’ projects need to take a comprehensive view of the sector, and include appropriate, sector-wide performance indicators. One key indicator is the overall condition of the road network, since it is useful to judge the level of resources allocated for highway maintenance, the efficiency of road maintenance planning and operations, and the impact of road sector expenditures on the operating costs of road vehicles. Barring exceptional circumstances, overall road network condition should be expected to improve during project implementation. Such sector projects should take the necessary actions to ensure that the responsible highway agency has in place an adequate system to monitor road network condition.
- Separation of agencies and funding sources for the maintenance and improvement of the national road network and for the construction of modern motorways, as Croatia did in 2001, can be an effective way to ensure a stable level of funding for road maintenance. To ensure that resources are well utilized, especially for the modernization of the road system, there should be stringent rules for the allocation of the funds, including conduct of outsourced feasibility studies and transparent competitive procurement.

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Finance. Foreign investors are likely to be more concerned by the fiscal policies rather than by a fast-developing transport system.

21. The Status of Projects table, divided into goods and works sub-tables, provided for each contract financed under the project, contract number, description, method of procurement, signing date, quantity (in square meters), contract value (in DEM), disbursed from World Bank, from government funds, undisbursed balance, and area actually cleared.

- Bank-financed projects by requiring competitive procurement and exemplifying its advantages can lead to the establishment of competitive procurement throughout a whole industry and to the development of qualified domestic contractors, as it happened with the demining industry in Croatia.
- The need to improve transparency of its public procurement process is an important issue in Croatia's public policy, in view of cases of non-competitive procurement in the motorway program and of complaints by unsuccessful bidders for demining contracts, both in the emergency transport project under review and the earlier Emergency Reconstruction project.<sup>22</sup>

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22. The PPAR of the Emergency Reconstruction project noted that complaints had been duly investigated and that they reflected "fractious competition rather than corrupt practices."



## Annex A. Basic Data Sheets

### Highway Sector Project (Loan 3869-CR)

#### Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs a/	567.8	1598.5	-
Loan amount	80.0	80.0	-
Cofinancing	47.5	40.9	-

a/ While the project originally intended to finance a slice of the 1995-1997 road investment program, it financed this and subsequent road programs until project closing in June 2001.

#### Project Dates

	<i>Original</i>	<i>Actual</i>
Initiating memorandum		July 7, 1992
Appraisal		July 12, 1994
Board approval		April 20, 1995
Effectiveness	April 27, 1995	July 26, 1995
Closing date	December 31, 2000	June 30, 2001

#### Staff Inputs (US \$ thousand)

	<i>Total</i>
Identification/Preparation	128.9
Appraisal/Negotiations	124.5
Supervision	344.6
Completion	20.0
Total	618.0

#### Mission Data a/

	Date (month/year)	No. of persons	Staff days in field	Specializations represented	Performance rating DO	Performance Rating IP
Identification/ Preparation	4/94	1		Ec		
Appraisal/Negotiations	10/94	4		Ec, Eg, Fa, Es		
Supervision	7/95-6/01					
	11/95				HS	HS
	7/96				S	S
	6/97				HS	S
	12/97				S	S
	7/98				S	S
	3/99				U	U
	10/99				S	S
	3/00				S	S
	11/00				S	S
Completion	7/01				S	S

Staff skills. Ec=economist, Eg=engineer, Fa=financial analyst, Ev=environmental specialist, Pr=procurement Specialist, Tr=transport specialist

Performance ratings: DO=development objectives, IP=implementation progress

a/ ICR data on staffing, number of missions and ratings is substantially incomplete and incorrect.

Data shown here has been taken directly from PSRs.

## Other Project Data

Borrower/Executing Agency:

### FOLLOW-ON OPERATIONS

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
Rijeka Gateway Project	47140/50/60/ P3910	156.5	July 8, 2003

## Transport Emergency and Mine Clearing Project (Loan 4104-CR)

### Key Project Data (amounts in US\$ million)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	122.3	131.2	-
Loan amount	72.0	72.0	-
Cofinancing	0	0	-
Cancellation	0	0	-

## Project Dates

	<i>Original</i>	<i>Actual</i>
Initiating memorandum		January 18, 1996
Appraisal		February 1, 1996
Board approval		November 21, 1996
Effectiveness	March 4, 1997	March 4, 1997
Closing date	June 30, 2000	December 31, 2001

## Staff Inputs (staff weeks)

	<i>Total</i>
Identification/Preparation	85.8
Appraisal/Negotiations	203.0
Supervision	434.1
ICR	20.0
Total	742.9

## Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>*Specializations represented</i>	<i>Performance rating DO</i>	<i>Performance Rating IP</i>
Identification/ Preparation	1/96	2	Ec,Tr		
Appraisal/Negotiations	9/96	3	Ec,Fa,Tr		
Supervision	7/97			S	S
	5/98			S	S
	4/99			S	S
	11/99			S	S
	5/00			S	S
	11/00			S	S
	6/01			S	S
	10/01			S	S
Completion	2/02	1	Ec		
	6/02	1	Tr		

\*Staff skills: Ec=economist, Tr=transport specialist, Fa=financial analyst