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IMPLEMENTATION COMPLETION REPORT

Report No. 16722

POLAND

FIRST TRANSPORT PROJECT

Loans 3193- and 3194-POL

June 13, 1997

Energy, Environment, and Transport Operations Division
Central Europe Department
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

Currency Unit = New Zloty (PLN)

(Average rates)

1US\$ =	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
	0.95	1.06	1.36	1.81	2.27	2.42

WEIGHTS AND MEASURES

<u>Metric System</u>	=	<u>US System</u>
1 meter (m)	=	3.29 feet (ft)
1 kilometer (km)	=	0.62 mile (mi)
1 square kilometer (km ²)	=	0.39 square mile (mi ²)
1 metric ton (m ton)	=	0.98 long ton (lg ton)
1 kilogram (kg)	=	2.2 pounds (lbs)

FISCAL YEAR OF BORROWER

January 1 - December 31

ABBREVIATIONS AND ACRONYMS

FERPOL	Polish State Railways Trade Office
GDDP	General Directorate of Public Roads
GNP	Gross National Product
MIS	Management Information System
MTME	Ministry of Transport and Maritime Economy
NBP	National Bank of Poland
OMIS	Operating Management Information Systems
PKP	<i>Polskie Koleje Panstwowe</i> , Polish State Railways
PKS	National Road Transport Enterprise
PHRD	Population Human Resources Development
ZNTKS	Rolling Stock and Track Maintenance Plant at Stargard
ZWUS	Signal Equipment Works

Johannes F. Linn, Vice President, ECA Hans J. Apitz, Acting Director, EC2 Henk Busz, Acting Division Chief, EC2ET Graham R. Smith, Principal Transport Specialist, EMTIE

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IMPLEMENTATION COMPLETION REPORT

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FIRST TRANSPORT PROJECT

Loans 3193- and 3194-POL

Preface

This is the Implementation Completion Report (ICR) for the First Transport Project in Poland, for which Loan 3193-POL in the amount of US\$8 million equivalent and Loan 3194-POL for US\$145 million equivalent were approved on June 11, 1990 and made effective on September 11, 1990. The Republic of Poland was the borrower for Loan 3193, with the Ministry of Transport and Maritime Economy (MTME) as beneficiary. The Polish State Railways (*Polskie Koleje Państwowe - PKP*) was the borrower for Loan 3194, with the Republic of Poland as guarantor. The project was the Bank's first in Poland's transport sector. Its preparation coincided with the fall of communism in Eastern Europe and it was implemented in the years of greatest flux and change immediately thereafter. It was successfully completed in spite of these circumstances.

The loans were closed on December 31, 1996, one year after the original closing date. They were fully disbursed, the last disbursement taking place on May 1, 1997. Co-financing for the project was provided by the European Investment Bank (EIB), through a loan of ECU 20 million signed on July 12, 1990 and fully disbursed by December 15, 1995. Bilateral grants for technical assistance were provided on a parallel basis by Austria, Canada, Japan, the Netherlands, Sweden, Switzerland and the United States of America, without any formal link to the Bank loans.

The one-year completion delay was due mainly to difficulties encountered in the procurement of computer hardware and software systems. Between loan signing and effectiveness \$3.25 million of the loan for MTME (Loan 3193) was canceled at the borrower's request; the Ministry wanted to secure grant financing for several studies in lieu of the loan.

The ICR was prepared by Graham Smith, principal transport specialist, Karim Budin, railway engineer, and Enar Wennerstrom, senior financial analyst, under the supervision of Henk Busz, Acting Chief, EC2 Energy, Environment, and Transport Operations Division.

Preparation of this ICR was based on the Staff Appraisal Report, the loan agreements, supervision reports, a visit to Poland in late January/early February 1997, and completion reports of May 1997 (annexed to the present report) prepared by the MTME and the General Directorate for Public Roads (on Loan 3193) and PKP (on Loan 3194). The Bank's draft ICR was circulated to MTME and PKP in early May 1997. This report was reviewed by Franz Kaps, Projects Advisor (EC2DR).

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EVALUATION SUMMARY

Project Objectives

1. The project was one of the first Bank-financed projects in Poland and the first in the transport sector. It was intended to:
 - (a) support the Government's efforts to restructure the transport sector towards modern organizational forms and management strategies;
 - (b) introduce more efficient internal management systems and maintenance procedures, as well as provide financing for the equipment necessary to support this;
 - (c) train managers in modern transport management techniques;
 - (d) increase competition in the railway sector; and
 - (e) improve the economic, financial and operating performance of Polish State Railways.
2. Accordingly, the project comprised:
 - (a) repair and modernization of equipment and facilities for railway rolling stock, track maintenance, signaling and telecommunications;
 - (b) measurement and laboratory equipment for maintenance and repair of the highway network;
 - (c) technical assistance to introduce an improved management information system in PKP and to investigate long-term strategic issues in the railway sector; and
 - (d) training for senior managers of sector institutions.
3. One of the major components of Loan 3194 was to have been the modernization of equipment at the rolling stock and track maintenance plant at Stargard (ZNTKS), in parallel with a corporate restructuring under which the plant would have become independent of PKP and would have ceased maintaining rolling stock to specialize in track maintenance. In 1992 PKP asked that this component be deleted because a planned privatization with a foreign joint venture partner had to be abandoned because of irreconcilable differences with the work force. The loan funds were reallocated to other components.

4. An amount of \$3.25 million allocated for studies and technical assistance in Loan 3193 was canceled between loan signing and effectiveness at the borrower's request in the expectation that bilateral grants would be secured instead. Grants in excess of this amount were indeed secured in due course for these studies.

Implementation Experience and Results

5. Fulfillment of developmental objectives: The project enabled PKP to renovate and modernize several key facilities for track maintenance, to modernize its internal telecommunications for data transmission and acquire a management information system as planned, as well as to carry out important studies for restructuring to adapt to the needs of a market economy. This allowed it to lower operating costs, improve the quality of services offered, lower the rate of accidents, and retain traffic that might otherwise have been lost.

6. Institutional sustainability: The project benefited greatly from technical professionalism and continuity in three important quarters. Firstly, the Ministry of Transport provided clear and far-sighted strategic leadership as to the sector's development throughout the time the project was being implemented. Secondly, PKP created, at project start-up, a specialized unit for procurement headed by an experienced Polish national who remained in this post throughout implementation. Thirdly, competently staffed project co-ordination units in both MTME and PKP greatly facilitated communications between the Bank and the implementing departments.

7. Borrower's performance (PKP): In the past decade the Bank's portfolio of railway projects has contained many problem projects, as large and in-grown railways struggle to restructure in response to shrinking demand. It is therefore all the more commendable that PKP successfully implemented this project as a first-time borrower, in a fast-changing economic and political environment.

8. Throughout the six years of implementation, procurement was handled professionally. The only significant difficulty which arose was in the procurement of the mainframe computer system and software for the Management Information System. The need to take quality differences into account came into conflict with the strict application of the lowest evaluated responsive bid. Since then the Bank has modified its procedures for the procurement of hardware and software systems to allow a larger weight to be given to quality differences.

9. At the time the loans closed, PKP had evolved substantially in the intended direction. It was poised to implement a major reorganization into lines of business as recommended by the Bank and in accordance with the European Commission's directive 91/440 for EU member railways. In this regard Poland is ahead of some EU member states. Several major suppliers of rolling stock, track and signaling had become legally independent. A modern data transmission system was in place and work was well advanced in designing improved financial and operational information systems. PKP staff had been cut by nearly a third. A number of uneconomic lines had been closed. Subsidy policies had been clarified and rationalized; subsidy payments had been significantly reduced.

10. PKP's finances remained under stress, however, with damaging consequences on its aging assets. This was due to the larger-than-expected drop in traffic and continued reluctance on the part of the Polish government to take drastic action to curtail losses on passenger operations. This is a problem common to railways everywhere and Poland's performance has been better than most railways of Central and Eastern Europe.

11. Borrower's performance (MTME): The Ministry of Transport implemented its components (under Loan 3193) promptly and effectively. The equipment purchased was put to good use improving the planning of road maintenance and rehabilitation, as well as administration of the Ministry, and the studies were used to improve policies and investment appraisal in all surface transport modes.

12. Bank's performance: The same task manager was responsible for the project from the time it was identified through appraisal and presentation to the Board and throughout implementation until half a year before the loans were closed. As on the borrowers' side, so also on the Bank's side this continuity contributed in no small way to the project's success. The borrower, in its completion report, cites among lessons learned the need for more intensive Bank supervision during the first year of implementation.

13. Assessment of project outcome: The project outcome is highly satisfactory overall. The project has substantially met its institutional and physical objectives --with effective adaptation to changing circumstances during implementation; sector policies have been substantially strengthened; and these achievements are likely to be sustained. Bank and borrower performance were satisfactory or better in all areas rated. The one issue for some concern is PKP's financial situation, but it is better than that of many railways.

Project Sustainability and Future Operations

14. Sustainability: The project's impact is likely to be sustained in two important respects. Firstly, the Ministry of Transport provided far-sighted strategic leadership as to the sector's development throughout the time the project was being implemented. Despite the complexities of a fluid political environment, the design, sequencing and timing of each major reform step have been generally well conceived and have achieved their objectives. The newly created independent enterprises have the incentives and legal powers to make their improvements in performance irreversible. Secondly, PKP created, at project start-up, a specialized unit for procurement headed by a Polish national with international experience in procurement. The high quality and continuity of procurement management contributed greatly to the project's success. This unit now handles all major procurement for PKP.

15. PKP's financial sustainability is the one area which leaves grounds for concern. Its continued inability to cover its costs from revenues and compensation payments for public service obligations is preventing it from behaving completely as a private, competitive enterprise. It can be argued that only the intended reorganization will create the incentives and accountability systems needed to achieve that objective.

16. **Future operations:** The studies conducted under Loan 3193 allowed the preparation of the program of road rehabilitation implemented under the Roads Project (Loan 3564-POL for \$150 million) signed in 1993. Likewise the national ports master plan study carried out under Loan 3193 laid the ground for the Ports Access and Maintenance Project (Loan 4080-POL for \$67 million) signed in 1996. A second roads project is planned for FY98 and a second ports project for FY99. Thirdly, the Ministry's restructuring program for the railway system, as Poland approaches membership in the European Union, have laid the groundwork for a further World Bank-supported project to support the restructuring process. How best to do this remains to be agreed; it could include financing of severance payments to redundant labor and upgrading of rail infrastructure for the benefit of competing freight train operators, once open access by multiple carriers has been introduced. The Country Assistance Strategy tentatively programs this operation for FY2000.

Key Lessons Learned

17. The key lessons learned are:

- (i) Polish Railways' continuing financial difficulties reflect a struggle, common to almost all passenger railways, to reconcile traditional concepts of a monopoly public service with modern concepts of a commercial transport enterprise facing vigorous competition from other transport modes, especially road transport. Addressing this conflict is central to Bank assistance to any railway.
- (ii) Against that norm, this project was conspicuously successful because of continuity of policy and commitment by PKP and (especially) the Ministry of Transport.
- (iii) Creation of the specialized unit for procurement within the railway, headed by someone with international procurement experience, and the retention of that specialist throughout implementation, was an immense help.
- (iv) Continuity of task manager from the preparation phase through implementation yields considerable benefits in terms of the efficiency and consistency of the Bank's role.
- (v) PKP's experience of evaluating computer hardware and software under competitive bidding was one of several cases which led the Bank to prepare specific procurement guidelines for such items.
- (vi) A broad initial project in a sector can prove valuable in opening the door for subsequent lending operations which then pursue in more detail the institutional and policy reforms analyzed under the first operation.

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PART I. PROJECT IMPLEMENTATION ASSESSMENT

A. STATEMENT AND EVALUATION OF OBJECTIVES

1. This project was prepared at a time when centrally planned economic systems were collapsing throughout Eastern Europe. In the uncertain conditions then prevailing, the Bank's overall strategy for Poland was to support efforts to strengthen the economy's ability to compete in the world markets and improve living standards at home, while meeting its external debt burden. To achieve this it was fundamental to: (i) reform the economic system to enable the economy to produce and distribute more efficiently; (ii) restructure the outmoded and deficient production and maintenance facilities; and (iii) arrange substantial foreign assistance to finance the restructuring efforts.
2. The project was to support these objectives in the transport sector. If measures like those included in the project had not been undertaken, the transport system would have deteriorated and constraints would have appeared, driving up transport costs at an accelerating rate and ultimately leading to significant bottlenecks, in particular in the railway sector. Privatization of a large part of the economy was an important element of economic reform in Poland, but it was clear that the railways and the highway administration would remain in the public sphere for the foreseeable future and it was vitally important that they too be modernized and their efficiency be increased. In parallel, competition in the sector had to be increased and certain activities needed restructuring so that they could be privatized. The Bank also had a vital role as a catalyst for the support and speeding up of the Government's reform program, as well as a conduit for the introduction of modern institutional structures, techniques and capabilities.
3. The project, therefore, aimed to:
 - i) help the sector evolve from one characterized by rigidities, central commands, narrow engineering considerations, and capital-intensive solutions to modern organizational forms and management strategies adapted to a more open economy, including measures which would contribute to introducing competition in the transport system, such as increasing the autonomy of the enterprises in the PKP group, and changing procurement and marketing procedures;
 - ii) introduce more efficient internal management systems and maintenance procedures, as well as the equipment necessary to support this; and
 - iii) train managers in modern transport management techniques; and
 - iv) improve physical and financial performance.

4. The project was to focus on the maintenance requirements of those parts of the railway and highway systems which were deemed to be economically viable in the long run. Those parts of the system which did not have prospects of economic viability were to be abandoned, and within the project this objective would be pursued for uneconomic railway lines, marshalling yards and stations. The project would modify the relationship between PKP and two of its major manufacturing units responsible for signaling and track maintenance respectively. In addition, it would contribute to financial discipline in these entities by having the allocations from the PKP loan to them made on commercial terms. The project would also develop longer-term plans for restructuring and modernizing operations and maintenance according to sound economic criteria.

5. To achieve these objectives, the project included the following components:

Railways (Loan 3194 except item (i))

- (i) Rolling Stock Maintenance and Repair (EIB co-financing): Modernization of maintenance equipment and facilities for electric locomotives; improvement of freight car repairs; modernization of brake shoe manufacturing;
- (ii) Track Maintenance and Repair: Production and installation of more efficient rail fastenings, improved turnouts on mainlines and the production of concrete sleepers, setting up facilities for reconditioning of rails; flash-butt welding of rail joints; and import of track maintenance machines as well as modernization of the domestic repair and construction facilities;
- (iii) Signaling and Telecommunications: Modernization of signaling and telecoms production facilities to improve train operating efficiency and improved data processing facilities;
- (iv) Operating Management Information System (OMIS) to achieve a coordinated flow of data for management decision-making;
- (v) Studies: (a) long-term locomotive design and maintenance; (b) design of a modern management information system for train operations and simulation as well as for general management purposes; and (c) rationalization of train formation and dispatching.
- (vi) Institution Building: Actions and developing conditions to move various ancillary services and manufacturing enterprises within PKP towards becoming autonomous enterprises, including change in procurement and marketing procedures. Training and professional contacts with Western institutions and transport agencies for PKP's managers to acquire know-how about Western methods of strategic planning, economic analysis of investments, management of transport enterprises etc.

Highway Administration (Loan 3193)

- (i) Development of a pavement management system, including technical assistance and equipment;
- (ii) Quality control and testing laboratory equipment.

Sector Reform

- (i) Technical assistance, training and studies for sectoral reform (bilateral grants);
- (ii) Program to close uneconomic railway lines and stations;
- (iii) Annual review of the transport sector investment program;
- (iv) PKP financial and physical performance; and
- (v) Sectoral studies (Loan 3193):
 - (a) development of combined transport; (b) road transport development; and (c) road user charges.

B. ACHIEVEMENT OF OBJECTIVES

6. The project fulfilled most of its many objectives, not only the physical investments but also the institutional and policy goals. It enabled PKP to renovate and modernize several key facilities for track maintenance, modernize its internal telecommunications for data transmission, and acquire a management information system as planned, though with some delay. This allowed it to lower operating costs, improve the quality of services offered, lower the rate of accidents, and retain traffic that might otherwise have been lost. The project also enabled PKP to carry out important studies for restructuring to adapt to the needs of a market economy. Some loss of momentum was recorded in later years, but the direction of change remained correct.

Institutional development: Railways

7. Illustrative of these accomplishments was the progress recorded at the end of 1991, the first full year of implementation. During that year the Government and PKP:
- a) completely divested 80 manufacturing, construction and service subsidiaries, and established them as separate joint stock companies, employing 70,000 workers;
 - b) reduced PKP's operating staff by over 47,000 workers (14%), discontinued service on 693 km of line, and scrapped obsolete rolling stock; and
 - c) arranged for on-lending to six of PKP's former manufacturing subsidiaries.

8. The pace of line closings met the covenanted target of 200 km per year. Actual closings between 1991 and 1994 totaled 2,614 km, more than double the covenanted 1,000 km, trimming the network by 11 percent. Likewise, closing of marshalling yards (from 110 in 1970 to about 12 by 1996) went beyond expectations.

9. As intended, several major plants which hitherto had been integral units within PKP became independent joint-stock companies. The Signal Equipment Works (ZWUS) was privatized through a joint venture with a major Western supplier, ABB. By 1994 PKP staff had been reduced by 29 percent (from 349,000 in 1989 to 249,000 in 1994).

10. Annual financial audits were complied with each year, strengthening the concept that PKP was a "normal" company and no longer to be viewed, as it had been, like a ministry.

11. In 1993 the Government established a commission of senior officials to recommend restructuring of PKP. It lost momentum in 1994 after a change of government. A February 1994 mission wrote in its aide memoire that reorganization into lines of business was foreseen for July 1, 1994. In hindsight, this proved too optimistic. The bill reorganizing PKP was not signed into law until July 1995. At the time of writing of the present report (May 1997) the mandated reorganization has still not taken place, but separation of train operations from infrastructure is foreseen for the second half of 1997. Mostly to blame is the long time needed to pass the necessary law through a less reform-oriented Parliament and opposition from the railway workforce. The delay had the merit of allowing time for consultants to be hired, who provided valuable advice, and for insights from EU experience to be taken into account. (All EU railways are required to reorganize on similar lines to those PKP is pursuing, but not all have yet done so.) A rail transport bill, which goes a major step further in allowing independent train operating companies access to the rail network, thus breaking PKP's monopoly, is awaiting the President's signature. A third bill, authorizing sale of surplus railway property, has passed its first reading. All this gives reason to believe that, despite opposition, the Ministry of Transport will ensure that railway reform goes forward.

12. At the time the loans closed, PKP had evolved substantially in the intended direction. It was poised to implement a major reorganization into lines of business as recommended by the Bank and in accordance with the European Commission's directive 91/440 for EU member railways. In this regard Poland is ahead of some EU member states. Several major suppliers of rolling stock, track and signaling had become legally independent. A modern data transmission system was in place and work was well advanced in designing improved financial and operational information systems. PKP staff had been cut by nearly a third. A number of uneconomic lines had been closed. Subsidy policies had been clarified and rationalized; subsidy payments had been significantly reduced. However, PKP's finances remained under stress, with damaging consequences on maintenance and replacement of its aging assets. In perspective, though, its performance was better than that of most railways of Central and Eastern Europe.

Institutional Development: Roads

13. Not only PKP but also the General Directorate for Public Roads (GDDP) met its objectives in large measure. The purchase of equipment and the policy studies to be carried out by the Ministry and GDDP were largely completed by 1993. These enabled GDDP to set up an effective pavement management system and to equip its laboratories for a higher level of quality control than before. It also led to the building up as early as 1991 of a competent team in GDDP to manage the pavement management system; this team became the interlocutor for the Bank's Road Project approved in 1993 (Loan 3564-POL).

14. Managerial and technical training was provided to staff of MTME, PKP and GDDP as planned. Its beneficial impact has been seen in the quality of their performance subsequently.

15. By the time the loan closed, GDDP had evolved into a technically competent agency comparable to similar organizations in EU member states. It had a much enlarged budget for road rehabilitation and maintenance, was well along in implementing a \$150 million loan from the World Bank, and was about to negotiate a second loan for road rehabilitation, this time of \$220 million.

Other Developmental Impact

16. At least 20% of the transport sector investment budget was to be subject to economic analysis in 1991, increasing by 15% annually to at least 80% by 1995. This was complied with each year up to and including the 1995 budget.

17. The study of road user charges, carried out in 1992, led to substantial increases in excise taxes on fuel. It must be said, however, that a further study will be needed under the Second Roads Project to tackle the continuing shortfall of user charges for heavy vehicles.

18. In 1992 the Government adopted a new policy on rail passenger subsidies, cutting subsidies by one third compared to 1988 levels. It limited the scope of free and discounted travel from 1 January, 1993 onwards.

19. It had been hoped that support could be given to development of intermodal transport (moving containers by rail), largely for its expected environmental benefits compared to haulage by road. But it was not clear at appraisal what form this support should take. A study was duly carried out with Dutch grant financing and led to the setting up in 1992 of a joint venture among PKP and several private partners, known as POLKOMBI, and the earmarking of \$2 million from the Bank's Roads Loan for POLKOMBI. However, this had still not been drawn on by May 1997, for want of a decision by MTME as to the appropriateness of providing a sovereign guarantee to a private firm operating in a competitive market. The issue was not helped by the slow start-up of POLKOMBI's operations, which prevented it making a strong case for the use of the funds.

20. PKP has not calculated *ex post* rates of return on the investments. At appraisal the ERR on the project was estimated at 25%, using an assumed equilibrium exchange rate midway between the official and parallel market rates. ERRs on the various categories of equipment ranged between 15% and 31%. These can only be seen as approximate, since the methodologies for calculating them require necessarily arbitrary assumptions about what would have happened in the absence of the project and the impact of specific parts in a complex machinery. For example, the many items of maintenance equipment have been used jointly with other assets to lengthen the working life of track and rolling stock, reducing traffic delays, lowering operating costs, and slowing the erosion of traffic. Defining and costing out a "without project" alternative after the fact is open to many varying hypotheses. Furthermore, during the implementation period prices were subject to rapid inflation, making comparisons difficult. The management information systems, likewise, improved the efficiency of large parts of PKP's operations at relatively low cost, but isolating and evaluating specific impacts is not easy and has not been attempted by PKP.

21. Some of the investments, such as the sleeper production lines, have been used well below their capacity because of the drop in rail traffic. Their financial return will have been lower than appraisal estimates. However, most of the investments --equipment that helped reduce operating costs for core existing traffic-- will still have had a satisfactory economic return compared to continued deterioration of assets, further erosion of traffic, and larger operating losses. Decisions on where to reallocate unused loan funds as implementation proceeded were made largely on engineering judgment, concentrating resources where the largest cost cuts could be made. This was acceptable.

Co-financing

22. The European Investment Bank's parallel loan of ECU 20 million was originally allocated to introduction of modern repair technologies in rolling stock repair units, to enable electric locomotives (among other things) to be repaired under standards similar to western European railway companies, which assure higher durability and operational reliability, as well as increased work safety and environment conditions.

23. As the repair units were spun off from PKP and privatized during the first two years of project implementation, the new entities cut back on their use of EIB funds. Ultimately only ECU 4 million was used for this purpose in plants at Gliwice, Minsk Mazowiecki and Olesnica. All equipment has been operating satisfactorily for two years. Actual use of capacity has been well below expectations, resulting from the sharp drop in PKP traffic and consequent lower demand for repairs of electric rolling stock.

24. The ECU 16 million of the EIB loan not used on rolling stock repair was subsequently applied to construction of fiber optic main telecommunications lines (ECU 3.8 million) with associated transmission facilities (ECU 0.8 million) and 11 automatic exchanges (ECU 11.4 million). This allowed PKP to digitize its telecommunications and greatly expand its data transmission capacity. All 11 automatic exchanges were delivered in 1996, and by May 1997 90% of the transmission cables had been delivered and 63% of the transmission facilities. The EIB loan was fully disbursed by its closing date. The outstanding deliveries will be paid from

PKP's own resources. This telecommunications network will greatly enhance the scope and effectiveness of the management information systems financed from the World Bank loan.

25. MTME was very successful in securing eight bilateral grants for studies and technical assistance from seven countries for itself and PKP. They are listed in Table 7.

C. MAJOR FACTORS AFFECTING THE PROJECT

26. Some adjustments proved necessary as the first round of procurement was completed and PKP went through a first stage of restructuring. A joint venture for ZNTKS had to be abandoned because of irreconcilable differences between the prospective foreign partner and the labor unions. This led, by agreement with the Bank, to the corresponding component being deleted and the \$7.8 million earmarked for it to be reallocated to additional track maintenance equipment and the OMIS.

27. In the case of the signaling plant (ZWUS), whose legal separation had also been given prominence in the SAR, the privatization process was successful. However, it did cause an 18-month delay in the procurement process and led to the ZWUS subloan being cut from \$20 million to only \$0.7 million.

28. A third case was the three sleeper manufacturing plants. At the time of appraisal they had not yet been singled out for privatization. Bidding for full new production lines was completed and contracts awarded --at a considerable discount compared to prior experience with direct negotiation. Upon separation, the contracts had to be re-negotiated to transfer legal responsibility to the newly independent companies. Implementation went ahead successfully, however.

D. PROJECT SUSTAINABILITY

29. The project benefited greatly from technical professionalism and continuity in two important quarters. Firstly, the Deputy Minister of Transport and head of delegation at the time the loans were negotiated and Minister of Transport since 1993, provided clear and far-sighted strategic leadership as to the sector's development throughout the time the project was being implemented. The whole transport sector has undergone comprehensive restructuring and transformation under his leadership. Despite the complexities of a fluid political environment, the design, sequencing and timing of these major steps have been generally well conceived and have achieved their objectives. The newly created independent enterprises have the incentives and legal powers to make their improvements in performance irreversible.

30. Secondly, PKP created, at project start-up, a specialized unit for procurement headed by a Polish national with international experience in procurement, who remained in this post throughout implementation. The high quality and continuity of his procurement management contributed greatly to the project's success. The unit, Polish State Railways Trade Office (FERPOL), now handles all major procurement for PKP.

31. PKP's financial sustainability is the one area which leaves grounds for concern. Like many EU railways, PKP has not yet achieved a level of financial performance which will allow it to behave completely as a private, competitive enterprise. Its continued inability to cover its costs from revenues and compensation payments for public service obligations is preventing it from maintaining and renewing its assets appropriately. It can be argued that only the intended reorganization will create the incentives, accountability and management information systems needed to achieve that objective. This is explored further below.

E. BORROWER PERFORMANCE

32. The Borrowers' performance was satisfactory or better throughout (Table 1). In the past decade the Bank's portfolio of railway projects has contained many problem projects, as large and in-grown railways struggle to restructure in response to shrinking demand. It is therefore all the more commendable that PKP successfully implemented this project as a first-time borrower, in a fast-changing economic and political environment.

33. Project co-ordination units set up at the outset in both MTME and PKP were staffed throughout by competent administrators who greatly facilitated communications between the Bank and implementing departments. Continuity in the person of the Deputy General Manager of PKP was also helpful.

34. Procuring computer hardware and software: Throughout the six years of implementation, procurement was handled professionally. Only one significant difficulty arose. That was in the procurement of the mainframe computer system and software for the Management Information System. The difficulties arose in part from the need to take quality differences into account, which came into conflict with the strict application of the lowest evaluated responsive bid. FERPOL adopted a points-based rating system which gave rise to an intense dialogue over its appropriateness and, once accepted, how it should be applied. A second reason was lack of clarity as to who would be responsible for system integration: the supplier of the principal components or PKP. It took a year for agreement to be reached with the Bank on a solution.

35. Since then the Bank has modified its procedures for the procurement of hardware and software systems to allow a larger weight to be given to quality differences. The one-year dialogue on this issue led to an improvement in Bank procurement procedures in this area.

36. PKP's financial performance: PKP failed to strengthen its finances to the intended degree. The restructuring of the economy caused a much sharper reduction in traffic than the targets agreed in 1990 by PKP and MTME, and their subsequent efforts to cut costs and increase tariffs were not sufficient to offset the traffic loss. From 1989 to 1992 freight traffic shrank by 48% and passenger traffic by 42%. Freight traffic then recovered somewhat in 1993 and 1994, while passenger traffic continued to decline. The net decline from 1989 to 1994 was 41% for freight and 51% for passengers. At the same time wage expenses increased at a pace which resulted in huge tax penalties being imposed on PKP in 1990 and 1991 for having awarded wage increases in excess of government targets. This was the practice in virtually all other enterprises in Poland as well. These tax liabilities amounted to the equivalent (at the time) of US\$275 million. PKP

argued that it had made these wage awards at the Government's behest and should therefore be exempted. Ultimately, the Ministry of Finance absorbed a substantial part.

37. PKP complied with the loan covenant requiring quarterly indexation of tariffs in pace with inflation, and reduced its work force by 21% in the first three years, which was politically difficult. However, the company was still unable to comply with the Loan's operating ratio covenant. Beginning in 1993, therefore, the original targets were drastically revised, and from 1994 onwards PKP was able to almost comply with the revised targets. The table below shows this development.

	<u>Financial targets</u>					
	Operating ratio with subsidies			Operating ratio w/o subsidies		
	<u>Planned</u>	<u>Revised</u>	<u>Actual</u>	<u>Planned</u>	<u>Revised</u>	<u>Actual</u>
1991	90		112	104		130
1992	90	104	104	102	121	121
1993	90	103	103	100	124	126
1994	90	100	101	100	120	120
1995	90	99	101	100	119	118
1996	90	99	103	100	119	116

38. An operating ratio of just over 100 means that revenues and subsidies will cover the operating expenses and give a cash surplus slightly less than the depreciation. Between 1991 and 1996 PKP's revenues covered 97% of its operating expenses, while operating subsidies covered the remaining operating activities, debt service and working capital, as well as the self-financed part of the investment program. In addition to these operating subsidies PKP has received grants earmarked for investments. Total subsidies and grants for 1991-96 amounted to US\$2.5 billion. However, these resources were not sufficient to keep investment at an acceptable level. Between 1991 and 1994 investments were only 52% of depreciation, which itself was based on greatly undervalued fixed assets. On January 1, 1995 fixed assets were substantially revalued, and the investment level for 1995 and 1996 has much increased.

39. PKP's problems have been due to the poor performance of passenger operations. Only 30% of expenses for passenger operations were covered by revenues from passenger traffic. In addition to the state subsidies, the entire surplus from freight traffic had to be used to cover the passenger deficits. During the period 1991-1996 freight traffic became more and more profitable (with the excellent operating ratio of 65% in 1996) and a clear shift took place from direct state subsidies to cross-subsidization. Cross-subsidization from freight to passenger traffic rose from 33% of passenger expenses in 1991 to 46% in 1996, while the state subsidies were lowered from 26% to 15%. This is not sustainable. The freight operation must be allowed to use the major portion of its operating surplus to further its own development. For this to be possible the freight operations should be separated from the other activities and treated as a "profit-oriented" entity, as foreseen in the proposed re-organization.

F. BANK PERFORMANCE

40. The Bank's performance, like the borrowers', was satisfactory or better throughout (Table 1). The same task manager was responsible for the project from the time it was identified through appraisal and presentation to the Board and throughout implementation until half a year before the loan was closed. The borrowers, in their completion report, express appreciation that "the four-year period of preparation of the Project provided a valuable platform for mutual understanding and a large degree of trust." Supervision missions were conducted with appropriate frequency, considering the satisfactory performance by the borrower. However, the borrowers cite, among lessons learned, the need for more intensive Bank supervision during the first year of implementation. They also argue for greater flexibility in procurement of computer hardware and software (para. 34-35). They appreciated the enhanced access which their relations with the Bank gave them to Bank-supported international seminars and training events.

41. The three significant changes in project description are inadequately documented in the supervision reports: the canceling of the MTME loan allocation for studies, the deleting of the ZNTKS component, and major reallocation of the EIB co-financing. One would wish to see a fuller record on these important developments.

42. The borrower expressed dissatisfaction with the workings of the currency-pool loan system, when the depreciation of the dollar against the pool in the mid-'90s led dollar-denominated debt service payments to increase at short notice. This disrupted the Ministry's and PKP's budgeting. They recommend that the Bank should brief borrowers more fully at the time of loan negotiations on the implications of the pool system.

G. ASSESSMENT OF OUTCOME

43. The project outcome is assessed as highly satisfactory overall. The project has substantially met its institutional and physical objectives --with effective adaptation to changing circumstances during implementation; sector policies have been substantially strengthened; and these achievements are likely to be sustained. Not all expectations for private-sector development have been met, but this is an experience common to countries in transition. Bank and borrower performance were satisfactory or better in all areas rated (Table 1). The one issue for some concern is PKP's financial situation, but it is better than that of many railways.

H. FUTURE OPERATIONS

44. The studies conducted under Loan 3193 allowed the preparation of the program of road rehabilitation implemented under the Roads Project (Loan 3564-POL for \$150 million) signed in 1993. Likewise the national ports master plan study carried out under Loan 3193 laid the ground for the Ports Access and Maintenance Project (Loan 4080-POL for \$67 million) signed in 1996.

45. The project's success, and the Ministry's vision in setting out a restructuring program for the railway system as Poland approaches membership in the European Union, have laid the groundwork for further IFI-supported operations in the railway subsector. The distinct mandates

of the IBRD, EBRD and EIB allow room for all. The Country Assistance Strategy has tentatively programmed a loan for FY2000 to support the restructuring process. How best to do this remains to be agreed. One option is to finance severance payments to surplus railway staff (which EBRD and EIB, as a matter of policy, can not offer). This would have a high and rapid payback to the extent it unblocked restructuring which would otherwise meet stiff opposition. A second option, not mutually exclusive, is to finance upgrading of lines used by heavy coal traffic which, under the open-access regime mandated by the new rail transport law (para. 11), would benefit public and private train operating companies alike. It would also focus attention on the major policy issue of fair charging for infrastructure use by competing carriers and the establishment of a level playing field more generally. MTME prefers to limit use of sovereign guarantees to infrastructure, for which it will retain responsibility. It rightly considers that the train operating companies should bear the commercial risk of rolling stock. This proposal would be complementary to lending by EBRD to private lessors of rolling stock; in Poland EBRD prefers to lend without sovereign guarantees. EIB meanwhile is likely to pursue its mandate to finance main international corridors linking Poland to EU territories, with sovereign guarantees.

I. KEY LESSONS LEARNED

46. The key lessons learned are:

- (i) Like railways almost everywhere and especially in countries in transition, Polish railways have undergone a severe shrinking of demand and the railway enterprise has found it hard to adapt fast enough. Its continuing financial difficulties reflect a struggle, common to almost all passenger railways, to reconcile traditional concepts of a monopoly public service with modern concepts of a commercial transport enterprise facing vigorous competition from other transport modes, especially road transport. Addressing this conflict is central to Bank assistance to any railway and the difficulties should not be under-estimated.
- (ii) Against that norm, this project was conspicuously successful because of continuity of policy and commitment by PKP and (especially) the Ministry of Transport.
- (iii) Creation of the specialized unit for procurement within the railway, headed by someone with international procurement experience, and the retention of that specialist throughout implementation, was an immense help.
- (iv) Continuity of task manager from the preparation phase through implementation yields considerable benefits in terms of the efficiency and consistency of the Bank's role.
- (v) PKP's experience of evaluating computer hardware and software under competitive bidding was one of several cases which led the Bank to prepare specific procurement guidelines for such items.

(vi) A broad initial project in a sector can prove valuable in opening the door for subsequent lending operations which then pursue in more detail and in narrower fields the institutional and policy reforms analyzed under the first operation.

PART II. STATISTICAL TABLES

Table 1:	Summary of Assessments
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Table 1: Summary of Assessments

A. Achievement of objectives	Substantial	Partial	Negligible	Not applicable
Sector Policies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial Objectives	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Institutional Objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical Objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poverty Reduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Gender issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other social objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental Objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Sector Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private Sector Development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Project Sustainability	Likely		Unlikely	Uncertain
	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
C. Bank Performance	Highly satisfactory		Satisfactory	Deficient
Identification	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Preparation Assistance	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Appraisal	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Supervision	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Borrower Performance	Highly satisfactory		Satisfactory	Deficient
Preparation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Implementation	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Covenant Compliance	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Operation (if applicable)	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Assessment of Outcome	Highly satisfactory	Satisfactory	Unsatisfactory	Highly Unsatisfactory
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 2: Related Bank Loans

Loan Title	Purpose	Year of Approval	Status
<i>Preceding Operations</i>			
None			
<i>Following Operations</i>			
1. Roads	Road Rehabilitation	1993	2/3 implemented
2. Port Access & Management	Improving accesses to ports of Szczecin-Swinoujscie, Gdynia & Gdansk	1996	Initial procurement in process

Table 3: Project Timetable

Steps in Project Cycle	Date planned	Date actual/ latest estimate
Identification (Executive Project Summary)		June 11, 1990
Preparation		Feb 5, 1989
Appraisal		May 2, 1989
Negotiations		March 1990
Board presentation		May 1, 1990
Signing		June 11, 1990
Effectiveness	Sept 11, 1990	Sept 11, 1990
Project completion	June 30, 1995	Dec 31, 1996
Loan closing	Dec 31, 1995	Dec 31, 1996

**Table 4: Loan/Credit Disbursements: Cumulative Estimated and Actual
(US\$ thousands)**

IBRD Fiscal Year	Appraisal Estimate	Actual	Actual As Percentage of Estimate
	(US\$ thousands)		
1991	5.50	3.17	57.6
1992	24.50	29.55	120.6
1993	65.50	51.12	78.0
1994	110.50	72.67	65.7
1995	148.50	101.77	68.5
1996	153.00	138.02	90.2
1997	0	149.21	0

Date of Final Disbursement: 04/97

Table 5: Key Indicators for Project Implementation

	Responsible	Estimated	Actual
<i>I. Key implementation Indicators in SAR</i>			
1. Railway component	PKP	1993	Railway restructuring target not achieved in FY93 due to cost exemptions granted.
2. Manufacture of track maintenance machines	ZNTKS	1994	80 manufacturing, maintenance and construction units established.
3. Manufacture of signaling equipment	ZWUS	1995	PKP's signal factory was privatized through a joint venture between ZWUS/ABB
4. Highway component	GDDP	1995	Highway department was restructured through the establishment of 240 road construction and maintenance units as independent enterprises.
5. Transport sector studies	MTME	1994	Port sector restructuring study completed. Study on combined transport completed.
<i>II. Modified indicators</i>			
1. Restructuring	PKP	1993	Slow progress due to lack of finances and slow hiring of consultants.
2. Disbursement	PKP/ZWUS	1994	Lags behind appraisal forecast due to reduction in ZWUS component.
3. Highway	GDDP	1995	Pavement management system introduced as well as axle load control. Road user charges on fuel increased close to West European levels.

Table 6: Key Indicators for Project Operation

	Estimated	Actual
<i>I. Key operating indicators in SAR</i>		
1. Railway	Rolling stock/track maintenance & repair; signaling & telecoms	Significant progress made by July 1994. The new railway law had been approved by Parliament and was soon to be signed into law by Parliament.
2. Highway	Development of a pavement management system;	Full data acquisition program planned for April 1994. Significant progress made in the development of a Vehicle Operating Cost model for Polish conditions, since the HDM III program supplied by the Bank was said to be unsuitable.
3. Operating Management Information System	Creation/development of an OMIS system to ensure proper data flow in all aspects of the project.	Bid documents were prepared for six main financial applications, terminals, printers and uninterrupted power supply. PKP had to revise the documents and submit them before February 28, 1995.

**Table 7a: Studies Carried out under
FIRST TRANSPORT PROJECT (Ln 3193 & 3194)**

Title	Approx. cost (US\$000)	Donor	Consultant	Start — End	Impact
MINISTRY OF TRANSPORT AND MARITIME ECONOMY					
Modified Rail Passenger Subsidy System	6.80 (82 MPLZ)	Polish State Budget	Research Institute of Transport Economics	Jan.91 — Dec. 92	Helped clarify rail subsidy system and create law on reduced tariffs
Combined Transport Development	\$0.2-0.25m	Netherlands	Nethconsult	Mar.91 — Jan.92	Defined combined transport component in Roads Project
Road Transport Development		The World Bank		— June 91	"Issues in CEE Land Transport"
Road User Charges		Polish State Budget	MT&ME, GDPR and Ministry of Finances	— April92	Studies dropped after draft inception report of MT&ME. Basis for increased fuel taxes
Improvement of Investment Analysis and Budget Procedures	\$0.1-0.2m	Sweden	"Activ" Business Development Partners	July91 — Feb.92	Helped MT&ME fulfill loan obligations related to economic analysis
Highway Rehabilitation and Maintenance in CEE		The World Bank	EM4IN EMTIN	— June91	Helped understand the road administration as client of the Bank
Road Network Development Strategy	70.00	Polish Fund of Technical Development	Danish Road Administration	Dec.91 — June92	One of pillar basis for the preparation of the Roads Project
Port Sector Study Pre and Feasibility Studies	1,500.00 in 1992 and about 1,000.00 in 1995	Netherlands	Rotterdam Maritime Group	Sep.92 — Dec.94 About June97	Provided basis for Port Access & Management Project and Preparation of Port Modernisation Project
Railway Restructuring	From 848.00 to 1,325.00 (106MJPY)	Japanese Grant	Mercer Management Consulting Inc.	May 95 — June97	Helping MT&ME define strategy for restructuring rail subsector

**Table 7b: Studies Carried out under
FIRST TRANSPORT PROJECT (Ln 3193 & 3194)**

Title	Approx. cost (US\$000)	Donor	Consultant	Start — End	Impact
POLISH STATE RAILWAYS					
MIS development	62.00	Canada	CPCS	Sep.90 — June91	Specified the needs and initial scope of the OMIS project
OMIS Review	52.00	Loan 3194-0	Coopers & Lybrand	July91 — Aug91	Reviewed and clarified the CPCS report
Locomotive design & maintenance		Switzerland	Elektrowatt Engineering Service Ltd.	Aug.91 — April93	Proposed the new methods of electric locomotive maintenance and modernisation
Train formation & dispatching/marshalling yards		Austria	Austria Rail Engineering	Feb.91 — Oct.91	Proposed new freight traffic organisation adjusted to market economy
Transformation of PKP's Manufacturing & Affiliate Units into Autonomous Enterprises*)			*) ToR for another study related to the restructuring of PKP was agreed		According to the Governmental decisions 70 PKP's Units were transformed into separate enterprises in Jul-Dec. 1991
E-20 Feasibility Study	148.00 (220,000 DEM)	Loan 3194-0	DE-Consult	Mar.92 — May92	Provided basis for E-20 modernisation (co-financed by EIB and EBRD loans and PHARE grant)
Study of PKP Restructuring	400.00	US TDA	Mercer Management Consulting Inc.	June92 — May93	Proposed the new rail sector organisation. Base for the II stage of study of PKP restructuring

Prepared by C&M Units
of MT&ME and PSR

Table 8A: Project Costs

Component	Appraisal estimate (US\$ million)			Actual (US\$ million)		
	Local costs	Foreign costs	Total	Local costs	Foreign costs	Total
1. PKP	38.50	137.25	175.75	NA	142.53	NA
2. ZWUS	2.80	20.00	22.80	NA	0.74	NA
3. ZNTKS	1.30	7.75	9.05	NA	0	NA
4. Other supply units	0.00	0.00	0.00	NA	24.73	NA
<i>Subtotal railway</i>	<i>42.60</i>	<i>165.00</i>	<i>207.60</i>		<i>168.00</i>	
5. MTME	0.64	4.80	5.44	NA	0.21	NA
6. GDDP	0.26	3.20	3.46	NA	4.54	NA
<i>Subtotal MTME</i>	<i>0.90</i>	<i>8.00</i>	<i>8.90</i>		<i>4.75</i>	
TOTAL	43.50	173.00	216.50		172.75	

Notes

3. Canceled

4. Included in PKP at appraisal, legally independent later

Table 8B: Project Financing

Source	Appraisal estimate (US\$ million)			Actual (US\$ million)		
	Local costs	Foreign costs	Total	Local costs	Foreign costs	Total
1. IBRD		153.00			149.75	
2. European Investment Bank		20.00			23.00 *	
3. Bilateral grants		0.00			5.15	
4. Domestic contribution		43.59			NA	
TOTAL		216.50			NA	

* ECU 20 million

**Table 9a: Status of Legal Covenants
Poland
First Transport Project
Loan No. 3193-POL [latest report 1994 bto]**

Agreement	Section	Covenant Type	Present Status	Original Fulfillment Date	Description of Covenant	Comments
Loan	3.02	M	OK		Govt. to establish project coordination unit.	Complied with
Loan	4.01	F	OK		Govt. to submit audit reports.	Report received for FY 1992 accounts.
Loan	4.02	T	OK	12/31/91	(i) Study of restructuring of rail passenger subsidies.	(i) Report received. Some recommendations implemented.
		T	OK	12/31/91	(ii) Studies of: (a) road user charges; (b) further development of road transport; and (c) expansion of combined transport.	(ii) (a) Study undertaken by PHARE; (b) study completed; (c) study completed and pilot project underway.
Loan	4.03	E	OK		At least 20% of transport sector budget investment to be subject to economic analyses in 1991, increasing by 15% p.a. to at least 80% by 1995.	About 65% of estimated budget for FY94 has been subjected to economic analyses.

**Table 9b: Status of Legal Covenants
Poland
First Transport Project
(Loan No. 3194-POL) [latest report in 590 1995]**

Agreement	Section	Covenant Type	Present Status	Original Fulfillment Date	Description of Covenant	Comments
Loan	3.02	5	C		Government to establish project coordination unit.	Complied with.
Loan	4.01	1	C		Government to submit audit reports.	Report received for FY 1993 accounts.
Loan	4.02(a)	2,11	CD	12/31/91	Study of restructuring of rail passenger subsidies.	Report received. Some recommendations implemented.
Loan	4.02(b)	2,10,11	CD	12/31/91	Studies of: (a) road user charges; (b) further development of road transport; and (c) expansion of combined transport.	(a) Study undertaken by PHARE; (b) study completed; (c) study completed and pilot project underway.
Loan	4.03	5	C		At least 20% of transport sector budget investment be subject to economic analyses in 1991, increasing by 15% p.a. to at least 80% by 1995.	Complied with.
Loan	3.02	5	C		Establish: (i) a project management unit within the PKP; (ii) procurement unit; and (iii) technical unit in ZWUS.	Complied with.
Loan	4.01(b)	9	CP		Achieve operational targets.	Four of the eight targets achieved for 1993. The others are marginally below target.
Loan	5.01	1	C		PKP to submit audit report by 9/30 for 1990 and 1991 accounts and 6/30 for 1992 accounts onwards.	Complied with for FY1993 accounts.
Loan	5.01	1	C		ZWUS to submit audit report.	Complied with for FY1993 accounts.
Loan	5.02	2	C		Debt service of not less than 1.3 for PKP.	Complied with for FY1993 accounts.
Loan	5.03(a)	2	CP		Achieve on operating ratio, including subsidies of 103 in 1993, 100 in 1994, & 99 from 1995 onwards, and an operating ratio excluding subsidies of 124% in 1993, 120 in 1994, and 119% from 1995 onwards.	1993: Operating ratio (including subsidy) 103, operating ratio (excluding subsidy) 122. Jan-Sept 1994: Operating ratio (including subsidy) 102, operating ratio (excluding subsidy) 120.
Loan	5.04/1	2	NC		Investment limitation on ZWUS unless 16% ROR achieved.	Target not achieved in FY1993 due to restructuring cost-exemption granted.
Loan	5.05/1	2	C		ZWUS debt coverage of 1.3	Complied with for FY1993./1 As ZWUS is now a joint stock company, effectively controlled by ABB, the ZWUS covenants have limited applicability.

Covenant type:

- 1 = Accounts/audits
- 2 = Financial performance/revenue generation from beneficiaries
- 3 = Flow and utilization of project funds
- 4 = Counterpart funding
- 5 = Management aspects of the project or executing agency
- 6 = Environmental covenants
- 7 = Involuntary resettlement

- 8 = Indigenous people
- 9 = Monitoring, review, and reporting
- 10 = Project implementation not covered by categories 1- 9
- 11 = Sectoral or cross-sectoral budgetary or other resource allocation
- 12 = Sectoral or cross-sectoral policy/regulatory/institutional action
- 13 = Other

Present Status

- C = Covenant complied with
- CD = Complied with after delay
- CP = Complied with partially
- NC = Not complied with

Table 10a: Bank Resources: Staff Inputs

Stage of project cycle	Planned		Actual	
	Weeks	US\$000	Weeks	US\$
Preparation to appraisal		132.2	60.8	163.6
Appraisal		136.2	62.4	181.2
Negotiations through Board approval	21.5	78.0	29.0	84.1
Supervision	334.6	801.0	297.8	975.3
Completion	8.0	10.6	3.9	18.6
Total	364.1	1,158.0	453.9	990.5

Table 10b: Bank Resources: Missions

Stage of project cycle	Month/Year	No. of Persons	Days in Field	Specialization ¹	Performance Rating ²		Types of Problems ³
					Implementation status	Development objectives	
Through appraisal	05/89	2	20	E,N	-	-	-
	5/90	4	20	E,N,N,F			
Appraisal - Board Approval							
Board Approval - Effectiveness	12/90	5	20	E,N,N,F	-	-	-
Supervision I	5/91	5	20	E,T,N,N,F	2	1	T
Supervision II	10/91	3	20	E,N,F	2	1	T
Supervision III	2/92	3	20	N,E,F	2	1	T
Supervision IV	11/92	4	10	E,N,N,F	2	2	T,M
Supervision V	2/93	8	20	E,N,N,N,N,N,N,	2	2	T,M
Supervision VI	4/93	5	20	F	2	2	T,M
Supervision VII	11/93	2	10	E,N,N,N,F	2	2	T,M
Supervision VIII	2/94	4	10	E,N	2	2	T,M
Supervision IX	12/94	4	10	E,N,N,F	2	1	T
Completion Initiation	6/95	3	10	E,F,N,C	2	1	T
Implementation Completion	12/96			E,F,N			

1 - Specialization

2 - Performance Rating

3 - Types of Problems

A = Agriculturist
 E = Economist
 D = Education Specialist
 F = Financial Analyst
 H = Horticulturist
 L = Livestock Specialist
 M = Marketing Specialist
 N = Engineer
 R = Forester

1 = Minor problems
 2 = Moderate Problems
 3 = Major Problems

F = Financial
 T = Technical
 M = Managerial

APPENDIX A
BORROWER CONTRIBUTION TO THE ICR

APPENDIX A1
POLISH RAILWAYS (LOAN 3194)

***IMPLEMENTATION COMPLETION
REPORT***

POLAND

FIRST TRANSPORT PROJECT

TRANSPORT - RAILWAYS

LOAN NO 3194-0 POL

Warsaw, March 20, 1997

IMPLEMENTATION COMPLETION REPORT

POLAND

FIRST TRANSPORT PROJECT

TRANSPORT - RAILWAYS

LOAN NO 3194-0 POL

Prepared by	:	Polish State Railways (PKP)
Project Name	:	First Transport Project Transport - Railways
Loan Number	:	3194-0 POL
Signature Date	:	June 11, 1990
Effectiveness Date	:	September 11, 1990
Total Loan Amount	:	USD 145,000,000
Co-financing	:	European Investment Bank Finance Contract No 1.4723
		Signature Date : July 12, 1990
		Effectiveness Date : March 12, 1991
		Total Loan Amount : ECU 20,000,000

Overall Project objectives were to:

- help PKP to evolve into modern transport enterprise adapted to market economy requirements and international technical standards,
- introduce more efficient modern internal management systems and maintenance procedures as well as the equipment necessary to support this,
- train PKP managers in modern management techniques,
- improve economical, financial and operational performance of PKP enterprise.

I. SCOPE OF RAILWAY PART OF THE PROJECT

Railway part of the Project originally defined in Staff Appraisal Report comprised elements summarized below:

A. POLISH STATE RAILWAYS

1. Introduction of modern track maintenance technologies:

- a. procurement of track maintenance machines.

2. Production of track maintenance materials:

- a. installation of elastic fastening manufacturing facility,
- b. installation of concrete sleepers and turnouts manufacturing facilities,
- c. increased production of turnouts of higher durability,
- d. setting up facilities for reconditioning and welding of old rails,
- e. installation of flash-butt welding technology for rail joints.

3. Repair and maintenance of rolling stock:

- a. increased manufacturing capacity of electric locomotives repair depots,
- b. introduction of modular system of coal car repairs,
- c. modernization of brake shoe manufacturing facility.

4. Signalling:

- a. procurement of diagnostic and measuring equipment for maintenance units.

5. Telecommunications:

- a. improvement of data processing and transmission networks.

6. Operating Management Information System of PKP Enterprise:

- a. development and procurement of computer hardware and software as well as technical equipment.

7. Studies:

- a. rationalization of train formation and marshaling yards,
- b. optimalization of design, maintenance and operation of electric locomotives in Poland,
- c. operating management information system of PKP enterprise,
- d. other studies.

8. Institution building:

- a. training of PKP management professionals.

B. ZNTK STARGARD (Rolling Stock Repair Unit in Stargard):

- a. modernization of rolling stock repair unit through procurement of modern facilities,
- b. know-how transfer to ZNTK - license for manufacturing versatile track and turnouts maintenance machine.

C. ZWUS KATOWICE (Signaling Equipment Manufacturing Unit in Katowice):

- a. modernization of signaling equipment manufacturing unit through procurement of modern facilities,
- b. cast iron foundry,
- c. training of ZWUS professionals.

CHANGES IN PROJECT COMPONENTS

At the time when the Loan Agreement with the World Bank as well as Finance Contract with European Investment Bank were signed the Project funds were earmarked for the components specified in Section A above to be implemented by PKP units as well as manufacturing and repair works incorporated into PKP organizational structure, which are listed below:

WPS (Concrete Sleepers Manufacturing Units) in Mirosław Ujski, Goczałków and Suwałki as well as KZN (Turnouts Manufacturing Units) in Skalmierzyce, Bydgoszcz and Kraków (components specified in **Section A 2**);

ZNTK (Rolling Stock Repair Units) in Mińsk Mazowiecki, Oleśnica and Bydgoszcz, and ZNLE (Electric Locomotives Repair Unit) in Gliwice (components specified in **Section A 3**).

Components specified in **Sections B and C** related to independent plants manufacturing materials exclusively for PKP purposes: ZNTK Starosielce and ZWUS Katowice, which were to become joint stock companies.

Under Decrees of the Minister of Transport and Maritime Economy issued between July and December 1991, over 70 PKP servicing units were separated from PKP structure including those, which were to benefit from the World Bank and European Investment Bank loans. As a result of such basic organizational changes, new methods of extending loan funds to former PKP units had to be agreed.

Subsequently, PKP developed the model of on-lending agreement for relevant funds, which was agreed upon by the Ministry of Transport and Maritime Economy, Ministry of Finance as well as the World Bank and European Investment Bank.

In early 1992, PKP entered into on-lending agreements with the above mentioned units. These agreements were approved by the World Bank in form of „no objection” in January 1993 and by the European Investment Bank (in form of Amendment No 1 to Finance Contract No 1.4723) in October 1992.

Several now autonomous units verified amounts to be on-lent. ZNTK Stargard declined to take the World Bank funds and ZNTK Bydgoszcz resigned from EIB loan. ZWUS, after reorganization and becoming ABB ZWUS, significantly reduced relevant amount.

Majority of studies included in Staff Appraisal Report was financed under bilateral grant agreements. As a result of the Decrees of the Minister of Transport and Maritime Economy, originally planned study of transforming PKP units into autonomous plants was replaced with PKP Restructuring Study.

Consequently, amounts freed from the loan were allocated to procurement of additional truck maintenance machines and increased the scope of the Management Information System.

Table 1 (Enclosure No 1) provides details on original (according to Staff Appraisal Report) and actual allocation of loan funds to the Project components (formally approved by the World Bank in May 1995), which takes into account current implementation status of all contracts.

Item A3 in Table 1 relates to the component financed from EIB loan.

Original allocation of Loan funds also changed in this respect. Funds to be used by ZNTK Bydgoszcz (resigned from the loan) and originally allocated to modular system of coal car repair and brake shoe manufacturing facility were expedited under new, additional Project component - Modernization of Telecommunication Network of PKP, which included procurement of digital communication exchange stations, fiber-optic wires and related transmission facilities.

Amendment No 2 introduced this change into Finance Contracts with EIB.

II. PROJECT IMPLEMENTATION

INSTITUTIONAL ACTIONS

Following the World Bank recommendations, in the fall of 1990 PKP Director General established „Team for preparation of PKP investment projects implemented with the World Bank and EIB assistance”. The team was created out of directors of PKP units benefiting from both Loans and was chaired by PKP Deputy Director General.

Coordination of cooperation with the World Bank and the European Investment Bank was entrusted to Secretariat of the Team, which was also held responsible for direct contacts with the Banks.

During first years of Project implementation, the Team held monthly sessions discussing current implementation status of all Loan components and implementation timetable for the next period.

For the purposes of managing international procurement financed from the World Bank and EIB Loans, PKP established a specialized foreign procurement unit within FERPOL Foreign Trade Bureau set up in 1986. Operational expert teams were established in each PKP entity benefiting from the Loans. They comprised professionals responsible for cooperation with Ferpol in:

- preparation of tender documents,
- evaluation of tenders,
- contract preparation and negotiations, as well as for
- supervision over procurement, installation and commissioning of equipment.

For the purposes related to the implementation of MIS component, in March 1991 PKP Director General set up Decision-making Body and Coordinating Body. Coordinating Body was composed of representatives of all units involved in the implementation of the system.

Financial coordination was entrusted to professionals of PKP Financing Bureau.

The Project benefited greatly from clear system of competencies and responsibilities as well as close supervision over implementation of proposed Project timetable.

PKP professionals involved in Project implementation participated in the number of training programs aimed not only at introduction of the World Bank procedures necessary to carry out the Project but also provided valuable insights into international accounting standards, investment viability analysis or financial forecasting.

It should be underlined that in this respect PKP owes very much to personal involvement of the World Bank officials who shared their experiences and skills not only during specialized seminars but most of the time during supervision missions

Within the Ministry of Transport and Maritime Economy, the Project was coordinated by Coordinating and Monitoring Unit for the First Transport Project, an important link providing overall monitoring of technical and financial actions undertaken during Project implementation as well as grounds for common actions of all parties involved in the implementation of the First Transport Project - Ministry of Finance, Ministry of Transport and Maritime Economy, General Directorate of Public Roads and Polish State Railways.

GENERAL DATA ON PROJECT IMPLEMENTATION

The total number of contracts concluded under First Transport Project by FERPOL was 43 contracts financed from the World Bank Loan and 20 contracts financed from EIB Loan. **Table 2** (Enclosure No 2) shows all contracts implemented under the World Bank Loan. **Table 2a** (Enclosure No 3) shows all contracts implemented under EIB Loan.

Column 6 in Table 1 shows contract numbers, which also appear in Tables 2 and 2a providing easy reference.

Table 3 (Enclosure No 4) shows disbursement of both loans during implementation period.

Project was expected to be completed before June 31, 1995 and the Loan Agreement provided for the Closing Date on December 31, 1995. However, due to implementation delays (PKP had to cancel one of the international competitive bidding and repeat it) PKP requested the extension of implementation period.

On September 8, 1995, the World Bank agreed to extend the Loan Closing Date to December 31, 1996 and in December 1996 the Bank agreed to cover the payments for delivery of goods and services carried out before the Loan Closing Date if the payment was made before April 30, 1997, which will facilitate final disbursements under the Loan.

EIB Loan was disbursed in four tranches before the Loan Closing Date.

DESCRIPTION OF COMPONENTS IMPLEMENTED UNDER THE PROJECT

In view of the extensive variety of Project scope, issues and problems, the following section summarizes:

- detailed objectives,
- their achievement,
- lessons from initial operation,
- evaluation of Borrower performance,
- evaluation of Bank performance

in relation to each Project component specified in Section I.

Ad. A.1 and 2 - Improvement in truck maintenance

Objectives

Basic final objective of these components was to achieve and maintain the high level of technical standard and full transit capacity of Polish international and express lines following PKP needs and international agreements (AGC, AGTC), of which Poland is a party.

Achieving and maintaining proposed quality parameters (speed of 160 km/h and higher axle load of 22.5 t per axle) involved not only introduction of new high quality track materials but also adequate track maintenance machines warranting high productivity and necessary track laying accuracy. Detailed aims of each of the subcomponents are described below.

Ad. 1a. In order to secure high level of track performance on priority maintenance standard lines (12,000 km) PKP had to introduce new technologies of complex current repairs and continuous truck exchange. To achieve this aim, PKP had to renew its machine fleet which had been deficient.

Similarly, virtual lack of truck laying machines of high accuracy, quality and productivity required new modern machine set for continuous track laying. Adequate machines were procured in two stages - in 1990 and in 1994 (using loan amounts freed by other railway units).

Ad. 2a. The quality of manufacturing of elastic rail fastenings depends greatly on the quality of steel. To measure chemical profile of steel PKP had to equip production lines in adequate measuring equipment. Such equipment was procured for KZN Skalmierzyce, sole manufacturer of elastic fasteners for PKP needs.

Ad. 2 b and c. PKP needs related to turnouts manufacture and fabrication of sleepers of higher durability as well as concrete sleepers for turnouts could only be met through introduction of modern methods of production.

It required direct import of high productivity millers for turnout elements for KZN Bydgoszcz, KZN Kraków as well as complex technological lines for production of sleepers and turnouts for WPS Suwałki, Mirosław Ujski and Goczałków.

Ad. 2d. Necessity of economizing steel could be achieved only through re-use of old rails. Implementation of full reconditioning technology including straightening out and grinding the rail table enabled to use them according to technical specifications for longer periods before scrapping. Depending on the load carried, level of wear, number of welds, reconditioned rails could be used on main lines with maximum speed of 120 km/h.

Modernization of welding unit in Bydgoszcz through introduction of modern equipment and machines enabled reconditioning of rails, which was co-financed from the World Bank Loan.

Ad. 2e. To increase rail life and technical standards it was necessary to introduce modern technology of flash butt welding of heat treated rails, which enabled higher productivity, accuracy and quality of new welded rails. This objective was achieved through procurement of rail welders and grinders for rail welding plants in Kędzierzyn and Skarżysko, which was co-financed from the World Bank Loan.

Implementation

Main objectives of Project components specified in points A 1 and 2 have been achieved - installation of whole production plants, equipment and machines. They have been adequately commissioned and are operative.

Apart from actual procurement of equipment, their achievement (except for point 1a) required a number of supporting actions related to construction of halls and facilities and basic infrastructure systems.

Such complex assignments involving several subcontractors, particularly in introduction of technological systems for reconditioning of rails, resulted in delays in operation of investments. Some implementation delays occurred also in manufacturing lines of concrete sleepers, which resulted from introduction of necessary improvements for consecutive manufacturing lines.

Table 4 shows procured machines and delivery deadlines for each above mentioned component.

Table 4

No	Project Component	Supplier (Item from Table 2)	Type of Machine	Number	Delivery Deadline
1	2	3	4	5	6
1a	Modern technologies for track maintenance	Plasser and Theurer (Item 2)	track tamping machine	8	Aug9,91
			dynamic stabilizer turnout tamping machine	8	Mar31,92
		Plasser and Theurer (Item 36)	track tamping machine	1	Oct31,95
			dynamic stabilizer turnout tamping machine	1	Mar4,96
Matisa (Item 35)	track re-laying machine set	6	Dec20,95		
2a	Equipment for elastic rail fastening system	Hilger (Item 18)	measuring equipment for chemical profiles	1	Mar26,93
2b	Manufacturing lines for track and turnout sleepers	STIARM (Item 12)	machine set for technological line	3	Aug13,93 - Jun30,95
2c	Increased manufacturing of turnouts of higher durability	Coburg (Item 11)	milling machines for turnout elements	2	Jun29,93 - Jul8,93
2d	Reconditioning and welding of old rails	Geismar (Item 4)	grinders for welds	5	Jul15,92
			machines for straightening rails	2	Mar24,93
			press for welds	1	
			machines for gringing rail-ends	2	Oct16,92
			measuring and marking equipment	2	Dec4,92
2e	Flush butt welding of heat treated rails	Bahnbedarf (Item 3)	rail welding machine	3	Nov2,92 - Jan25,93

Lessons from Initial Operation

As early as during initial stages of operations, target performance indicators concerning predictability, accuracy and quality were met with the only exception of old rails reconditioning line, where planned productivity level was not fully achieved. This is a direct consequence of necessity to weld only I class rails, in highest demand under current market conditions, which in turn entails more difficult selection and assortment of old rails, higher accuracy and quality. The result - lower productivity of reconditioning line.

On the other hand, machines and equipment purchased for the reconditioning and welding facility, apart from occasionally repairs, fulfill target requirements in terms of accuracy as well as predictability.

Full operation of undertaken investments is conditioned upon adequate level of PKP demand as function of the level of PKP truck maintenance and investment activity.

The following **Table 5** shows detailed statistics of track maintenance activity in 1991-1996.

Table 5

Specification	Unit	1991	1992	1993	1994	1995	1996
Rail replacements Total	truck	864.5	425.1	265.9	573.1	820	854.7
of which priority lines	km	767.1	403.9	237	546.5	685.4	712.7
Replacements of sleepers	thousand	1524.8	778.6	914	891.8	1168.3	1319.9
		1299.1	697.5	810.2	832.3	946.7	1096.5
Replacement and suppl. broken stone	m3	793.5	297.6	371.7	472.4	1013.9	944.5
	thousand	752.1	200.5	272.9	359.3	762.9	807.8
Replacement of turnouts	units	2404	1901	2204	1885	1991	1763
		1361	1238	137.1	1138	965	919
Daily truck maintenance	truck km	13.24	15.95	13.93	14.13	12.49	12.63
	thousand	10.08	12.98	11.67	11.34	9.74	10.41
Speed restr. on lines	units	492	477	437	396	495	558
		312	333	308	285	409	461
Speed restr. on turnouts	units	320	228	166	81	120	131
		239	177	121	56	110	117
Train accidents on truck	units	73	34	37	29	20	29
		44	24	26	25	13	14
Train accidents on turnouts	units	44	45	27	16	2	13
		25	15	25	15	2	4

1993 was the breakthrough year, since that year annual increase in truck maintenance can be observed - one of the benefits of investment activity under the First Transport Project. Traffic safety reflected in limited number of accidents has also increased.

Evaluation of Borrower Performance

Tender procedure was carried out efficiently and without delays.

Also performance of direct beneficiaries - PKP truck maintenance units as well as KZNs and WPSes can be rated as satisfactory during preparation as well as actual implementation of the Project.

Beneficiaries were satisfactory and timely prepared to install and activate machines and equipment, which required a number of preparation works such as: construction of production halls, workshops, laying foundations and facilities under specifications required by suppliers, training staff in operation of new machines and equipment, and providing space and materials necessary for new equipment to be tested and become operational.

Evaluation of Bank Performance

Close cooperation with Bank professionals in preparation of bidding documents warranted their high quality and resulted in better selection of well-known, outstanding suppliers that implemented contracts without major problems.

Lessons Learned

It might be profitable to have the possibility of implementing such large and complex projects during longer period of time and as much as possible by one selected general supplier.

Ad. A.3 - EIB FINANCED COMPONENT

Ad. A.3a - Modernization of rolling stock repair units

Objectives

Funds of EIB loan were allocated towards introduction of modern repair technologies in Rolling Stock Repair Units, enabling repairs of electric locomotives under standards similar to technologies and routines used by western European railway companies which warranty significantly higher durability and operational reliability in addition to increased work safety and improved environmental characteristics.

Implementation

Amount originally allocated for rolling stock repair units - ECU 9.41 million - was initially, after separation of units into independent entities, limited to ECU 4.70 million, and then, during implementation of contracts, to ECU 4.00 million.

As it was previously mentioned, ZNTK Bydgoszcz resigned from the EIB loan and other units significantly reduced the amounts to be on-lent, which created a gap between loan amount and final allocations in the amount of ECU 15.3 million (which increased to ECU 16.0 million during implementation of ZNTK contracts).

Table 2a in items 1-12 specifies contracts covered by EIB loan.

Tables 6, 6a, 6b below specifies machines purchased for each Rolling Stock Repair Unit and their current use.

Machines Procured for ZNLE Gliwice

Table 6

No	Specification	Supplier	Start of operation	Annual technical capacity (two shifts)	Number of machines repaired till now	% of use
1	Cleaner	PROCECO - CANADA	31.12.94	3204	2227	34.7
2	Laminator and countershaft	CAM - USA	31.12.94	96	46	23.9
3	Counterbalancer	SCHENK - GERMANY	31.12.94	3204	2227	34.7

4	Bellows heater	SKF - POLAND	29.04.95	6408	4564	42.7
5	High voltage meters	BAKER - USA	31.12.94	6408	5683	44.3
6	Equipment for impregnation and polymerization	HOLTRADE - GERMANY	31.12.94	1100 runners 300 compl. winding 200 coils of main fuse 200 coils of meas. fuse	426 46 69 61	19.3 7.6 17.2 15.2
7	Equipment for pressure-vacuous impregnation	ISOVOLTA - GERMANY	31.12.94	801	426	26.5
8	Equipment for welding and milling	MICAMATION	29.04.95	267	333	74.8
9	Analyzer + Stethoscope	SPM - AUSTRIA	31.12.94	6408	5683	44.3

Machines procured for ZNTK Mińsk Mazowiecki

Table 6a

No	Specification	Supplier	Start of operation	Annual technical capacity (two shifts)	Number of machines repaired till now	% of use
1	Cleaner (2 units)	PROCECO - CANADA	31.01.95	5280	4098	40
2	Laminator and countershaft	CAM - USA	31.01.95	3200	1419	18
3	Milling machine	CAM - USA	31.01.95	1200	735	25
4	Counterbalancer	SCHENK - GERMANY	31.08.93	2268	759	10
5	Press for coils	STOLBERG - GERMANY	31.10.93	48000 pcs.	70800 pcs.	52
6	Bellows heater	SKF - POLAND	31.01.95	4200	4098	50
7	High voltage meters	BAKER - USA	31.10.93	7200	5060	22
8	Equipment for impregnation and polymerization	HOLTRADE - GERMANY	30.04.94	1584	900	22
9	Equipment for pressure-vacuous impregnation	ISOVOLTA - GERMANY	06.94	2112	1474	28
10	Equipment for welding and milling	CAM - USA	24.06.94	1056	280	11

Machines procured for ZNTK Oleśnica

Table 6b

No	Specification	Supplier	Start of operation	Annual technical capacity (two shifts)	Number of machines repaired till now	% of use
1	Cleaner	PROCEDO - CANADA	30.08.94	1848	2420	56
2	Laminator and countershaft	CAM - USA	30.08.94	528	504	40
3	Boring machine for track engines	WIPOFAMA	15.11.95	1056	952	80
3	Counterbalancer	CEMB - ITALY	15.10.93	5280	3780	23
5	High voltage meters	BAKER - GERMANY	30.08.94	21000	2700	5
6	Equipment for impregnation and polymerization	HOLTRADE - GERMANY	not operational	-	-	-
7	Equipment for pressure-vacuous impregnation	ISOVOLTA - GERMANY	not operational	-	-	-
8	Equipment for welding and milling	CAM - USA	30.09.94	528	448	35

Timetables of tender process, actual delivery and commissioning were kept. Dates of start of operations for each piece of equipment are specified in the above tables.

Total amount disbursed for this component of the Project added up to **ECU 4,003,444.40** according to recalculations made by EIB pursuant to Finance Contract.

Lessons from Initial Operation

Information submitted by ZNTKs shows that operation of the equipment procured under the EIB Component goes smoothly without any objections. During two years period of initial operation there were no damages or repairs noticed.

Actual use of capacity of the equipment is on the level from 12 to 70%. Such low level of use is the result of significantly lower demand for repairs of PKP electric rolling stock, which in turn results from sharp drop in PKP traffic in comparison with traffic level estimated at Project appraisal.

Ad. A.3e - Modernization of Telecommunication Network

Objectives

Pursuant to Annex 2 to Finance Contract with EIB, components A3b and A3c were replaced by a new component of the Project - **A3e in the amount of ECU 15.3 million**, covering:

- construction of fiber optic main telecommunication lines
(with associated transmission facilities) - ECU 5.5 million
- automatic exchanges - ECU 9.8 million

Main target of contracts signed within that frame was construction of 11 main automatic exchanges connected through digital teletransmitting system facilities SDH/PDH using fiber optic wires for the purposes of informatic transmission.

They are a component of program for digitalization of telecommunication network, which is being implemented currently by PKP.

Implementation

Table 2a, in items 13-20, specifies contracts within that Project component.

Contracts specified under item 18, 19 and 20 of Table 2a are under implementation. **Table 7** below shows status of their implementation.

Table 7

	Supplier	Amounts paid	Amounts to be paid
1	KAPSCH	ATS 98,109,351.30	ATS 51,985,677.70
2	ERICSSON	SEK 1,159,356.50	SEK 421,088.50
3	ALCATEL	*ECU 542,960.60	Since the EIB loan is fully disbursed and committed, PKP is covering the balance of payment with its own funds

* amount financed from the EIB loan.

1) Under contract with **KAPSCH**, automatic exchange in Katowice knot was installed and became operational in August 1996.

In 1996, the supplier delivered equipment for construction of remaining 10 automatic exchanges. Till now, 65.4% of contract amount have been paid and 79.1% of equipment have been delivered (20% of the contract amount is covered by the performance bond).

The Bank recovered complete documentation of the contract covered by the letter of credit. The process of reconciliation covering total contract amount is ongoing, as the payments under the letter of credit become due.

Proposed timetable of automatic exchanges installation has not been met due to, among others, longer than expected testing of conformity with existing telecommunication network of PKP.

Final, generally positive results of the tests have been supported by commissioning and testing of first exchange in Katowice, which became operational almost nine months after the date stipulated in the contract.

Current status of works enables all exchanges to become operational on telecommunication network in first quarter of 1998.

- 2) In 1996, part of planned teletransmitting lines became operational, equipped with materials PCM-30 purchased and supplied under contract with **ERICSSON**. The contract was implemented only on lines supporting SDH/PDH systems.

Till now, 73.40% of contract amount have been paid (ATS 1,159,356.59) and 90.5% of equipment have been delivered

The Bank recovered complete documentation of the contract covered by the letter of credit. The process of reconciliation covering total contract amount is ongoing, as the payments under the letter of credit become due.

The contract with Ericsson complements Alcatel and Kapsch contracts, which are of fundamental importance for the program of digitizing telecommunication network of PKP. Precondition for implementation of the contract (utilization of PCM-30 equipment) was adequate preparation of SDH lines, on the basis of which teletransmission lines of 2 Mbit/s capacity connecting traditional exchanges with digital exchanges were periodically established (until traditional exchanges are replaced) as well as for KOLPAK system.

Generally, the contract has been completed on time. The only payment to be released concerns commissioning of the equipment and teletransmission lines.

- 3) Previously installed, commissioned and operative systems supported SDH/PDH systems through equipment supplied by **ALCATEL POLSKA S.A.** - in three of eleven knots and in seven directions out of total of twelve.

63.3% of the equipment has been delivered.

The Bank approved for payments from the Loan the amounts totaling ECU 542,960.60 (35.86% of the contract price).

The deficit is to be financed under PKP budget.

The target is to have the network based on Alcatel equipment constructed and operational before April 30, 1997.

Originally formulated scope of that Project component is being implemented according to a set of assumptions. Due to longer implementation period for the construction of automatic exchanges and teletransmission systems, contract completion dates have been extended and that is the only thing that has been changed. The reasons for this are stipulated above.

It should be underlined however that, both under the contract with Kapsch as well as the contract with Alcatel, designs of teletransmission systems had to be changed. In our opinion, such basic change during implementation is possible only if it doesn't affect the contract value, and that was the case in this component.

Several other changes to be implemented during project realization have been agreed with Kapsch, such as increasing the capacity of Katowice automatic exchange. Related increase in contract price will be financed from PKP budget.

Thus, EIB financed foreign costs related to modernization of telecommunication network in the amount of:	ECU 15,996,555.60
of which:	
Fiber optic cables	ECU 3,794,401.93
Teletransmission facilities	ECU 759,541.72
Automatic exchanges	ECU 11,442,611.95

Evaluation of Borrower and Bank Performance

Flexible position of the Bank during introduction of new Project component positively affected smooth implementation of the whole Project and enabled final allocation of all loan funds. The Bank approved for refinancing under this Project component expenditures already made by PKP in 1991 and 1992 related to procurement of fiber optic cables, which also positively influenced disbursement schedule under the Loan.

Delays in implementation of the modernization of telecommunication network were the results of complex, multi-staged process of tender evaluation and selection of the supplier for digital automatic exchanges for PKP and prolonged period of testing the adaptability of exchanges to the existing telecommunication system of PKP.

The Bank also assisted in this respect, including consultant services related to independent evaluation of tenders into financial structure of the Project (**Contracts no 13 and 14** in Table 2a).

Ad. 4 - Signalling

Objectives

Approved by the Management of PKP program for development of PKP telecommunication system for years 1991-2005 required specialized equipment for technical divisions of PKP Automation and Telecommunication Unit.

Due to virtual lack of measuring equipment necessary for the construction and maintenance of digital systems that were being implemented on PKP network, PKP had to acquire modern, accurate devices.

An amount of USD 3.95 million was originally allocated for procurement of measuring instruments.

Control and measuring instruments were to be acquired for program of data transmission digital network implemented by PKP.

Implementation

Related procurement were carried out in two stages in 1992 and 1994. In the final stage of Project implementation, the Bank agreed to include also additional contract with SIMENS, originally excluded from the Project because of scarcity of loan funds.

In total, the amount of USD 2.83 million financed procurement of instruments for measurement and tests of digital automatic exchanges, teletransmission lines and radio transmitters.

Because of the great variety of small in size and less expensive equipment, the list of instruments procured under the Project has not been enclosed.

Table 2, in items 7-10, 21-30 and 43, specifies contracts implemented within this Project component.

The contracts were implemented timely with smooth delivery of ordered instruments, according to pre-established assumptions.

Ad.5 and 6 - Telecommunication Equipment and OMIS

Objectives

Main objectives of the Project related to information were to:

1. establish back-bone information infrastructure for the proposed OMIS component (Operating Management Information System):
 - data transmission network,
 - information network (servers + terminals),
2. adopt unified methodology of undertaking information projects,
3. introduce modern methods, techniques and equipment for creation and management of information systems.

Additionally, procurement of ready-made and practically verified throughout the world financial and information system (FMIS) was to provide PKP with modern and efficient tool in management of whole enterprise.

The World Bank initiated actions to include this system under the Project.

Implementation

General objectives has been met to large extent, although quantifiable effects for PKP enterprise would be visible only in the near future.

In teletransmission, introduction and operation of KOLPAK network enabled PKP to bring teletransmission services to significantly higher standards similar to those existing in other modern railway enterprises.

Procurement and installation of computer network hardware for OMIS and FMIS is nearly completed. Currently it is becoming operative and first applications of OMIS will start running this year.

In information, modern methods of project management and new methodology for implementation of Summit-D systems have been introduced along with various techniques and tools supporting development of information systems on each stage of their life cycle.

Thus, it became possible to carry out the detailed engineering of unified and integrated information systems in diffused environment - a significant change for better in comparison with previous practice.

At the same time, comprehensive training programs for majority of PKP professionals in the areas of information analysis, information system designs, programming and system management were carried out.

Tables 8 -14 below specify computer hardware procured under the Loan and contracts for consultant services.

1. Contract with DATELCOMP - item 13 in Table 2

Delivery of equipment for PKP divisions of information analysts and designers, specified in Table 8.

Table 8

No	Specification	Quantity
1	Workstation PC 386	30
2	Server PC 486	6
3	Filters for Monitors	30
4	Notebook	1
5	LAN Analyzer	1
6	A3 scanner	1
7	Hand scanner	6
8	CD-ROM	6
9	OKI Printers with paper feeder	30
10	Laser printer A3	1
11	Plotter	6
12	Plotter DMP A0	1
13	AC Adapter	6
14	Laser printer PS-35	6
15	Disk Matrix	6

2. Contract with LBMS - item 14 in Table 2

Delivery of Systems Engineer software application for analysts, along with training and consultations.

3. Contract with COOPERS & LYBRAND - item 15 in Table 2

Delivery of SUMMIT-D methodology along with associated training and consultations.

4. Contract with SPRINT - item 16 in Table 2

Delivery of equipment for KOLPAK network specified below, along with associated training and consultations.

Table 9

No	Specification	Quantity
1	Knot TP 4954	10
2	Knot TP 4944	75
3	Knot TP 10-8	101

4	Knot TP 10-16	111
5	Cabinet	85
6	Modem Rack	85
7	Modem DLX V.32	1200
8	Asynchronic cables	1124
9	Synchronic cables	1124
10	V.35 cables	268
11	NMS (TP5840)	2
12	Schlumberger	2
13	HP Protocol Analyzer	2
14	Laptop PC	2
15	Chassis	3
16	NMS (TP5820)	2
17	MHS	1
18	Modem Comlink VI	50
19	NHM (TP5810)	3
20	FAX SEUERS (OAZ)	3
21	MHS Fax Delivery Port	6
22	MHS Telex Delivery Port	14
23	Store & Forward Fax	1
24	Port Frame Relay	4

5. Contract with DIGITAL - item 19 in Table 2

Delivery of basic computer hardware (servers) for OMIS system, basic software applications, Oracle database management system, associated equipment for PKP units of programmers and software designers, along with associated training and consultations, specified in Table 10.

Table 10

No	Specification	Quantity
1	Territorial Pair 2x ALPHA 2100	36
2	Central Server ALPHA 7610	1
3	Disaster Server ALPHA 7610	1
4	Development System Pair 2x ALPHA 2100	1
5	Central Server Emulator ALPHA 2100	1
6	Centrum Management System 2x ALPHA AXP300	1
7	Development System Terminals (PC)	65
8	User Terminals (PC)	36
9	Oracle Case Tools Software	20
10	Oracle PC User RT Licensed Software	1
11	Distribution Sets and Documentation	3
12	LBMS-Oracle Bridge Software	1
13	Digital Microcomputers for network and development of applications (several configurations)	101
14	Modem ASTER 4TT	102

6. Contract with COOPERS & LYBRAND - item 20 in Table 2

Delivery of consultant services for PKP unit developing requirements to be fulfilled by Financial Management Information System

7. Contract with COOPERS & LYBRAND - item 33 in Table 2

Delivery of training and consultant services in management of projects, application of methods and techniques of system development as well as information solutions in use in railway enterprises.

8. Contract with ELTECO - item 38 in Table 2

Delivery of uninterrupted power supply facilities for OMIS servers, which are specified below.

Table 11

No	Specification	Quantity
1	UPS SM 10 (10kVA/30')	20
2	UPS ST 45 (45 kVA/20')	11
3	Power Supply Unit TORINO 5.E (125 kVA)	9
4	Power Supply Unit TORINO 6.B (250 kVA)	3
5	Power Supply Unit TORINO 4.N (63 kVA)	7

9. Contract with SUMMIT - item 39 in Table 2

Delivery of modems and telecommunication equipment for OMIS terminals, along with training and technical assistance, specified below in Table 12.

Table 12

No	Specification	Quantity
	1. Modems	
1	3268 SDC V34 V35RM	160
2	3268 SDC V34 V24RM	200
3	3266 SDC V34 V24SA	200
4	3268 V34 V24 RM	1945
5	3266 V32b V24SA tp8/14.4	670
6	3266 V34 V24SA term28.8	2115
7	3266 V32b V24SA term14.4	670
8	Comlink VI	400
9	SRM-8 (female)	520
10	SRM-8 (male)	80
11	G703-V35	100
	2. Modem Cases	
12	Large Case	10
13	Small Case	80
14	Shelves	100
15	Assembly Kit for Modem Frames RM2-2	60
16	3. Modem Frames	190
	4a. Cables for Frames (excl. MMS)	

17	15m 34pin to node HYY15	160
18	7m 34pin to node HYY7	600
19	15m 25pin HEN15	680
20	7m 25pin HEN7	2600
	4b. Cables for SA Modems	
21	3m 25pin HCU3	1040
22	3m 25pin HEN3	100
	4c. Cables for Comlink Modems	
23	15m 34pin HCK15	110
24	7m 34pin HCK7	120
	4d. Cables for G703-V35 Modems	
25	15m 34pin HXX15	20
26	7m 34pin HXX7	80
27	5. NMS Upgrade	1
28	6. Training and Technical Assistance	

10. Contract with COMPUTRON - item 40 in Table 2

Delivery of full financial management system for PKP along with training and consultations.

11. Contract with C. OLIVETTI & C., S.p.A. - item 41 in Table 2

Delivery of printers for OMIS system specified below.

Table 13

No	Specification	Quantity
1	Pin Printer DM119 10"	500
2	Pin Printer DM409 10"	200
3	Pin Printer DM409L 15"	125
4	Laser Printer PG304 A4	100

12. Contract with IBM World Trade Corp - item 42 in Table 2

Delivery of PC computers - OMIS terminals - specified below.

Table 14

No	Specification	Quantity
1	Microcomputer PC350 P100 16 MB 850HD	2400
2	Monitor IBM 15"	1000
3	Monitor IBM 17"	1300
4	Monitor Philips 21"	100
5	Mouse Pad	2400
6	Interface 9/25 pin	2400
7	Computer vertical positioning system	480
8	Installation Disks DOS/WIN	50
9	Handbook DOS/WIN	50
10	RAM 16MB	150
11	VRAM 1MB	100

Evaluation of Borrower Performance

Due to wide range of Project implementation activities, PKP had to mobilize all its relevant resources.

One can conclude from several years of Project implementation that implementation of such complex undertakings needs extremely wide involvement and cooperation of all interested parties starting with management of an enterprise through various servicing units and finally of middle level management, professionals in the field of information management and final users of the system.

One of the most important factors is synchronization of activities on both sides - enterprise and suppliers. One bad example can be drawn from the delays in DIGITAL contract implementation, which in turn influenced implementation schedules of other related contracts for procurement of information system components.

Evaluation of Bank Performance

In our opinion, Bank procedures aiming at securing objective supplier selection process and tight control over borrower activities during preparation and implementation of tendering process are actually extremely time consuming, which more than once forced PKP to change proposed timetables for implementation of co-related procurements.

It was also strongly objected by the tenders and prolonged the contract negotiations and finalization.

In case of procurement of information systems and software, criterion of lowest priced offer as decisive factor of selection does not always bring desired effects.

Bank procedures are not so well designed for that kind of procurement. Bank's preferable payment schedule (90% payment upon equipment expedition) resulted in less interest on the side of tenderers during further stages of contract implementation - installation and start up.

Ad. 7 - Studies

Ad. 7a - „Study for the rationalization of train formation, dispatching and marshaling yards” as described in SAR with allocation of funds of USD 0.15 million, has been carried out by „Austria Rail Engineering” and was financed from Austrian Government grant administered by the World Bank. Final Report has been approved by PKP.

The study proved to be of high value since it accurately identified shortcomings of freight traffic organization and management, proposed new methods for train formation and dispatching (so called knot-points methods) and provided valuable solutions for PKP professionals in charge of freight traffic management.

Ad. 7b - „Study of long term locomotive design, maintenance and operation practices in Poland” as described in SAR with allocation of funds of USD 0.15 million, has been carried out by „Elektrowatt Engineering Service Ltd.” and was financed from Swiss Government grant administered by the World Bank.

Final Report has been handed over to PKP. It was heavily objected. According to Polish professionals, one of the shortcomings of the study was lack of proposals for operation of existing rolling stock and lack of technical and economical analysis. Panel discussions on the results of the study have not been held.

Ad. 7c - „Study of modern management information system for train operations as well as general management (SKPZ)” as described with SAR with allocation of funds of USD 0.35 million, has been carried out by Canadian consultant CPCS and was financed from Canadian Government grant administered by the World Bank.

Draft final report has not met expectations. **Coopers & Lybrand**, which was commissioned to evaluate the report, identified report's shortcomings and specified range of issues than needed improvement - the contract was financed under the World Bank Loan - item 1 in **Table 2**.

Verified final report was handed over in October 1991.

Under amount allocated to studies, the World Bank refinanced expenditures related to study tour of PKP professionals dealing with management information systems, which was held in Germany, France, USA, Canada and Great Britain railway enterprises (in the amount of about USD 62 thousand).

Ad. 7d

- **„PKP restructuring study”** - in the amount of USD 0.4 million granted by American Government under U.S. Trade and Development Program (the agreement between U.S. TDA and PKP) was carried out by **Mercer Management Consulting** in 1992-1993.

Description of current status and traffic forecast stipulated in the Report was not objected, however financial and forecasting model needed further fine-tuning. Despite verification, it has not met Polish side expectations.

Study provided the first document formulating sectorial concept of PKP restructurization and establishment of Restructurization Agency. It was the first stage of PKP restructuring study. Second stage is being carried out now by the same Consultant under Japanese Grant Agreement between IBRD and the Government of Poland.

- Under this Project component, the World Bank agreed to finance **Feasibility Study** for modernization of railway line (Berlin) Kunowice-Warszawa, which was carried out by German Consultant **DE CONSULT** in the amount of DEM 220,000 - item 6 in Table 2.

Ad. 8 - Institution Building - Training

Ad. 8a. The loan financed the following training programs for the total amount of USD 1.28 million:

- In 1992 first session of programming PKP operations with LOTS methodology was carried out under the contract with Swedish firm **LOTS AB** - item 17 in **Table 2**.

The session was attended by 18 professionals - members of PKP management. The training was rated very high and consequently PKP undertook preparatory actions for the implementation of contract regarding introduction of that system in day-to-day PKP

management. However, in 1994 PKP decided to relinquish implementation of LOTS methodology.

- Under the contract with **Coopers & Lybrand** - item 31 in **Table 2** - the following training programs were carried out in 1991-1995:
 1. Five two-session courses (10 days) on management, titled „Milestone” for about 130 professionals - members of PKP management.
 2. Two courses titled „Business Workshops” for 41 professionals from PKP senior management, one-session course (5 days) for 14 trainers selected under „Milestone” program.
 3. One two-session course (10 days) in-depth analysis of management accountancy systems for 27 professions.
 4. Procurement of training aids for training programs: Sanyo Projector and Toshiba Notebook.
- Under the contract with Austrian firm **ARE** - item 32 in **Table 2** - the following training program were carried out in 1995:
 1. One-session (5 days) course on market management of passenger services for 23 professionals.
 2. Two-session (10 days) course on market management of freight services for 25 professionals.
 3. Two-session (10 days) course on operation management for 17 professionals.

Following the results and recommendations provided in Final Reports from training programs prepared by the Consultants and taking into account conditions and objectives set in the above contracts, it should be noted that all training objectives have been met, particularly those related to PKP management under new market-based conditions, to financial result analysis and improvement programs as well as general operations of PKP.

In total, some 300 professionals - members of multi-level management structure of PKP enterprise have been trained under programs financed from the World Bank Loan.

Participants of the training programs take active part in various activities undertaken by PKP working groups for reorganization and restructuring of PKP enterprise.

Specialized group of trainers holds independent courses on management issues, which is one of the most important training objectives met under the program.

Under the component, the World Bank also financed participation of three professionals in WB training course on Procurement organized by ILO in Torino (in the amount of USD 19,350).

In total, USD 0.556 million was disbursed from the Loan on training courses.

Ad. B - ZNTK Stargard - resigned from the Loan

Ad. C - ZWUS Katowice

As it was mentioned before, ZWUS after transformation into ABB ZWUS Ltd. significantly limited originally allocated amount (from USD 20 million to USD 0.736 million).

The loan was used for implementation of two contracts:

1. Contract with **GSS A.W. GENERAL** - item 34 in **Table 2** - for delivery of computer hardware, installation of active elements of computer network, design of logical computer network, wiring and power supply system including delivery of UPS.
2. Contract with **ORACLE** - item 37 in **Table 2** - for delivery, installation and start up of relative database software.

Contracts have been implemented timely and efficiently.

Implementation of the contracts enabled ZWUS to introduce and operate the following management systems in ABB ZWUS (now Adtranz Zwus Sp z o.o.):

- financial,
- storage,
- commercial,
- delivery,
- budgeting, fixed assets, payroll and staffing.

The above subsystems provide initial basis for the implementation of integrated management information system for the whole company.

FINANCIAL ASPECTS OF PROJECT IMPLEMENTATION

First Transport Project financed from the World Bank loan was implemented through two accounts:

1. Loan Account in Washington no 3194-0 POL under direct responsibility of relevant WB divisions,
2. Special Account in London no 0001-100725 established and operated by the National Bank of Poland.

The Special Account has been closed following the World Bank procedures. Final reconciliation was made on December 17, 1996 and subsequently sent to the Bank. On such basis, the Special Account was closed (PKP request of December 20, 1996) and unused balance was transferred back to the Loan Account.

Generally, Payment Advises and Monthly Disbursement Summaries were sent to PKP Financial Bureau on time until June 1994. Since that moment, documents came irregularly often with over one month delays.

The above facts were reported to the World Bank, however with no visible improvement.

In 1995 PKP for the first time received report on future debt service obligations clearly showing significant difference between Loan Disbursements documented by Payment Advises and net obligations as of June 30, 1995, being the result of currency pool type of loan.

Not earlier than in December 1995, the World Bank organized training course on debt service obligations of the borrowers explaining mechanisms of currency pool.

In October 1995 the Bank introduced new billing and reporting system. At that moment, PKP received reports on loan opening balance calculated in pool units since October 1, 1995. However, PKP has no information on pool unit value and number of pool units of disbursements made before that date. PKP several times requested the World Bank to sent such information, so far to no result.

Financial risk involved in USD 145 million loan as well as risk involved in foreign exchange rates fluctuations with fixed since 1989 currency ratio of 1USD=125JPY=2DEM Group, which was not known at the time of signature of the Loan Agreement strongly supports our opinion that such most important factor should be elaborated in the Loan Agreement.

Economic, Financial and Operation Situation of PKP during Project Implementation

The Loan Agreement No 3194-0 POL between the World Bank and PKP specifies operating and financial targets to be met by PKP during Project implementation.

The table below shows actual levels of those indicators during Project implementation period 1991-1996 and their relations to set targets.

Table 15 Actual level
Target

Index of Performance	Unit	1991	1992	1993	1994	1995	1996
Operational Indicators							
Electric Locomotive Ava.	%	89.4	86.4	83.4	80.6	83.3	84
		88	88	88	89.5	91	
Electric Locomotive km.	km/ 24hours	412.5	409.4	426.4	432.9	435.3	387
		410	440	470	500	510	
Wagon Availability - total	%	87.2	84.2	83.7	83.6	82.6	81.4
		84	84	84	85	86	
Wagon availability - coal	%	87.4	84	86.7	88	88.2	86.1
		84	84	84	85.5	87	
Coal Wagon Turnaround	Days	4.92	4.81	5.01	4.86	5.42	5.76
		4.52	4.43	4.33	4.2	4.02	
Speed Restrictions - main lines	units	492	477	437	396	495	558
		600	550	500	450	400	
Speed Restrictions - turnouts	units	320	228	166	81	120	131
		350	350	330	300	250	
Traffic Units per Employee		0.33	0.328	0.364	0.37	0.39	0.407
		0.32	0.32	0.33	0.34	0.37	
Uneconomical Lines Shutdown	km	693	681	239	525	438	448
		200	200	200	200	200	
Financial Performance Indicators							
Operating Ratio (excl. subsidies)		130.2	120.7	125.6	119.6	117.5	116.2
		104	121	124	120	119	119
Operating Ratio (incl. subsidies)		112.4	103.6	103.0	101.3	101.3	102.8
		90	104	103	100	99	99

The table below shows PKP passenger and freight traffic in 1990-1996.

Table 16

Traffic	Units	1990	1991	1992	1993	1994	1995	1996
Freight in tons	10 ³	278,139	255,312	199,799	212,665	213,559	224,346	222,628
Freight in tkm	10 ⁶	83,462	65,095	57,724	64,127	65,759	69,093	68,308
Passengers	10 ⁶	785.5	650.1	548.1	539.9	493.7	465.1	433.5
Passengers in tkm	10 ⁶	50,339	40,089	32,554	30,800	27,600	26,600	26,600

1992 was the most dramatic year of decrease in freight traffic with stable increase thereafter. It should be underlined that since the moment of Project appraisal, PKP as well as the rest of Polish economy has undergone many basic changes which have had fundamental influence on the levels of indicators. Without due considerations to that element, proper evaluation of those data is impossible.

As early as Loan Agreement negotiations with the World Bank, PKP opted for changes of set targets. In August 1993, the World Bank approved changes in set targets, which were proposed by PKP as a result of fundamental organizational changes of the enterprise after the year of 1991 (separation of PKP units and establishment of new independent enterprises dealing with maintenance, construction and production) as well as the need to take account of almost 50% drop in PKP traffic when compared to 1989 figures.

Appraisal phase as well as negotiations of the Loan Agreement were very important stages of Project preparation.

Issues and indicators discussed and agreed at that moment have principal influence on the ex post evaluation of Project implementation by the Borrower and their accuracy should facilitate the cooperation and help to avoid amendments during implementation, which is time consuming and bureaucratic process.

Cooperation with the World Bank and European Investment Bank under the First Transport Project started the process of PKP restructurization, its transformation into modern, competitive transport enterprise.

Majority of undertaken actions will bring fruits only in the near future enabling full evaluation of whole aspects of the Project.

But even today, one can conclude that cooperation of all parties involved in that undertaking has been successful despite:

1. economic transition of Polish economy during Project implementation, which resulted among others in considerable decrease in freight and passenger traffic and related drop in investment and maintenance activity of PKP,
2. necessity to onlend funds to former PKP servicing units, which involved large extent of work not included into the Loan Agreement,
3. associated various changes in original allocations and scope of the Project, including introduction of new components under EIB loan,
4. new procedures necessary to cooperate with both Banks particularly during procurement process,
5. complications during computer and automatic exchanges tendering processes,
6. restructuring process of PKP, which was undertaken in parallel to implementation of the Project, which influenced particularly OMIS,
7. late information about currency pool mechanisms and influence on PKP debt service obligations (interests and principals).

Finally, technical background of PKP professionals as well as their cooperation with the World Bank and EIB experts played vital role in Project implementation, while management performance of PKP over the Project brought fruits in form of implementation discipline.

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Table 1

No	Project Component According to SAR	Total Foreign Costs (SAR)	Remarks about Changes	Column 2 and 3 after Changes		Signed Contracts		Value of Project Components (USD mln)
				Item-Beneficiary	Amount	No (Table 2 and 2a)	USD mln	
A	Railways (PKP)							
1.	Track Maintenance Equipment	26,04		A1-PKP	26,04	2, 35, 26	49,416	PKP 49,416
2.	Track Maintenance Manufacture	43,07						
a	Elastic fastenings	9,47	Onlent to:	A2a - KZN Skalmierzycze				
b	Concrete Sleepers	9,42	WPS Mirosław Ujski WPS Goczałków WPS Suwalki KZN Skalmierzycze	A2b - WPSes	19,68	18, 12 other payments	17,962 0,002	WPS, KZN 17,964
c	Turnouts improvement	14,33	KZN Bydgoszcz KZN Kraków	A2c - KZN Bydg + Kraków	14,33	11	6,770	KZN 6,770
d	Reconditioning of rails	3,45		A2d, A2e - PKP				
e	Flush butt welding	6,40			9,85	3, 4, 5	11,351	PKP 11,351
3.	Modernization of PKP Services EIB Component	20,00 ECU						
a	Electric Locomotive Repair Units	9,41	Onlent to:	A3a - ZNTK + ZNLE	4,70	1 - 12	4,003	20,00 ECU 4,003
b	Coal wagon repairs - ZNTK Bydgoszcz	1,23	ZNTK Mińsk Maz					ZNTK, ZNLE
c	Brake shoe manufacturing - ZNTK Bydgoszcz	6,08	ZNTK Oleśnica	A3bcd - resigned	0,00			
d	Other	3,28	ZNLE Gliwice					
e	NEW: Telecommunication Network		Resigned ZNTK Byd	A3e - PKP	15,30	15 - 30	15,997	PKP 15,997
4.	Signalling	2,14	Item C c	A4a PKP	2,14			
a	Measuring equipment		transferred to 4a	C.c. = A4b PKP	1,81 3,95	7-10, 21-30, 43	2,831	PKP 2,831
5.	Telecommunication equipment	12,35		A5a PKP	12,35	16 other payments	11,125 0,007	PKP 11,132
a	Data network equipent							
6.	OMIS	30,57		A6 PKP	30,57	13-15, 19, 20, 33, 38-42 other payments	43,936 0,046	PKP 43,982
7.	Studies	1,80		A7 PKP	1,80			
a	Traffic	0,15						
b	Locomotives design	0,15						
c	OMIS	0,35				study tour	0,062	PKP 0,262
d	Other	1,15				1,6	0,200	
8.	Institution building	1,28		A B PKP		ILO	0,019	PKP
a	Management training	1,28			1,28	17, 31, 32	0,537	PKP 0,556
B.	ZNTKS	7,75	resigned ZNTKS	Bab PKP	7,75		0,000	0,000
a+b	Machines and licensing	6,30+1,45						
C.	ZWUS	20,00						
a	Equipment	13,58		Cad - ZWUS	15,23	34, 37	0,736	ZWUS 0,736
b	Cast iron foundry	2,96	resigned ZWUS					
c	Measuring instruments	1,81	trasferred to item 4b	Cb - PKP	2,96			
d	Training for ZWUS	1,65						
TOTAL WORLD BANK		145,00 USD mln						
				PKP	96,55		119,396	119,530
				WPS, KZN Skalmierzycze	18,89		17,962	17,964
				KZN Kraków +				
				KZN Bydgoszcz	14,33		6,770	6,770
				ABB ZWUS Signal	15,23		0,736	0,736
				TOTAL WB	145,00		144,864	145,000

TABLE 2 - CONTRACTS FINANCED UNDER WB LOAN

No	CONTRACT NO	SUPPLIER/ COUNTRY OF ORIGIN	GOODS AND SERVICES	CONTRACT VALUE	
				IN CONTRACT CURRENCY	IN USD
1	95053/1/1202	COOPERS & LYBRAND ENGLAND	Consultant Services	USD 52,000	52,000.00
2	95053/1/1001	PLASSER & THEURER AUSTRIA	Track Maintenance Machines	ATS 281,002,600	24,604,805.90
3	95053/1/1002	BAHNBEDARF SWITZERLAND	Welding Machines	CHF 5,574,858	3,937,854.15
4	95053/1/1003	GEISMAR FRANCE	Rail Reprofile Machines	FRF 34,868,797	6,283,409.06
5	95053/1/1004	MATIX SWITZERLAND	Brushing Machines	CHF 1,579,253	1,129,667.06
6	001381352/92-1007	DE CONSULT GEMRANY	Consultant Services (Study)	DEM 220,000	147,520.20
7	001381352/92-1009	SCHLUMBERGER AUSTRIA	Measuring Equipment	DEM 702,479	464,829.67
8	001381352/92-1010	RODHE & SCHWARZ AUSTRIA		USD 569,719	570,023.10
9	001381352/92-1011	UEI AUSTRIA		USD 73,551	73,626.43
10	001381352/92-1012	SIEMENS GERMANY		DEM 478,947	324,695.11
11	001381352/92-1014	COBURG GERMANY	Milling Machines	DEM 11,498,524	6,770,157.97
12	001381352/92-1024	ST.I.ARM ITALY	Lines for Construction of Concrete Sleepers and Turnout Sleepers	DEM 23,721,920 ITL 5,156,355,000	17,882,805.91
13	001381352/92-1025	ETOCHEM/DATELCOM POLAND/SWEDEN	LAN Operating System	USD 351,430	328,314.24
14	001381352/92-1026	LBMS ENGLAND	Case Software	GBP 284,250	446,744.74
15	001381352/92-1027	COOPERS & LYBRAND ENGLAND	Consultant Services OMIS	GBP 778,120	1,205,396.07
16	001381352/92-1028	SPRINT U.S.A.	KOLPAK	USD 11,127,467	11,125,084.20
17	001381352/92-1029	LOTS SWEDEN	Consultant Services-Training	SEK 250,000	37,147.10
18	001381352/92-1030	HILGER	Oscilloscope	GBP 53,715	79,402.92
19	012123294/93-1037	DIGITAL FRANCE	Computer Systems	USD 20,343,109	18,687,462.47
20	0012123294/93-1038	COOPERS & LYBRAND ENGLAND	Consultant Services OMIS	GBP 122,091	193,341.43

21	012123294/93-1042	SIEMENS GERMANY	Measuring Equipment	DEM 771,144	490,311.44
22	012123294/93-1043	ANDO EUROPE HOLLAND		NLG 167,380	96,792.40
23	012123294/93-1044	GN ELMI AS DENMARK		DKK 346,900	57,598.94
24	012123294/94-1045	TEKTRONIX AUSTRIA		USD 16,622	16,628.36
25	012123294/93-1046	SCHLUMBERGER AUSTRIA		FRF 124,450	22,656.34
26	012123294/94-1047	HEWLETT PACKARD AUSTRIA		USD 53,560	53,640.69
27	012123294/93-1048	ROHDE & SCHWARZ AUSTRIA		USD 151,210	149,705.65
28	012123294/93-1049	WANDEL GERMANY		DEM 247,704	159,765.37
29	012123294/93-1050	EPI ELEKTRONIK AUSTRIA		USD 85,420	85,306.11
30	012123294/93-1051	GOULD INSTRUMENT ENGLAND		USD 30,637	30,582.71
31	012123294/95-1054	COOPERS & LYBRAND ENGLAND	Consultant Services - Training	GBP 267,740	408,139.46
32	012123294/94-1058	ARE AUSTRIA	Consultant Services - Training	ATS 929,000	91,549.37
33	012123294/94-1062	COOPERS & LYBRAND ENGLAND	Consultant Services OMIS	GBP 1,415,312 USD 846,790 ECU 291,900	3,382,939.96
34	012123294/94-1063	GSS A.W.GENERAL S. CYPRUS	Computers for ABB ZWUS	USD 594,850	595,811.28
35	012123294/94-1064	MATISA SWITZERLAND	Track Laying Train	CHF 10,001,861	8,577,770.87
36	012123294/94-1065	PLASSER & THEURER AUSTRIA	Track Maintenance Machines	ATS 166,959,159	16,233,853.48
37	012123294/94-1066	ORACLE	Software for ABB ZWUS	USD 136,968	140,344.43
38	012123294/95-1069	ELTECO SLOVAKIA	UPS and Generators	USD 941,744	945,553.77
39	012123294/95-1070	SUMMIT ENGLAND	Data Transmission Equipment	USD 4,960,470	4,964,396.49
40	012123294/95-1078	COMPUTRON ENGLAND	Software	USD 7,794,628	7,024,290.38
41	012123294/96-1084	OLIVETTI ITALY	Printers	USD 642,650	579,236.28
42	012123294/96-1092	IBM U.S.A.	Computers	USD 6,176,950	6,178,613.81
43	012123294/96-1093	SIEMENS GERMANY	Measuring Equipment	DEM 365,484	235,200.45
44			Other Payments		135,026.23
				TOTAL	145,000,000.00

TABLE 2A - CONTRACTS FINANCED UNDER EIB LOAN

No	CONTRACT NO	SUPPLIER/ COUNTRY OF ORIGIN	EQUIPMENT	CONTRACT VALUE	
				IN CONTRACT CURRENCY	IN ECU - EIB DATA
1	001381352/92-1015	PROCECO USA	Cleaners	USD 1,070,301.00	1,826,272.21
2	001381352/92-1016	CAM USA	Laminators, millers	USD 460,646.29	619,078.81
3	001381352/92-1017	HOLTRADE I GERMANY	Counterbalancers	DEM 266,794.00	139,984.52
4	001381352/92-1018	HOLTRADE II GERMANY	Coil press	DEM 159,590.70	84,857.75
5	001381352/92-1020	COGIS ITALY	Counterbalancer	ECU 67,536.00	67,430.23
6	001381352/92-1031	SPM AUSTRIA	Analyzer, Sthetoscope	ATS 218,022.00	15,857.44
7	001381352/93-1032	SKF POLAND	Bellows heaters	DEM 67,672.76	36,092.13
8	001381352/93-1033	BAKER GERMANY	High voltage meters	USD 193,927.00	176,643.34
9	001381352/93-1034	HOLTRADE III GERMANY	Polimerization and impregnation	DEM 745,560.00	373,684.89
10	001381352/93-1035	ISOVOLTA AUSTRIA	Pressure-vacuous impregnation	ATS 7,270,000.00	528,863.82
11	0012123994/94-1041	MICAMATION SWITZERLAND	Welding and milling	CHF 150,730.00	89,919.19
12	0121232954/94-1059	WIEPOFAMA POLAND	reaming of track engines	PLN 120,000.00	44,760.07
TOTAL FOR ZNTK				4,003,444.40	
13	001381352/93-1036	MILLENIUM USA	Consultant services	USD 34,559.08	29,533.13
14	001211232/94-105	SCIENTIFIC GEN ENGLAND	Consultant services	GBP 12,500.00	16,157.81
15	012123294/94-1060	INST. ŁĄCZN. POLAND	Exchange testing MERIDIAM 1	PLN 25,000.00	7,970.46
16	98384/1/5303 001381352/92-1023	SAT FRANCE	Fibre optic wires	FRF 4,177,109.00	632,407.58
17	98384/1/5301	NKT TELECOM DENMARK	Fibre optic wires	DKK 21,182,329.2	3,161,994.35
18	012123295/95-1074	KAPSCH AUSTRIA	Exchanges	ATS 150,095,029	11442611.95
19	012123294/95-1079	ERICSSON POLAND	Teletransmission equipment	SEK 1,580,445.00	162,919.20
20	012123294/95-1081	ALCATEL POLAND	Teletransmission systems	ECU 1,514,267.00	653,781.70* 542,961.12
TOTAL TELECOMMUNICATION NETWORK				15,996,555.60	
TOTAL				EIB	

20,000,000.00

* INVOICED AMOUNT SUBMITTED FOR EIB FINANCING.

ATTACHMENT 4

TABLE 3

IMPLEMENTATION SCHEDULE FOR WB AND EIB CONTRACTS

BANK BENEFICIARY	PROJECT COMPONENT	1991	1992	1993	1994	1995	1996	1997	TOTAL
1	2	3	4	5	6	7	8	9	10
World Bank PKP - Transport	track maintenance	15,415	9,190	0,000	0,000	17,288	7,523	0,000	49,416
	rail reconditioning	0,000	6,846	4,259	0,246	0,000	0,000	0,000	11,351
	signalling	0,000	1,433	0,000	1,163	0,000	0,000	0,235	2,831
	KOLPAK	0,000	0,000	6,493	3,141	1,481	0,000	0,017	11,132
	MIS	0,000	0,289	1,203	10,660	18,188	9,639	4,003	43,982
	Studies	0,114	0,134	0,014	0,000	0,000	0,000	0,000	0,262
	Training	0,000	0,037	0,019	0,064	0,226	0,210	0,000	0,556
	Total WB	15,529	17,929	11,988	15,274	37,183	17,372	4,255	119,530
KZN Skalmierzyce	measuring equipment	0,000	0,000	0,079	0,000	0,000	0,000	0,000	0,079
WPS Suwałki WPS Goczałków WPS Mirosław U.	sleepers manufacturing	0,000	0,000	3,391	10,497	3,241	0,456	0,330	17,885
KZN Bydgoszcz KZN Kraków	turnouts qty. improvement	0,000	0,730	5,351	0,689	0,000	0,000	0,000	6,770
ABB ZWUS Signal Ltd.	computers and software	0,000	0,000	0,000	0,000	0,677	0,059	0,000	0,736
	TOTAL Units	0,000	0,730	8,821	11,156	3,918	2,561	0,330	25,470
	TOTAL WB	15,529	18,659	20,809	26,430	41,101	19,933	4,585	145,000
European Investment Bank									
ZNTK Oleśnica ZNTK Mińsk M. ZNTK Gliwice	equipment for repair units	0,000	2,500	1,503	0,000	0,000	0,000	0,000	4,003
PKP - Transport	tele-communication	0,000	0,000	0,697	3,200	12,100	0,000	0,000	15,997
	TOTAL EIB	0,000	2,500	2,200	3,200	12,100	0,000	0,000	20,000

APPENDIX A2
MINISTRY OF TRANSPORT AND MARITIME ECONOMY
(LOAN 3193)

IMPLEMENTATION COMPLETION REPORT

FIRST TRANSPORT PROJECT

TRANSPORT - GENERAL

**LOAN AGREEMENT NO 3193-0 POL DATED JUNE 11, 1990
BETWEEN IBRD AND MT&ME IN THE AMOUNT OF USD 4,750,000**

TECHNICAL ASSISTANCE COMPONENT

**IMPLEMENTING AGENCY -
MINISTRY OF TRANSPORT AND MARITIME ECONOMY**

I. PROJECT OBJECTIVES

Original Objectives and Changes during Implementation

Following the recommendations of the governmental program of restructuring transport sector, during negotiations it was agreed to include a component of the project, which would support future governmental actions through technical assistance, studies and training related to transport strategic issues.

Negotiated loan amount of USD 8 million was earmarked for:

- roads component (USD 3.20 million),
- studies (USD 1.55 million),
- technical assistance and training (USD 3.25 million).

During negotiations held in Washington on March 12-16, 1990, it was agreed that First Transport Project would be presented to the Board of Director on May 1, 1990 at the latest, upon receiving satisfactory confirmation of governmental approval.

On April 23, 1990, the Council of Ministers of the Republic of Poland decided in the form of Act no 71/90 to take the loans co-financing First Transport Project.

On April 25, 1990, Mr. Leszek Balcerowicz, Deputy Prime Minister requested the Bank to cancel the amount of USD 3.25 million allocated to cover technical assistance assignments related to institutional rebuilding of transport sector.

Accordingly, in the signed Loan Agreement No 3193-0 POL in the amount of USD 4,750,000 the component to be implemented by the Ministry of Transport and Maritime Economy was limited only to four studies of strategic importance for transport sector, specified in Schedule 2 to the Loan Agreement, part B(2) and related to:

- a) development and application of a restructured rail passenger subsidy system based exclusively on demonstrable social, economic and environmental considerations;
- b) development and application of a suitable road user charges system;
- c) further development of road transport;
- d) expansion of combined transport.

Staff Appraisal Report no 8431-POL dated April 5, 1990 included draft Terms of Reference for study on rail passenger subsidy system. Terms of Reference for other studies, both included and not included in the Loan Agreement, were drafted after the signature (June 11, 1990) and effectiveness (September 11, 1990) dates of the Loan co-financing First Transport Project, Transport - General.

During project implementation, the original objectives remained the same while methods of their achievement were changed. The Bank supported the governmental policy to cover technical assistance assignments from bilateral grants and to allocate freed loan amounts to more effective investment programs. As early as 1990/1991 the Bank has started actions to secure various bilateral grants, in majority administered by the World Bank. Such actions succeeded in the form of the following grants for MT&ME and PKP:

- * American donated by US TDA for PKP restructuring study (USD 0.40 million according to agreement with US TDA);
- * Canadian for PKP for development of Management Information System (USD 0.35 million according to SAR);
- * Austrian for PKP for Train Formation & Dispatching/Marshaling Yards study (USD 0.15 million according to SAR);
- * Swiss for PKP for Locomotives Design and Maintenance Optimization study (USD 0.15 million according to SAR);
- * Swedish for MT&ME for Investment Analysis and Budgeting study (not available - our estimation - USD 0.15 million);
- * Dutch for MT&ME for Combined Transport Development study (not available - our estimation - USD 0.35 million);
- * World Bank for MT&ME for Road and Rail Transport Development study (not available - our estimation - USD 0.10 million);
- * Dutch for MT&ME for Port Sector Study (not available - our estimation - USD 1.50 million in 1992 and 1.00 million in 1995);

- * Japanese for MT&ME for Rail Restructuring study and Coal Transport study (JPY 106 million according to Grant Agreement no TF029121 between WB and MT&ME dated May 5, 1995).

Thanks to the above Bank's actions and to the fact that restructured rail passenger subsidy system was developed by Polish consultants and financed from Polish national budget, the amount of USD 1,550,000 was freed from the Loan. During subsequent World Bank transport supervision missions, reallocation of loan funds between the components implemented by MT&ME and GDDP was gradually agreed. Relevant recommendations of Ministerial Board of Directors were given the WB „no objection” and effectively, from the total amount of USD 4,750,000:

- a) **the amount of USD 4,540,619.73** was allocated to GDDP component implementing Pavement Management System and providing modern equipment for road laboratories, while
- b) **the amount of USD 209,380.27** remained with MT&ME and was applied towards computer hardware and software purchases.

Evaluation of Project Objectives:

Generally, the objectives identified in 1990 survived the project. Six years of transition in economy, including transport sector, resulted in various levels of achievements and applications of recommendations of studies carried out under First Transport Project:

- * World Bank study together with the study carried out by Danish Road Administration paved the way for preparation of next loan operation, that is Roads Project (Loan Agreement No 3564-0 POL dated April 28, 1993 in the amount of USD 150 million);
- * Swedish study on investment analysis had not been planned in the Loan Agreement but enabled earlier compliance with loan covenants related to investment decision making process involving relevant economic assessment studies;
- * The study on restructured rail passenger subsidy system influenced formulation of passenger discount tariffs system and its legal approval;
- * Studies on road user charges were not expanded because of lack of interest on the side of Ministry of Finance, which did not agree upon Terms of Reference proposed by the Bank. The World Bank received only a report illustrating current situation in road user charges. Despite it, Ministry of Finance decided to increase charges on registration of vehicles;
- * Dutch study on combined transport formed basis for including combined transport pilot project component (in the amount of USD 2 million) into Roads Project;
- * Studies on railway restructuring financed from Japanese grant were partly used in drafting new PKP law;

* Dutch study on port sector formed basis for future two operations: on-going loan for USD 67 million equivalent co-financing Port Access and Management Project (Loan Agreement No 4080-0-1 POL dated September 9, 1996), and second port operation under preparation - Port Modernization Project planned for FY 1999.

II. ASSESSMENT OF OUTCOME

Achievement of Objectives: Substantial.

Securing bilateral grant financing involved consultants from grant donor countries. Dutch, Swedish and American experiences proved to be very useful for Polish transport sector.

Project Sustainability: Likely.

Studies provided valuable insights and recommendations used in current sector operations on the continuous bases.

Project Costs and Timetable:

Out of amounts estimated at appraisal of USD 1,550,000 in foreign costs and USD 220,000 in local costs actual amounts expended were USD 209,380.27 from the Loan and PLZ 82,647,000 from the national budget (equivalent of USD 6,804 in 1992-93 prices).

To make the best use of available loan funds, the Bank, at the request of MT&ME and PKP dated September 8, 1995, agreed to extend the disbursement period of the Loans to December 31, 1996. Consequently, First Transport Project was implemented from September 11, 1990 (Effectiveness Date) to December 31 1996 (Closing Date).

Major Factors Affecting the Project:

During decade-long period of cooperation (four years of preparations and six years of implementation) key factor influencing the Project was personal leadership of members of Ministerial Board of Directors (Mr. Bogusław Liberadzki, Under-Secretary of State and then Minister, Mr. Tadeusz Szozda, Under-Secretary of State, Mr. Zenon Dereszkievicz, Under-Secretary of State) on one hand, and continuous involvement in Polish transport sector of World Bank officials working for Infrastructure Division in Central Europe Department (Mr. Hans J. Apitz, Division Chief and Mr. Enn P. Vasur, Senior Economist, leader of all transport missions in Poland).

Bank and Borrower Performance:

From the beginning, performance of parties benefited greatly from the efficient cooperation. Implementation of the Project was preceded by four-year preparation period, which secured enough time for making valuable acquaintances and giving necessary confidence.

From June 1986 to December 1996, the Bank sent about 30 transport missions, which dealt with examination, identification, preparation, evaluation and supervision of First Transport Project.

Representatives of the Borrower took part in various international seminars, conferences etc. co-organized by the World Bank:

- * in Paris, in March 1991 - Transport Policy for Central and Eastern European Countries;
- * in Vienna, in May 1992 - Railway Round Table;
- * in Washington, in February 1993 - American Railway Restructurization;
- * in Budapest, in October 1994 - Road Safety;
- * In Moscow, in December 1995 - Transport Policy for CIS;
- * in St. Louis, in May 1996 - Transport Opportunities in CIS and CEE Countries.

Project Outcome:

Project outcome, meaning results from implementation of the Project, can be easily separated into two major groups: material and immaterial: Material effects include:

1. improvement in working conditions of MT&ME staff through purchases of 69 computer hardware and software systems;
2. preparation of two new loan operations: (a) Roads Project - loan of USD 150 million and (b) Port Access and Management Project - loan of USD 67 million equivalent.

Immaterial effects include:

1. constant practice of undertaking economic analysis for all investment activities carried out in each transport sector entity;
2. gradual implementation of very specific and difficult railway restructuring program;
3. lessons learned from the cooperation with international financial institutions.

III. SUMMARY OF OUTCOME, FUTURE OPERATIONS AND KEY LESSONS LEARNED

Assessment of Key Outcomes of the Project:

First Transport Project as a complex support program for MT&ME, General Directorate of Public Roads (GDDP) and PKP played very important role in the initial period of transformations in Polish economy and transport sector (sharp decrease in freight rail traffic by about 40%, decrease in budget spending for public roads maintenance by 60%, increase in the number of vehicles by about 50%, ten-fold increase in cross-border traffic - those are major characteristics of transitions). The World Bank loans helped PKP enterprise, public roads administration and the Ministry of Transport and Maritime Economy to face reality of market economy.

In finances, First Transport Project has constituted only 20% of transport sector cooperation with International Financial Institutions, but it was this first 20% of current status.

Future Operations:

Projects goals and objectives were achieved through extensive strategic studies of Polish transport sector and in this respect it is hard to tell about future operations of the Project. Transport sector underwent similar transformation as the rest of national economy. Certainly, there are needs of further studies but this time related to other, new issues, dealing mainly with integration of pan-European transport systems.

Key Lessons Learned:

From the perspective of six years of Project implementation, we have learned the following lessons:

1. A party cooperating with the World Bank or any other International Financial Institution should comprehensively know own financial standing and have very clear idea of how to use loan funds.
2. Before entering the phase of project preparation, such party should carry out internal economic and financial analysis of debt status and possibilities of servicing future loan obligations towards the Bank.
3. During negotiations, future Borrower should explain with the Bank all, even the most detailed, aspects of cooperation during project implementation, in particular those related to debt servicing options.

*Prepared in:
Division for Cooperation with
International Financial Institutions*

MINISTER'S ADVISER

Stanisław Zielinski MSc.

APPENDIX A3
GENERAL DIRECTORATE OF PUBLIC ROADS
(Loan 3193)

Evaluation

FIRST TRANSPORT PROJECT

[3193-POL]

POLAND

ROAD COMPONENT

EXECUTING AGENCY - GDDP

Project Objectives

Primary Objectives together with alterations at implementation

In accordance with SAR (cf. SAR , para III.B) the project objectives were:

- (i) development of Pavement Maintenance System (SUN) including technical assistance and purchase of necessary technical equipment, and
- (ii) assistance in quality assurance procedures and purchase of laboratory equipment.

To implement the above objectives we planned at first to purchase some goods inaccessible on the Polish market and comprising the range of:

- 6 pcs of FWD (i)
- 3 pcs of Bump Integrator (i)
- 6 pcs of Vehicle Type Classifiers (i)
- 26 pcs of Traffic Counters (i)
- 1 pc of Skid Resistance Trailer (i)
- 1 pc of Skid Resistance Trailer at different/high speeds
- 2 pcs of Retroreflection Measurement Devices (i)
- 22 sets of PC (i)
- software (i)
- technical consultancy and training (i)
- spare parts (i)
- 50 pcs of movable trucks weights (ii)
- 17 pcs of Compression Testing Machines of 200 kN range (ii)
- 17 pcs of Compression Testing Machines of 2000 kN range (ii)
- 17 pcs of Moisture/Density Gauges (ii)

Besides the above, a necessity of purchasing was foreseen, from the Borrowers funds, of vehicles to haul the -purchased measurement equipment (SAR, Annex 4E).

The above, together with a general implementation schedule, was prepared in the Road Network Development Planning Office in a document ent. „Study of Equipment Requirements for the Polish Road Sector to Implement Pavement Maintenance System” [1]. This document was submitted by the Borrower to the World Bank (SAR, para 3.16).

During the project implementation some circumstances emerged which made it necessary for the Borrower to introduce changes into its general outline. The most important among them was to create a complex electronic system storing all technical and economical data of the road sector - so-called Road Data Bank. Moreover, a precise discernment of pavement operation features measurement demands brought about a number of changes on the list of planned equipment purchases. All these changes had been severally consulted with the World Bank Missions, and obtained their approvement.

In effect, the purchase was made with the following changes:

- 12 pcs of GPS receivers - supplier VECTRA company - to carry out the geographic coordinates measurement for the referential system, which at present is used for location of all occurrences on the national road network,
- 1 pc of Ground Penetrating Radar (GPR) - supplier VECTRA company - for distinguishing of road pavement structure to interpret the results of deflection measurement,
- implementation of Highway Investment Programming System (HIPS) and Highway Design Maintenance System (HDM-Q) purchased from the Finnish Road Administration (FINRA) were procured,
- instead of 6 pcs of FWD and 3 pcs of Bump Integrators, 3 pcs of FWD manufactured by Dynatest were bought and 3 pcs of APL - supplier VECTRA company - for longitudinal evenness measurement ,
- instead of 6 pcs of traffic classifiers and 26 pcs of traffic counters a purchase was made of Golden River equipment for measurement of traffic parameters.

The contract with Golden River listed:

- * 15 pcs of Marksman device together with software (in this 9 pcs of devices weighing vehicles in movement, 6 pcs of classifiers and 1 device with spare parts),
- * sensors making it possible to install 30 permanent stations for the above measurement devices (till the present moment 25 stations have been installed on the rural national road network; the rest of the sensors are treated as spare pieces to replace damaged ones if need be).
- * 2 portable sensors for weighing vehicles in movement

In 1995, using these sensors, initial attempts to weigh overloaded vehicles were made. Serious hindrance to this was necessity to search out adequately even surface (which is required for installation of sensors), and place outside the road crown for final control of static weight of vehicle axles.

The price of the contract with Golden River was 489 962 USD.

Basic objective of measurement carried out using Golden River devices is to determine the patterns connecting class of vehicles with typical distribution of axle load. In accordance with the schedule, Marksmans are rotated among 25 measurement stations. Necessity of rotating the equipment among measurement stations resulted in purchase of additional cables for measurement nodes and sensors.

NOTES:

* 1)Expensive measurement sensor, used in Golden River equipment are prone to quick damage in Polish pavements, which limits collected parameters to registration of passing vehicles only in terms of length interval.

* 2)Absence of service in Poland, customs and spedition procedures in Poland greatly impede the equipment repairs (removal of even small damage is burdensome and time-taking)

- EMME/2 software which was purchased in 1994 - supplier INRO Consultants Inc. - for an amount of USD 53986. This is a specialized tool used in planning transport systems and forecasting traffic distribution on the existing or designed road network. This software will be utilized for analyzing the effects of designed changes in transport systems (future construction of motorways and expressways) also for analyzing transport systems of touristic regions.

- "Nu-Metrics" counters for traffic parameters measurement, which were purchd in September 1994 for an amount of USD 7 942.

Altogether they were 2 pcs of NC-90 counters and 4 pcs of NC-30X counters bought for testing their utility in short-time measurements. In effect of tests (which are being carried on) their lack of resistance to bad weather was found. Besides, these counters are often stolen or demolished.

- instead of friction coordinate measuring devices as initially planned, patent solution was financed together with manufacturing of 5 pcs of Polish -made dynamatric trailers - supplier Road and Bridge Research Institute (IBDiM). One of these was exhibited in International Experiment of Skid Resistance Measures Comparison in 1992 with high appraised by specialists.
- additionally within FirstTransport Project cofinanced by the World Bank, technologically advanced device for road section diagnostics Profilograph was purchased by GREENWOOD Engineering company. This device will help to collect data on road geometry and other pavement features as rutting or longitudinal evenness. It is planned to replace the presently used devices for evenness measurement, APL, by the Profilograph.

It was bought in 1996 and is planned to be used this year in routine measurements on the national road network. It was passed for use in Poznań - Regional Road Laboratories.

- subsequent among additional devices purchased are balances for weighing vehicles. Nearly 100 pcs of movable weights for vehicle weighing were bought from a German company's representative in Poland - IMEX-BIS, previously supplied similar number thereof for road administration purchased from budget funds. The balances were distributed among all the Regional Directorates of Public Roads. Here the objective of road administration is having at their disposal at least one set of balances (6 pcs) in each of 49 voivodeships. Additional purchases of the devices are planned for several years.
- in accordance with initial arrangements 2 pcs of retroreflection measurement devices were purchased and passed to Poznan Regional Road Laboratory. They have been fully implemented and are used for routine work, in particular for checking execution of road signing. However, these are the only existing specimens at the scope of whole country. The device called Ecoluz has from very start, two functions:

- (1st) measurement on checked section.

Following French experiences, Road Laboratory in Poznań implemented a field test of signing substances, which are mainly reflective.

The substances are laid on a test section in precisely designed manner and their behavior in time is scrupulously followed, also in the aspect of gradual decrease of reflectibility. In this respect the regional Road Laboratory closely cooperates with Bridge and Road Research Institute (IBDiM), performing the field tests and passing their results to the Institute, which basing on them issued eventual attestation /certificate of admittance and at present, technical approvals.

- (2) A measurements of on-road reflectibility. Using the Ecoluz device, quality of freshly performed signing is tested in respect of its reflectibility. The device giving univocal numeric values forced adequate quality of signing first in the Poznań region, and then in many other regions of Poland, when the news was spread that such measurement became possible. This way the device turned to be the Investor's weapon, and not only new signings but also those with expiring guarantee are tested.

The device performs point measurements. As a rule, the measurement is performed every kilometer, and so many defects can be missed, resulting only in a general overview.

Demand for this type of measurement at the country's scope is enormous. The Regional Road Laboratory in Poznań declines most of non-regional offers being short of time. In measurement season the device is continuously in use.

It is necessary to equip one regional road administration unit in Poland with Ecodyne device for continuous reflectibility measurement. This French - made device is unique in the global scope.

Panolux

A device called Panolux was used to stabilize situation concerning reflectibility of substances for vertical signing at the country's scope. At first in the Poznań region, and then in rest of the country in cooperation with Road and Bridge Research Institute, ISO requirements were implemented. In Poznań it was used by the Institute for attestation /admittance certificate/ of the substances besides being a field device. Panolux helps to determine reflectibility of old signing without its dismounting. It is used sporadically this way, just as for sporadic quality controls at signing manufacturers ?.

At present, basic task for the device is checking, in respect of reflectibility, of all signs and boards deliveries to the Regional Directorate of Public Roads (DODP) in Poznań. These controls are performed in the DODP warehouses, directly on the delivery.

Similarly to the above, in accordance with the plan, 50 pcs of electronic balances, 34 pcs of hydraulic presses and 17 pcs of isotopic devices were purchased by CPN company.

- The electronic balances work effectively in all road laboratories. It is notable that that their service is provided by a Polish service company, which is very helpful in all repairs.
- Hydraulic presses in turn, after initial difficulties with official certification, at present work satisfactorily, with service provided by a Polish company.
- Isotopic probes, however, are used only in limited scope. Greatest hindrance for them is no possibility of calibration every second year in Poland. Respective regulations restrict crossing the border in a car transport with them, and using air transport is very expensive. Additional difficulty in putting them to use are Provisions of Radiological Protection and personnel's fear of being irradiated.
- Instead of 22 PC sets a purchase and installation of 25 pcs as elements of computer network in GDDP, together with HP 9000 unix server, were made - supplier ComputerLand Poland company.
- Within technical consultancy and training a number of training courses at the country's scope was carried out and employees of public administration took part in series of courses in France in 1992. Another element in this component of World Bank's project was participation of Polish road administration representatives in an international experiment comparing devices for pavement skid-resistance measurement. This experiment was carried out on territories of Belgium and Spain, with processing of results and discussion following in years 1993 and 1994 in the USA.

Within home training, two seminars were held to prepare for cooperation at the Road Project. These were:

*one day seminar held on September 3, 1992 in Warsaw. The seminar topic was prequalification of bidders for road works procured under the World bank loan. About 125 enterprises from all over Poland participated. During the seminar the participants were informed on rules and objectives of prequalification. This schooling ran shortly before invitation for bidders to prequalify for Group 1 of Contracts under the World Bank's loan.

*three week courses were held in September, October and November 1992 in Pokrzywna. Their topic was principles of procurement and execution of works basing on "Standard Bidding Documents, Procurement of Works - Smaller Contracts" of the World Bank. In two first courses employees of Regional Directorates of Public Roads were trained as future Contract Engineers, together with representatives of some design offices preparing the bidding documents. In the last course, representatives of road-building enterprises were trained.

During the courses the participants were introduced into the principles of Bidding Documents preparation, including Technical Specifications, choice of Contractor, supervision of Works by the Employer, clearance of payment for works, and future Bidders in their turn into the principles of Bid preparation, performance of Works, together with Contractor's rights and duties in relation with the Employer. The seminar and training courses were carried out by the Danish Road Administration on order of the GDDP.

- During last two month 1996^{it} has been spent for buying 4 pcs of notebooks to the GDDP office - supplier Computer Group PAKT company.

Assessment of Project Goals

Growing traffic on the roads under GDDP administration at the same level of financing requires new approach that would apply instruments helping to use better the available funds. (SAR per 2.21). In developed countries economies, implementation of PMS system is a crucial stage in transition to free market economy. Due to that the GDDP perceives this particular project as its priority. Planned time table, considering personnel's lack of experience in the field, appears to be ambitious.

Results and realization Experience

Goal realization: Satisfactory

Explanation: laboratory and measurement equipment purchased was implemented and offered to the road administration nationwide.

At present measurement of pavement operation features executed with the use of the purchased equipment is performed as a daily routine and then processed in the Pavement Condition Evaluation System (which comprises PMS sub-system (see [1])).

Road Data Bank is almost ready; at this point it is installed and service personnel is trained to serve two out of three designated levels (Regional Directorate of Public Roads and Road Administration (ZD)).

The central version is realized; its full working condition is scheduled for February 1997.

The other works on full implementation of Pavement Maintenance System (Polish PMS) based on HIPS and HDM systems for central and in pilot units for regional level are going on.

One out of designated goals was not implemented: automatic annual measurement of pavement bearing capacity. It was caused by the equipment low operating capacity and lack of data concerning pavement construction. Lack of such data prevents correct interpretation of data acquired from FWD deflectometer. Purchase of ground penetrating radar would significantly accelerate in years to come automatic measurements of pavement bearing capacity on national road network.

Collection of road traffic data concerning national roads network largely improved. Modern measurement stations as well as mobile facilities enable to perform almost permanent observations on traffic volume fluctuation. In result, traffic forecasts can more accurate comparing with previous period.

SAR and [1] describe the project subject very precisely. However, particularity of issue affects the evaluation criteria making them not quite formal but more subjective and descriptive.

Effects durability: probable

Explanation: More than one hundred people are involved in project realization, including personnel dealing with PMS laboratory, traffic measurements, and other. In addition to this market of Contractors who execute some expert works, is expending. Road Administration is under permanent pressure of public opinion (media) which demands information on road safety and road network condition. In such situation PMS and other systems are very helpful in implementing these goals. Effects depend greatly on project development and growing participation of people involved in data processing as well as decision makers who are the end consumers of analyses and data elaborations.

Project costs and time-table:

Planned costs of project realization amounted to 3,200,000 USD plus 260,000 as the Borrower's input.

Project real cost 4,538,432 USD plusas amounted to the Borrower's input.

According to the works time-table equipment delivery was to be completed in 1992 and works completion was scheduled for the end of 1994.

Real calendar of works realization shows that the equipment delivery was completed in 1995, the PMS system implementation - the last item of designed program - is presently in realization process.

Key Problems and Achievement of Goals

Elaboration's [1] prepared by the Borrower and approved by the Bank did not take under consideration rapid technological progress in the field of equipment designed for road network automatic diagnosing, in particular computer equipment. Presence of new technologies on the European market forced numerous modifications to the laboriously prepared project.

The World Bank and the Borrower

Both Partners' performance was adequate and alert to technological novelties. Partners worked on one basic goal - development of PMS system in Poland according to Borrower needs and challenges of technology.

Results:

Satisfactory

Summary of Results. Future Operation. Conclusions:

Main effects of project realization experiences Implementation of PMS system brings technical as well as organization difficulties, which often results in delays in realization of particular elements and the whole project. Dedication and commitment of responsible personnel contributes essentially to the achievement of goals. However, the most difficult obstacle to overcome was the road administration old routines on the way to establish market economy nationwide. Presently the road administration is interested in efficient operation of all systems supporting the road network management. Particular systems develop more successfully users' owing to the new demands.

In the Borrower's opinion the weakness of PMS system relies in poor knowledge of pavement bearing capacity diagnosis including assessment of deflection measurements in specialist literature.

Presently used measurement methods are not efficient and results are not univocal. At this moment some improvement works are undertaken in order to rationalize such complicated measurements.

The Borrower faces major rutting problem on local roads and how to include this in complex PMS system.

Adjustment of HDM-Q system to conditions, i.e. system-calibration including frost-penetration, should be counted as significant achievement

Further plans concerning project operation:

It is planned to measure pavement operation features using the purchased devices.

Following their wear-and-tear the new ones based on laser technology should be introduced.

PMS system on central level will obtain full working condition in the middle of 1997 after implementation of HIPS. On the local level complete implementation of PMS system is expected in 1998 (after implementation of HDM system or its like). In addition, certain formalization in circulation of information in the road sector is planned. It will cover economic data (available budget, price list of particular works, ect).

Important part of the system is Road Data Bank. Its data files are basic for functioning of numerous systems. Due to that fact, road administration priority is to collect missing data, especially those which result from up-till now arrears were not acquired in the past due to the absence of measurement potential. Another important step to be taken is to use the GPS technology when localizing events on the roads. It is planned to assemble GPS receivers on measurement devices and to collect totally univocal data on pavement operating features and to transmit them to the central computer.

Short term plans concerning improvement in data collection include automatic processing of visual assessment and traffic measurement.

Considering high costs of these tasks it is necessary to use foreign funds, in particular the PHARE's.

Within next two years training sessions will be provided in order to upgrade skills and specialist knowledge at every level of the road administration management.

Conclusions for Future Projects:

- Maintaing bilateral contacts: the World Bank - the Borrower
- More frequent expert contacts
- Broader participation in the initial phase of projects of the World Bank experts in order to define project frames and scope as well as to limit eventual mistakes of other road agencies using the World Bank loans.

LOAN1.XLS

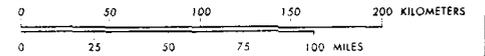
Loan 3193 First Transport Project during 1991-1996				
	company	pieces	year	cost
Electronic balances	Sartorius	50	1991	74928
Hydraulic presses	Controls	34	1991	162687
Isotopic devices	CPN	17	1991	81366
FWD deflectometer	Dynatest	3	1991	260968
Traffic classifiers	Golden River	15	1991	489962
APL	MAP CO	3	1992	264993
Ecolux , Panolux	MAP CO	1	1992	32192
GPRadar	Vectra	1	1993	334623
GPS	Vectra	12	1993	219477
PComputers	Computerland		1993-95	907237
Skid resistance trailer	IBDiM	5	1994-95	284562
Traffic counters	Nu-Metrics	6	1994	7942
EMME -2	Inro Consult	1	1994	53986
HIPS, HDM-Q	FinnRA	1	1995-96	69830
Road Data Bank	Polsoft	1	1994-96	190423
Movable trucks weights	Imex-bis	97	1996	633344
Profilograph	Greenwood	1	1996	323406
Trainings	DRD, PIARC		1992-93	131291
Notebooks Tulip	C. G. PAKT	4	1996	15215
Total				4538432
GDDP - part				4540620
MTiGM-part				209380
Total				4750000

APPENDIX B
MAP



POLAND

- EXPRESSWAYS
- OTHER MAIN ROADS
- RAILROADS
- AIRPORTS
- MAJOR PORTS
- NATIONAL CAPITAL
- PROVINCE (WOJEWODZTWO) CAPITALS
- MAJOR URBAN AREAS
- RIVERS
- CANALS
- PROVINCE (WOJEWODZTWO) BOUNDARIES
- INTERNATIONAL BOUNDARIES



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IMAGING

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