Title

TRICITY (TROJMIASTO) BY-PASS. SECTION: INTERCHANGE STRASZYN. BEGINNING OF A-1 FROM KM 351+680 UNTIL KM 355+680

Location

POLAND

The A1 Motorway is the major road axis linking Sweden through ferries and TriCity By-Pass with industrialised southern Poland (Katowice) and northern Slovakia (Zilina). Its extension to Bratislava, as a part of TEN Corridor VI, will facilitate the transit movements from northern to southern Europe through Corridor IV (down to Greece).

This Project is located on the south route of TriCity By-Pass (Gdynia-Sopot-Gdansk) and in connection with section Chylonia – Straszyn Interchange composes a full link between E 28 and Motorway A1.

Objectives

- Finance and secure completion of 36.8 km long TriCity By-Pass upgraded to the standard of a collision free expressway connecting international route E 28 with Motorway A-1 (TEN Corridor VI);
- Protect human and natural environment (regional nature reserves in area of Gdynia and Sopot) along new section of expressway towards beginning of motorway A1;
- Support the more economic and reliable international transport (north - south) of people and goods in field of interest to EU, Poland and South - European Countries;

Assist in regional socio-economic development upon the improvement of transport infrastructure facilities.

Identification of Project

The Interchange Straszyn – Beginning of A1 makes part of large infrastructure project Gdansk-Torun-Katowice Motorway A1.

The project TriCity By-Pass as a component of Motorway A1 is related to the following ongoing or already completed sub-projects:

- Intersection "Wysoka" at km 332+510 of route E28 including construction of viaduct: completed in 1996 and financed from Polish Government budget.
- Inter ection "Kowale" at km 347+380 of route E28 including construction of over-bridge: completed in 1997 and financed from Polish Government budget.
- Motorway A1: Section Pruszcz Gdanski Torun (150 km) financed by consortium of concessionaires "The Gdansk Transport Company" (pre-construction activities) including:
  - Sub-sections Pruszcz Gdanski – Peplin 36 km long and Lubicz – Czerniewce 10 km long proposed for co-financing from IFI funds (negotiation activities).
- Bridge on Vistula River near Torn (completion scheduled for July 1998) financed from Polish Government Budget

The whole Project "TriCity By-Pass" consist of two sections and the investment realization is planned in two stages:

**Stage I**: section STRASZYN INTERCHANGE – BEGINNING OF A1 of 4 km long construction will be implemented as a selected part of TriCity By-Pass to be financed entirely from Phare Programme.

**Stage II**: section CHYLONIA – STRASZYN INTERCHANGE of 32.8 km long (complete modernization) will be implemented as a remaining part of TriCity By-Pass to be co-financed by the European Investment Bank and the Polish Government.

Basic technical data for both sections:

- **Design speed**: 100 km/h
- **Speed limit**: 110 km/h
- **Load capacity**: 115 kN per axle
- **Traffic category**: KR 6
- **Dual carriageway**: 2 lanes x 3.5 m (each)
- **Emergency lane**: 2.0 m (each)
- **Soft verge width**: 1.5 m (each)
- **Median width**: 4.0 m

Works coverage for section STRASZYN INTERCHANGE – BEGINNING OF A1 km 351.680 + 355.680 financed by Phare:

- **earthworks**: 120 000 m³
- **sub-base and base course**: 50 000 m² (each)
- **asphaltic pavement**: 100 000 m²
- **viaduct 37m**: 1 no
- **bridges (reconstruction)**: 5 nos
- **drainage**: 4 km
- **acoustic screens**: 3.6 km

Works coverage for section CHYLONIA – STRASZYN INTERCHANGE km 318+920–351+680 financed by EIB and State Budget:

- **earthworks (roadside rehabilitation)**: 60 000 m³
- **pavements**: 460 000 m²
- **drainage (modernization)**: 32.8 km
- **large structures (modernization)**: 19 nos
- **guardrails**: 72 km
- **street lighting**: 840 points
- **traffic signing**: 32.8 km
Budget

<table>
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<tr>
<th>INVESTMENT MECU</th>
<th>INSTITUTION BUILDING</th>
<th>TOTAL PHARE (=1+B) MECU</th>
<th>RECIPIENT * MECU</th>
<th>IFI ** MECU</th>
<th>TOTAL MECU</th>
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<td><strong>42.0</strong></td>
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* Polish Government  
** European Investment Bank

The composition of the budget, shown in the table, is made in accordance with Phare/TFI financial policy. Financial input of the Polish Government for construction and supervision is planned in 1999 and 2000 budget. The finalisation of the tender dossiers and detailed design is managed by DODP Gdansk (Regional Directorate of Public Roads).

Institutional Framework: The Ministry of Transport sets overall policy and is responsible for the general monitoring of implementation of policy. Specific agencies are then delegated specific implementation responsibility for individual programmes and projects. In the case of the road sector, this is the General Directorate of Public Roads. These agencies work with the individual municipalities in which the construction take place.

Implementation Arrangement: Ministry of Transport is the Implementing Agency and shall delegate day-to-day supervision and management to the General Directorate of Public Roads which has been in charge of preparation of the project to tender process and which will act as an implementing agency for EIB and Polish Government co-financed projects. Implementing and Monitoring Unit, existing within GDDP, will be in charge of managing of the Phare component according to the Phare DIS Manual and Phare CPR (Manual of Contract and Procurement Rules). The DODP Gdansk is responsible for preparation of tender dossier, technical documentations (by Transprojekt - Gdańsk), land acquisition, building permission etc. and will be appointed as an institutional Engineer for the Project.

Implementation schedule: The start-up of the project is planned to take place in June 1999 and be finalised by June 2002. Prequalification started in late 1998 but official tendering will start in February 1999.

(see Annex 2 Implementation Schedule, Annex 3 Commitment Schedule and Annex 4 Disbursement Schedule)

Equal Opportunity: The participation of women and men in the project will be based on relevant standards of European Community concerning EOE (Equal Opportunity of Employment) and it
will be assured by the official advertisements published for recruitment of the project staff.

**Environment**

The basic designing criteria for TriCity By-Pass focused on the achievement of several positive environmental effects, through construction of the modern motorway and expressway facilities. The major effects are:

- reduction of a very intensive pollution in TriCity (Trojmiasto) area;
- preservation of regional forest reserves in vicinity of Gdynia and Sopot by collecting all transit traffic onto expressway;
- reduction of accidents;
- development of socio-economic activities in the most important maritime region of country

An environmental impact assessment was performed by Polish experts TRANSPROJEKT – Gdansk and accepted by the Ministry of Environment, the Ministry of Home Affairs and Administration and the Ministry of Culture.

The Environmental Impact Assessment is available in the Regional Road Directorate in Gdansk and in the Ministry of Transport.

All analyses presented in the report were conducted with full respect to the relevant International Conventions signed by Polish Government.

The executive summary of the report specified the environmental preservation conditions of implementation of the Project:

**Construction stage**
- protection covering fencing in built-up areas
- protection measures during mass earthworks
- protection coating to access roads
- preservation of embankment slopes from erosion
- protection measures to forest reserve areas and water reservoirs

**Expressway operation stage**
- noise preservation measures in built-up areas (acoustic screens)
- green belts along roadside
- longitudinal fencing (live-stock protection)
- wild animals passages
- ecological drainage (water purification appliances)
- air pollution prevention measures

**Rates of Return**

Momentous benefits can be expected once the whole project has been implemented and the first part of A1 (Gdansk-Tczew) completed. Traffic researches carried out in the period of 1996-1998 proved already high traffic volumes on existing sections of the By-pass. Traffic forecasts to years 2001/2005/2010/2015/2017 were performed in 1998 Report by DODP/Transprojekt for whole TriCity By-Pass. The Economic Internal Rate of Return (IRR) at 18.8% was estimated on the basis of Economic Appraisal Method. Annex 6 gives some detail on the physical design of the project as summarised in the feasibility study.
Conditionality: Phare funding of the project will be conditional on the co-financing with European Investment Bank and its contribution will not exceed 25% of the total cost of the project. EIB contribution and Polish Government contribution in financing will be shared adequately to the conditions of the Financing Memorandum.

Investment Criteria: The project TriCity By-Pass is a part of the Crete corridor VI-Motorway A1 (see maps in annexes) and meets the following CEC criteria of selection for investment:

- **Implementation Readiness** - The project is proven technically and economically feasible. Preliminary design permitted cost estimations and environmental impact studies have completed.
- **Additionality** - The project is one of that the government concern would not undertake or would considerably delay without the financial support from a source such as a EU aid programme.


Reference to Government Strategic Plans: Realization of TriCity South By-Pass project is part of a long-term Motorway Programme in Poland worked out on the basis of Trans-European network of TEN corridors plan and conducted by the Ministry of Transport to solve the problem of national, international and transit road traffic through the country and to develop international transport services. (see attached map)

The project is also given priority by the Gdansk Voivodeship in the regional strategic plan of transport infrastructure development.
# LOGFRAME PLANNING FOR PROJECT PL9809

<table>
<thead>
<tr>
<th>Programme Number</th>
<th>Project Title</th>
<th>TRÓJMIASTO BY-PASS</th>
<th>Total Budget of Project</th>
<th>Date of Drafting</th>
<th>Planning Period</th>
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## Intermediate Objectives (1)
- finance and ensure the completion of 33km long Trójmiasto By-Pass for a collision-free expressway connecting International Route E26 with the Motorway A1;
- support the more economic and reliable international transport of people and goods in areas of interest to the EU and Poland;
- assist in regional socio-economic development and international exchanges through the improved movement of people and goods.

## Indicators of Achievement (2)
- number of kms of completed motorway sections;
- increased trade and transit in the voivodship;
- decreased travel and transit time;
- savings in vehicle operating costs;
- decreased cost of transport;
- decreased number of accidents.

## Sources of Information (3)
- GDPDP reports, monitoring and assessment reports;
- regional development data (local authorities, chambers of commerce and trade);
- transport companies and organisations;
- international and national statistics and traffic surveys;
- traffic police statistics.

## Assumptions and Risks (4)
- continued political commitment towards European Integration;
- continued foreign investments and availability of national budget funds for transport infrastructure projects;
- implementation of concessions for motorway operation and/or further construction;
- further integration of transport operation.

## Results of Project (5)
- completion of E26 expressway exit towards Motorway A1;
- completion of the Interchange Straszyn – Beginning A1 link;
- protected human and natural environment (national nature reserves) along the new section of expressway and motorway;
- commitment/disbursement ratios;
- timely handing-over of the civil works to the GDPDP (24 months);
- noise and emissions not exceeding standards;
- decreased transit traffic through city centres.

## Indicators of Achievement (6)
- supervision consultants reports;
- GDPDP reports, Strategic Plans and Work Programmes;
- DODP Gdask reports;
- environmental and traffic surveys.

## Sources of Information (7)
- available private and public funds to complete other sections in Corridor I;
- traffic growth as expected;
- adequate maintenance of vehicle fleet and road/motorway sections;
- economic growth in Gdask Voivodship.

## Assumptions and Risks (8)
- available complementary financing of resources to cover potential supplementary costs on the Phare financed works;
- availability of high-quality contractors and consultants;
- availability of qualified management staff at the GDPDP PMU and DODP Gdask.

## Outputs of Subprojects (9)
- completed section "Straszyn" Interchange - Beginning of A1 Motorway km 351.680 + 355.680 (20 MECU from LSIF 98)
- 4 km of 2x2 lane carriageways of By-pass (new)
- 5 nos of large structures (reconstruction)
- 1 no of large structure (new)
- completed section Chyonia – "Straszyn" Interchange km from 318.920 to km 351.880 (42 MECU from EIB)
- 32.8 km 2x2 lane carriageways of By-pass (modernization)
- 19 nos of large structures (reconstruction)

## Indicators of Achievement (10)
- commitment/disbursement ratios for Phare component;
- timely handing-over of the civil works to GDPDP (24 months);
- quality of the works in accordance with international standards.

## Sources of Information (11)
- supervision consultants reports;
- GDPDP reports, Strategic Plans and Work Programmes;
- laboratory tests.

## Assumptions and Risks (12)
<table>
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<th>Projects Sub-Projects</th>
<th>Implementation Schedule (Semesters)</th>
<th>Budget Allocation Cost Estimate</th>
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Legend:
D = design of sub-projects
C = tendering and contracting
I = contract implementation and payment
DLP = Defects Liability Period

IMPLEMENTATION SCHEDULE OF THE PROGRAMME

ANNEX 2
<table>
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<th>Projects</th>
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Date: 30.06.2002

30 June, 1998
### DISBURSEMENT (PAYMENT) SCHEDULE

**Programme Title:** 1998 LSF POLAND

<table>
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<th>Disbursement (Payment) Schedule (Seminsters)</th>
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**DISBURSEMENT (PAYMENT) SCHEDULE**

**ANNEX 4**
ANNEX 5
TRANSPORT SECTOR REVIEW FOR POLAND

The Phare Transport activities are being implemented through National (country) and Regional (multicountry) Programmes. The Phare National Programme for the transport sector in Poland started in 1991 with the allocation of 2.0 MECU to a large technical assistance project. In 1992, 3.2 MECU were allocated within the Phare National Programme. In 1993, the budget granted by Phare grew up to 49.0 MECU. 38.1 MECU were allocated under the 1994 Phare National Programme, while the 1995 budget amounted to 25.1 MECU and in 1996 to 64 MECU.

The technical assistance and investments projects financed by Phare under the National and Regional Programmes can be summarised as follows:

1992 Regional PHARE Programme:

- Road infrastructure improvement at the Polish-Lithuanian border crossing (2.5 MECU), and traffic study for A-2 motorway (0.7 MECU).

1993 National PHARE Programme:

- Elimination of the priority border crossing bottlenecks (two road border crossings at the border with Germany and one at the border with the Slovak Republic, as well as railway border crossings with Ukraine and Belarus), Warsaw urban transport feasibility study, training programme for management staff (18 MECU),
- Modernisation of the E-20 railway line section Kowno - Warszawa in the framework of Copenhagen Co-financing Facility. The project of 487 MECU is co-financed by PKP (207 MECU), PHARE (30 MECU) and loans from the EIB (200 MECU) and the EBRD (50 MECU). The Phare contribution covers two components: procurement of rails and turnouts (28.5 MECU) and studies related to modernisation of E-20 (1.5 MECU).

1993 Regional PHARE Programme:

- Feasibility study of the modernisation of the E-20 railway line, section Warszawa - Terespol (Poland/Belarus border) (1.0 MECU).

1994 National PHARE Programme:

- The Phare component covers construction of new and upgrading and/or widening of existing bridges on the A-4 motorway section Wroclaw/Bielany - Nogawczyce, 126 km long (30 MECU). The project (350 MECU) is financed together with the 1996 Phare national programme including co-financing from the Government (57 MECU) and EIB (225 MECU);
- Pre-investment activities relating to the integration of the Polish network with the EU network (5.0 MECU)

1995 Regional PHARE Programme
• Modernisation of road/rail infrastructure on the border crossing with the Slovak Republic (within the Transit Facilitation Programme) (3.1 MECU)

1995 National PHARE Programme
• Modernisation of 5 railway stations on the Kunowice-Warsaw section of E-20 (20 MECU);
• Feasibility studies related to the integration of the Poland’s road network with the EU network (2.0 MECU).

1996 National Phare Programme
- bridge rehabilitation on A4 motorway Wroclaw-Gliwice (28 MECU; CRETE/HELSINKI corridor III) including supervision and management of the whole A4-motorway project (10 MECU), financed together with the 1994 National Phare programme;
- modernisation of transport infrastructure at Slawatycze and Koroszczyn border crossings with Belarus and Dorochusk border crossing with the Ukraine (3 MECU);
- technical co-operation in support of the integration of the Polish networks with TEN’s as well as approximation and harmonisation to the European integration requirements (3 MECU).

1996 National Phare Programme
- Co-financing of the development of the E-20 Trans-European railway corridor (CRETE/HELSINKI corridor II) to promote freight flows between Western Europe, Poland and its Eastern neighbours (20 MECU).

1997 National Phare Programme
- Construction and modernisation of Zywiec-Zwardon expressway to the border crossing of Zwardon at the Slovakian border (CRETE/HELSINKI corridor n° VI) – 5 MECU - has already been contracted and the project is ongoing.
- Modernisation of national road n° 19 Szypliszki-Augustow on Via Baltica (CRETE/HELSINKI corridor n° I) – 6 MECU. The project is the continuation of works completed under the Phare Multi-country programme 1992 (2.5 MECU complemented by World Bank funding). Phare co-financing is provided for the rehabilitation of a 15km section of the above mentioned road. The tender has been completed and the contract with the successful tenderer will be signed before the end of 1998.
- Modernisation of the rail border crossing Nidzylesie (Poland) - Lichkov (Czech Republic) – 3 MECU. The tender documentation under preparation with implementation starting in 1999.

1997 Investment Financing of Large Scale Infrastructure (European Parliament initiative) ZZ 9722
- Construction of the motorway by-pass of Poznan on A-2 motorway – 45 MECU
- Construction of the motorway by-pass of Katowice on A-4 motorway – 35 MECU
  Both projects are already contracted and the total of 80 MECU is committed.
ANNEX 6
FEASIBILITY STUDY EXTRACT

Executive Summary from the recommendation of the Feasibility Study for the project "Tri-City Gdansk Gdynia by-pass"

1. INTRODUCTION

The Project involves the construction and rehabilitation of the structural works and certain road works on the total 36,8 km long existing section of the Tri City By-pass from km 318+900 to km 355+660. This work includes pavement construction on existing earthworks to form a four km long additional carriageway. The bridges in this section are existing but require rehabilitation works.

Related works, forming part of the project, include preparatory works, restoration of slip roads and main drainage, environmental protection measures, relocation of existing public utilities services and other ancillary works.

A map to 1:100000 scale and 15 maps to 1:6000 scale which indicate the locations of both sections (A – financed by PHARE and B - financed by EIB) and 2 typical cross-sections are to be found at the end of section 3.

The construction works are divided into two sections:

Sub-project A. Karczemki Interchange (km 342+500) Beginning A 1 (km 355+660)
Sub-project B. Chylonia Junction (km 318+900) Karczemki Interchange (km 342+500)

2. STRUCTURAL WORKS

Sub-project A

The project includes rehabilitation of ten bridge structures. Brief details of these are as follows:

km 343+780


Total length: - 62.5 m
Total width: - 7,4 m

Expressway Bridge No 15

Km 345+406

- Right carriageway


Total length: - 38,0 m
Total width: - 11,3 m
Km 345+406
- Left carriageway

Total length: - 38,0 m
Total width: - 11,3 m

Cross Road Overbridge No 17 - service road Borkowo - Jankowo in Borkowo Km 349+230

Total length: - 62,5 m
Total width: - 7,4 m

Cross Road Km 354+092

Four span frame. Load-carrying structure of precast prestressed concrete beams tray type. Total length: - 62,3 m
Total width: - 8,8 m

Expressway Bridge No 19 – over service road in Juszko

Km 354+516
- Right carriageway (currently closed)

Total length: - 18,0 m
Total width: - 11,3 m

Expressway Bridge No 20 – over the Radunia River in Juszko

Km 354+710
- Right carriageway (currently closed)

Total length: - 47,0 m
Total width: - 11,3 m

Expressway Bridge No 21 – over the Radunia River in Juszko

Km 354+710
- Left carriageway

Total length: - 47,0 m
Total width: - 11,3 m
Expressway Bridge No 22 – over the PKP line in Juszkowo

Km 355+164
- Right carriageway (currently closed)


Total length: - 37,0 m
Total width: - 11,2 m

Expressway Bridge No 23 – over the PKP line in Juszkowo

Km 355+164
- Left carriageway


Total length: - 37,0 m
Total width: - 11,2 m

Sub-project B

The project includes rehabilitation of thirteen bridge structures. Brief details of these are as follows:

km 319+850


Total length: - 74,5 m
Total width: - 11,7 m

Pedestrian passage No 2 – under Expressway, in Gdynia – Demptowo

km 320+150

Reinforced concrete frame. Box-shaped.

Total length: - 24,2 m
Total width: - 12,0 m

Expressway Bridge No 3 – over Chwarzniewska Street in Gdynia-Gwarzno

Km 323+834
- Right carriageway


Total length: - 62,5 m
Total width: - 11,3 m

Km 323+834
- Left carriageway

Total length: 62.5 m
Total width: 11.3 m

Km 326+787

- Right carriageway


Total length: 62.5 m
Total width: 11.3 m

Km 326+787

- Left carriageway


Total length: 62.5 m
Total width: 11.3 m

Km 327+479

- Right carriageway


Total length: 74.5 m
Total width: 11.3 m

Km 327+479

- Left carriageway


Total length: 74.5 m
Total width: 11.3 m

Cross Road Overbridge No 9 – Lipowa Street in Gdynia – Wielki Kack km 328+233


Total length: 62.5 m
Total width: 9.9 m

Km 329+358

- Right carriageway

Total length:  - 56,2 m  
Total width:  - 11,3 m  

Km 329+358
- Left carriageway  
Total length:  - 56,2 m  
Total width:  - 11,3 m  

Expressway Bridge No 12 – over PKP railway siding for fuel depot  

Km 341+059
- Right carriageway  
Total length:  - 37,0 m  
Total width:  - 11,2 m  

Expressway Bridge No 13 – over PKP railway (side railway track)  

Km 341+059
- Left carriageway  
Total length:  - 37,0 m  
Total width:  - 11,2 m  

3. ROADWORKS  

Brief details of the main construction operations are as follow:

1. Preparatory works:  
   - removal of subbase  
   - removal of pavement  

2. Earth works:  
   - excavations  
   - embankments  

3. Drainage:  
   - rehabilitation of existing drainage  
   - new drainage  
   - rehabilitation of existing culverts

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<thead>
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<th>Sub-project A</th>
<th>Sub-project B</th>
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<td>900 m</td>
<td>1800 m</td>
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- new culverts 50 m -
- longitudinal drains 12000 m 29200 m

4. Pavement works:
- subgrade stabilised with aggregate and cement 20 cm thick 86100 m$^2$ 177400 m$^2$
- subbase course of crushed aggregate 22 cm thick 76400 m$^2$ 90700 m$^2$
- base course of asphalt concrete 5 – 20 cm thick 231900 m$^2$ 494100 m$^2$
- regulating course of mineral–bituminous mix 2000 Mg 2600 Mg
- binder course of asphalt concrete: 6 cm thick 233900 m$^2$ 496900 m$^2$
- 8 cm thick 6000 m$^2$ -
- wearing course of asphalt concrete 5 cm thick 277100 m$^2$ 494100 m$^2$
- pavement milling 2-10 cm deep 204100 m$^2$ 365000 m$^2$
- repairing of transverse cracks 1300 m$^2$ 3700 m$^2$

4. EXPRESSWAY DEVICES

1. Safety barriers 26300 m 34300 m
2. Street lighting 100 pts 190 pts

5. ENVIRONMENTAL PROTECTION MEASURES

1. Acoustic baffles 6500m$^2$ -
2. Retention and cleaning reservoirs with separators, water flow regulators and circulation ducts to collect, clean and discharge storm water into receptacles 4 Nos -
3. Screening and baffling greenery 2,0 ha -

6. RELOCATIONS

1. Water main dia 400mm 80 m -
2. Cable and overhead L.T. power lines 150 m -