1. **Background information**
   1.1. Project number: PL01.08.18
   1.2. Project title: "Modernisation of road # 352 within the stretch from km 0 + 000 to km 12 + 162 Radomierzyce - Zgorzelec including Zgorzelec by-pass road"
   1.3. Sector: infrastructure
   1.4. Location: Poland, province of Lower Silesia, district of Zgorzelec

2. **Objectives**
   2.1. Wider objectives:
   - Joining the Hagenwereder / Radomierzyce border crossing under construction within the framework of a Phare CBC Poland - Germany 1999 project, approved by European Commission, with national roads: # 356 (Zgorzelec - Jelenia Góra), and # 4 (Zgorzelec - Bolesławiec - Krzywa),
   - Decreasing arduousness to the local population through construction of Zgorzelec south-eastern by-pass road, construction of sidewalks, pedestrian crossings and bus recesses in localities situated along road # 352,
   - Promotion of co-operation between Poland, Germany and the Czech Republic in the field of tourism and trade.

2.2. Immediate objectives:
   - Construction of 12.2 km of a new road surface with hardened shoulders, total width 11 m,
   - Improving the existing communication system through increasing road capacity, traffic smoothness and safety;
   - Shortening travel time;
   - Decreasing exhaust fume emission and its impact on human health and environment;
   - Economic development of the "Turoszów Sack" area through construction of cross-border road transport infrastructure: petrol stations, hotels, catering facilities;
   - The investment will affect the 100,000 population of the Zgorzelec district and road users from the Czech Republic and Germany crossing the border;
   - Major beneficiaries of the project will be the Polish, German and Czech tourists as well as the inhabitants of Zgorzelec and Bogatynia and of localities situated along the modernised road.

2.3. Priority of "Accession Partnership" and National Programme for the Adoption of the Acquis (NPAA)
   - Medium-term - transport: necessary investments into transport infrastructure
   - Medium-term - environment: requirements on environment protection must make and integral part of sectoral policies

2.4. Participation in Preliminary National Development Plan 2000 - 2002
   The project is in line with Component 4.3 of Preliminary National Development Plan within the development guideline of "Integration of Polish economy through development of transport system" concerning road transport. The existing road network does not ensure proper quality of passenger and load transport and is a hindrance to socio-economic integration with European Union. The situation hampers international exchange, limits foreign capital interest in locating new investments within Lower Silesia, and obstructs the development of tourism and trade within Polish border areas.
   The rapid growth of cross-border traffic, both the passenger (60% in 5 years) and the cargo (by 100%) one, makes it necessary to develop the road infrastructure serving the border crossing.

2.5. Cross-border co-operation impact
   - Improved infrastructure for cross-border passenger transport;
   - Pollution prevention within border area;
   - Linking the Hagenwerder / Radomierzyce border crossing under construction with main road network of Lower Silesia via national roads nos. 4 and 356;
   - Decreasing road traffic load on the Zgorzelec / Jedrzychowice - Görlitz border crossing.

3. **Project description**
   3.1. Project origin and rationale
The provincial road # 352 is gaining significance along with increasing cross-border traffic. The road serves the border crossings in Zittau / Sieniawka and Bogatynia / Kunratice as well as the Radomierzyce / Hagenwerder border crossing under construction. At present the road is not suitable to carry the increased cross-border traffic, as its technical standard is too low. For the last 15 years the road has not undergone major repairs. The expected rapid growth of tourist and commercial traffic requires fast adaptation of the road parameters to European standards, which is to be attained through the following modernisation works:
- carriageway 7 m wide, with SMA upgraded surface,
- shoulders 2 x 2 m, with hardened surface and strengthened superstructure (crosscut as for the carriageway),
- load capacity across full width (carriageway + shoulders = 11 m) amounting to maximum 100 kN per axis,
- correction of dangerous horizontal bends,
- construction of slow-traffic lanes on long upward slopes,
- proper drainage of road course with reconstruction of ditches and culverts,
- construction of sidewalks along stretches with intense pedestrian traffic within built-in areas and around bus recesses,
- installation of energy shields at sharp bends and embankments,
- installation of traffic lights or roundabout construction at crossroads with intense vehicle and pedestrian traffic.

3.2. Related activities

The realisation of this task is related to the construction of the new Radomierzyce/Hagenwerder border crossing performed within the framework of the Phare CBC 1999 programme, currently implemented under contract PL 9913-01-05-L001. The traffic from the above-mentioned border crossing will be taken over by road No. 352. The construction of the Radomierzyce/Hagenwerder border crossing is provided for in the “Agreement between the Government of the Republic of Poland and the Government of the Federal Republic of Germany on Construction and Maintenance of Border Bridges in the Republic of Poland Located within the Network of Public Roads Except for National Roads and in the Federal Republic of Germany within the Network of Public Roads Except for Federal Roads” – initialled on 08.06.2000 and signed on 21.11.2000. Pursuant to the Agreement, the construction of the border bridge is realised by the German Party, represented by the State of Saxony, and is co-funded by the Polish Party, represented by the Dolnoslaskie Voivodeship. At present, the negotiated agreement on the construction and maintenance of the border bridge concluded between the State of Saxony and the Dolnoslaskie Voivodeship requires the approval of the European Commission. The State of Saxony anticipates that the bridge construction will start not later than in September 2001 and will be completed in the fourth quarter of 2002. Within that period of time, each Party will construct, in the territory of their respective countries, access roads to this border bridge. The Dolnoslaskie Voivodeship will start the construction of the access road in June 2001 – the agreement with a contractor is being finalised.

The German Party, represented by the State of Saxony, will make a complementary contribution to the project performance constructing the border bridge and the access road in the territory of Germany. In the case of bridge construction, the contribution amounts to approximately 30% of construction costs, and in the case of access road construction in the territory of Germany, the contribution amounts to 100% of construction costs.

3.3. Project outcome

Project outcome will be improved smoothness of road traffic, increased road safety, increased driving comfort, increased road capacity, decrease in environment pollution, shortened travel time from the border crossing to main national roads.

3.4. Project results

Construction of a convenient road link by way of a modernised stretch of road # 352, Zgorzelec - Radomierzyce / Hagenwerder border crossing, which will contribute to economic development of adjacent areas through construction of infrastructure for cross-border traffic: petrol stations, catering facilities, etc.

3.5. Project expenditure
Invitation for open tender will be announced to implement the investment as a whole. The contractor selection process will be open to all tenderers from EU member countries. The contract will be concluded in line with Phare CBC procedures. The Polish side declares financial contribution of 3.25 MEUR.

4. Institutional framework
Project originator is:
Lower Silesia Provincial Road Inspectorate (DZDW)
Plac Nowy Targ 28, 50-141 Wroclaw, Poland
who report directly to the Board of Lower Silesia Province.
Road # 352 is a provincial road, operated by DZDW Wroclaw.
There are no limitations to project implementation. Investment works will be carried out within the road corridor managed by DZDW Wroclaw. Grounds for Zgorzelec by-pass road construction have been allocated for the investment in the municipal area management plan. Project Resident Engineer will be appointed by DZDW Wroclaw.
The Contracting Party will be DZDW Wroclaw. It will also appoint Project Engineer within its own Office:
- DZDW Wroclaw
  Project Engineer Office
  ul. Rataja 9, 58-560 Jelenia Góra
  Tel/fax 75-540-73
- Project Engineer: Marek Brzezinski, M. Sc.
The owner of road # 352 is Local Authority of Lower Silesia Province, and its operator is DZDW Wroclaw.

5. Project budget (in MEUR)

<table>
<thead>
<tr>
<th>PHARE CBC 2001 contribution</th>
<th>Investment</th>
<th>Institution building</th>
<th>Total PHARE CBC 2001</th>
<th>National contribution</th>
<th>IFI</th>
<th>GRAND TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract 1</td>
<td>3</td>
<td></td>
<td>3.0</td>
<td>3.25</td>
<td></td>
<td>6.25</td>
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<tr>
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<td></td>
<td>3.0</td>
<td>3.25</td>
<td></td>
<td>6.25</td>
</tr>
</tbody>
</table>

6. Project implementation arrangements
6.1 Project Implementing Agency:
Lower Silesia Provincial Road Inspectorate
Plac Nowy Targ 28, 50-141 Wroclaw
General Manager - Andrzej Jakubowski, M. Sc.
Tel. ++48 (71) 344-14-80, fax ++48 (71) 344-81-72
The Implementing Authority for Phare Cross Border Co-operation Programme
Krucza 36 Street; 00-522 Warsaw
e-mail: Phare@wwwpwp.it.pl

6.2 Twinning project – none
6.3 Non-standard aspects - none. DIS rules will be observed.
6.4 Contracts: one contract, 6.25M€

7. Implementation schedule
7.1. Preparation of Tender Documents: 1st quarter of 2002
7.2. Commencement of project works: June 2002
7.3. Project close:
  - Works: June 2004
  - Payments: by 31.12.2004

8. Equal opportunities
Employment opportunities for men and women will be based on European EOE standards, secured by means of recruitment based on official job advertising.
9. **Environmental impact**
   Environmental Impact Analysis has been prepared (please find enclosed).

10. **Profitability ratios**
    EIRR value = 44.0%, FIRR value = 16.8%.
    Feasibility Study has been prepared (please find enclosed).

11. **Investment criteria**
    11.1. **Catalyst effect**
        Project implementation will largely improve road communication between EU member countries (especially eastern Saxony). Both passenger and cargo traffic within border areas will rise significantly. When Poland joins the European Union, road # 352 will become a major communication link between Poland, Germany and the Czech Republic.
    11.2. **Co-financing**
        Territorial authorities of Lower Silesia will provide 52% of the necessary project financing under "Integrated Provincial Plan for Lower Silesia 2001 - 2003". Phare CBC II contribution will amount to 48%.
    11.3. **Subsidiarity**
        There will be no co-financing from private sources
    11.4. **Project preparation stage and project range**
        Technical Documentation is under preparation. The documents already prepared are:
        - Economic Analysis (EIRR = 44.0%)
        - Financial Analysis (FIRR = 16.8%)
        - Feasibility Study
        - Environmental Impact Analysis
        Economic Analysis (EIRR = 44.0%) and Financial Analysis (FIRR = 16.8%) prove project implementation rational.
        Project total value is 6.25 MEUR (Phare contribution = 3.0 MEUR).
    11.5. **Sustainability**
        The life-time of realised investment will be 10 years (without major repairs). Proper road maintenance can prolong this time by another 10 years. Costs of minor repairs will be covered by DZDW Wroclaw. Modernisation of the road will decrease environment pollution.
    11.6. **Compliance with agreements on national financing**
        The project is in line with the provisions of Europe Agreement on national financing
    11.7. **Incorporation in Preliminary National Development Plan**
        The project is in line with Preliminary National Development Plan, with Regional Development Strategy worked out by Marshall's Office in Wroclaw and with the Strategy of the Nysa Euroregion.

12. **Conditions and time schedule**
    Tender Documents will be prepared between 2nd half of 2001 and 1st quarter of 2002. Formal and legal proceedings will be finalised in February 2002.
    Invitation for tenders, selection of the winning tender, and contracting will take place between February and May 2002. All organisational matters and financing will be dealt with by DZWD Wroclaw and its separate Project Engineer's Office.
Exhibit 1: Project LogFrame

<table>
<thead>
<tr>
<th>PROJECT TITLE:</th>
<th>&quot;Modernisation of road # 352 within the stretch from km 0 + 000 to km 12 + 162 Radomierzyce - Zgorzelec including Zgorzelec bypass road&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phare CBC II - 2001</td>
<td>Poland - Germany</td>
</tr>
<tr>
<td>Date of drafting</td>
<td>November 2000</td>
</tr>
<tr>
<td>Planning period</td>
<td>9/2001 to 12/2004</td>
</tr>
<tr>
<td>Total budget</td>
<td>6.25 MEUR</td>
</tr>
<tr>
<td>Phare component</td>
<td>3.00 MEUR</td>
</tr>
</tbody>
</table>

### Wider objectives

<table>
<thead>
<tr>
<th>Indicators of achievement</th>
<th>Sources of information</th>
<th>Assumptions and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- road capacity increased by 20%</td>
<td>- statistical data from Ministry of Transport and Marine Economy</td>
<td>- falling interest in Polish - German co-operation</td>
</tr>
<tr>
<td>- lower emission of exhaust fumes and noise</td>
<td>- statistical data on environment pollution</td>
<td></td>
</tr>
<tr>
<td>- travel time shorter by 30%</td>
<td>- industry analyses</td>
<td></td>
</tr>
<tr>
<td>- fewer road accidents</td>
<td>- traffic measurements</td>
<td></td>
</tr>
</tbody>
</table>

---

### Immediate objectives

<table>
<thead>
<tr>
<th>Indicators of achievement</th>
<th>Sources of information</th>
<th>Assumptions and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- improved traffic smoothness</td>
<td>- contract documents</td>
<td>- delays in tendering procedure</td>
</tr>
<tr>
<td>- decreased pollution</td>
<td>- reports from Resident Engineer</td>
<td>- different opinions on project management and co-ordination</td>
</tr>
<tr>
<td>- decreased transport costs</td>
<td>- reports from Project Beneficiary</td>
<td></td>
</tr>
<tr>
<td>- accident rate decreased by 30%</td>
<td>- industry analyses</td>
<td></td>
</tr>
</tbody>
</table>

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### Results / outputs

<table>
<thead>
<tr>
<th>Indicators of achievement</th>
<th>Sources of information</th>
<th>Assumptions and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- carriageway width increased from 7 to 11 m</td>
<td>- industry documentation</td>
<td>- formal or legal problems (licensing, ownership transfers, land acquisition)</td>
</tr>
<tr>
<td>- load capacity increased to 100 kN per axis</td>
<td>- Technical Design</td>
<td></td>
</tr>
<tr>
<td>- elimination of dangerous road bends</td>
<td>- industry analyses</td>
<td></td>
</tr>
<tr>
<td>- moving transit traffic away from Zgorzelec</td>
<td>- own road lab of DZDW Wroclaw</td>
<td></td>
</tr>
</tbody>
</table>

---

### Activities

<table>
<thead>
<tr>
<th>Indicators of achievement</th>
<th>Sources of information</th>
<th>Assumptions and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- number and qualifications of employees</td>
<td>- signed contracts</td>
<td>- labour fluctuations</td>
</tr>
<tr>
<td>- amount and quality of equipment and materials used</td>
<td>- reports from Resident Engineer (final acceptances)</td>
<td>- decreased financing</td>
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<tr>
<td>- investment financing</td>
<td>- final financial report on the contract to Phare CBC Implementing Authority</td>
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Exhibits 2 - 3: Implementation, contracting and disbursement schedules

<table>
<thead>
<tr>
<th></th>
<th>I '02</th>
<th>II '02</th>
<th>III '02</th>
<th>IV '02</th>
<th>I '03</th>
<th>II '03</th>
<th>III '03</th>
<th>IV '03</th>
<th>I '04</th>
<th>II '04</th>
<th>III '04</th>
<th>IV '04</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>D = design of sub-projects / C = tendering and contracting / I = contract implementation and payment</td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
<td>VI</td>
<td>VII</td>
<td>VIII</td>
<td>IX</td>
<td>X</td>
<td>XI</td>
<td>XII</td>
<td></td>
</tr>
<tr>
<td>IMPLEMENTATION SCHEDULE</td>
<td>D</td>
<td>C/I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
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<td>I</td>
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<tr>
<td>Contracting schedule</td>
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<td>Disbursement schedule</td>
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<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

PL01.08.18 CBC PL/D Road 352 and Zgorzelec by-pass road – p.5
Exhibit 5
Feasibility Study
The Feasibility Study proves modernisation of the whole length of provincial road # 352 necessary, especially with reference to the stretches carrying the most traffic (both currently and in foreseeable future):
- Radomierzyce / Hagenwerder - Zgorzelec,
- Bogatynia / Kunratice - Zatonie.

Strengthening of the carriageway structure and construction of shoulders on both sides will significantly improve driving comfort and safety, and will decrease arduousness of the road for the local population.

The modernisation will be profitable in terms of decreased vehicle traffic costs.

<table>
<thead>
<tr>
<th>Profit type</th>
<th>Unit value (PLN)</th>
<th>Present value (PLN)</th>
<th>Total profit (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle operation cost</td>
<td>384,259</td>
<td>13,500,928</td>
<td>2.57</td>
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<tr>
<td>Passengers’ time cost</td>
<td>593,530</td>
<td>20,853,695</td>
<td>13.38</td>
</tr>
<tr>
<td>Accident cost</td>
<td>156,049</td>
<td>5,482,774</td>
<td>12.25</td>
</tr>
<tr>
<td>Fume cost</td>
<td>5,145</td>
<td>180,761</td>
<td>5.48</td>
</tr>
</tbody>
</table>

Economic analysis
Economic analysis was done on comparative basis, the comparison including the difference between costs and benefits of two situations:
- "with project” situation
- "without project” situation

The analysis was based on a road traffic prognosis, prepared by "Transprojekt" Warszawa. Road surface condition was classified on the basis of IRI ratio. Road accident statistics was based on recorded accidents during the recent years (number of accidents, deaths, injuries). The detailed methodology description and calculations are included in Feasibility Study and in Economic Analysis. The calculations led to EIRR = 44.0%. the value of this ratio proves the road modernisation up to the design parameters to be economically profitable. The EIRR threshold value (minimum acceptable IRR = 12%) is exceeded. The calculations show that NPV = 0 and benefit / cost ratio B/C = 1. The FIRR was calculated as FIRR = 16.8%.

Environmental Impact Analysis
"Environmental Impact Analysis for the Planned Modernisation of Provincial Road # 352 at the Stretch from Zgorzelec to Polish-Czech Border Crossing in Bogatynia / Kunratice (km 0+000 to 35+135)" has been prepared.

The road modernisation will decrease noise arduousness. Noise level reduction will result from improved road surface condition. The most sensitive areas are the built-in areas of Zgorzelec and Bogatynia, where it is planned to construct by-pass roads. The planned modernisation will not cause any environmental threats.

The overall balance of environmental costs and benefits resulting from the planned modernisation of road # 352 is positive. The detailed EIA is included in Environmental Analysis.

ENVIRONMENTAL IMPACT ANALYSIS

I. NOISE
1. Current situation
   Traffic noise around the existing road # 352 within the town of Zgorzelec is especially arduous for the inhabitants of first-line houses. This results from small distance between the houses and the road, which at places varies between 2 and 10 m, and from large proportion of heavy vehicles in the road traffic.
   For the estate of family houses in Zgorzelec, located in Andersa St. and Luzycka St., the measured exceeds of acceptable noise level of 55 dB (at daytime) and 45 dB (at night) for the first-line houses were:
   - 12 - 17 dB at daytime, and
   - 17 - 22 dB at night,
   which means exceeding the threshold value of 65 dB, considered much arduous.
   Within the other housing estates around road # 352 outside the town of Zgorzelec, the noise level is much lower and does not exceed 65 dB, which results from greater distance between the houses and the road.
2. Post-modernisation situation
A solution to eliminate the traffic noise exceeding 65 dB, arduous for Zgorzelec inhabitants, is the construction of south-eastern by-pass road going outside the housing areas and away from Andersa St. and Luzycka St. The by-pass road is included in the local area management plan for Zgorzelec. The municipality has allocated land for the by-pass road construction. The project proposed for implementation under Phare CBC Poland - Germany 2001 includes the construction of Zgorzelec by-pass road, which is in line with WHO guidelines on limiting exposure to noise exceeding 55 dB.

II. EXHAUST FUME EMISSION

1. Current situation
   Exhaust fume density around the stretch of road # 352 planned for modernisation does not exceed threshold values.

2. Post-modernisation situation
   Modernisation of road # 352 will definitely limit exhaust fume emission and its content in ambient air. This will result from the construction of hardened road shoulders 2 x 2 m, which will improve traffic smoothness and prevent traffic slow-downs caused by slow-moving vehicles or traffic jams and short-term traffic stops, particularly with reference to the Zgorzelec town area. It will be especially visible when the south-eastern by-pass road is constructed.

III. CONCLUSION

Arduousness of the stretch of road # 352 covered by the project generally consists in traffic noise arduousness. The planned road modernisation will result in limiting noise levels around the road due to improved road surface condition and improved technical parameters. Moving the transit road traffic away from the town areas of Zgorzelec via south-eastern by-pass road will eliminate the noise exceeding 65 dB and arduous for the local people as well as limit exhaust fume emission (particularly the one from lorries) and its content in ambient air.