Republic of Indonesia
Ministry of Public Works
Directorate General of Highways
Directorate of Urban Road Development

Preparation of the
Primary Urban Road Component of the Proposed
STRATEGIC URBAN ROAD
INFRASTRUCTURE PROJECT
Contract No. 10/CTR/B/LN/1995
IBRD Loan No. 3385-IND

Executive Summary of the
Summary Environmental Assessment

Prepared by:

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1 INTRODUCTION AND SUMMARY

The Strategic Urban Road Infrastructure Project (SURIP) will assist the Government of Indonesia (GOI) address existing capacity constraints on the urban sections of the nation's primary road network. Over a five year (1996-2001) loan period, the current program will focus on projects within the North Java Transport Corridor (NJTC), which serves as the principal road network between the country's two largest cities, Jakarta and Surabaya, and plays a significant role in Indonesia's rapidly growing economy. Potential projects in other provinces of the country have been identified during strategic assessment activities and these will be considered under subsequent SURIP phases.

SURIP will be implemented by the Directorate of Urban Road Development (BINKOT), of the Directorate General of Highways (Bina Marga), Ministry of Public Works. To comply with project appraisal requirements of the World Bank, a Summary Environmental Assessment and this separately bound, Executive Summary have been prepared and approved by BINKOT. These documents summarize the environmental reviews conducted during the project's preparation stage in accordance with GOI and World Bank procedures.

1.1 Framework for Environmental Impact Assessment

The governing legislation of the Indonesian environmental impact assessment (AMDAL; Analisa Mengenai Dampak Lingkungan) process is provided by Government Regulation No. 51 of 1993 (PP 51/1993). The implementing guidelines of Bina Marga's AMDAL screening process will be directly applied to all SURIP projects. This process provides a systematic approach to impact assessment, monitoring and management based on a project's type, scale and location (see Annex 1). All projects proposed for World Bank funding are subject to environmental review and approval. SURIP has been classified as a Category A type program and individual projects proposed for funding under the program will be subject to review and approval requirements as described in Operational Directive 4.01 (Environmental Assessment) and in accordance with current GOI regulations (PP 51/1993).

1.2 Main Points of the Summary Environmental Assessment

• Limited environmental and social impacts have been identified for the five projects initially proposed for SURIP funding. While classified as urban roads, these proposed projects involve some 36 kilometers of road widening and new construction activities of bypass alignments around urbanized sections of the NJTC road network;

• Preliminary details are currently available on later year projects, which presently include seven additional urban bypasses totalling some 50 kilometers in length. These subsequent projects may involve more significant impacts due to their substantial ROW requirements. Follow-up impact studies for future projects are part of a programmatic appraisal procedure agreed to between the Bank and BINKOT and included for funding under the SURIP;

• Institutional strengthening and environmental training activities will be required and are included in the loan program to support project evaluation, implementation and monitoring requirements of the SURIP program. These activities will focus on the role of BINKOT's environmental section and on-site project managers (Pinpros).

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1 The World Bank follows a three-part environmental impact classification system. Category A projects require full environmental assessments (EA) as defined by the Bank's Operational Manual. Category B projects require a lesser level of environmental investigation. Category C projects require no environmental analysis beyond that determination. Based on the project's TOR and discussions held to date, these World Bank categories correspond to the project-specific EA requirements of Indonesia's AMDAL system.
2 PROJECT DESCRIPTION

Current initiatives to improve inter-urban road sections within the NJTC include components of the World Bank-assisted Highway Sector Loan II, the OECF-assisted Heavy Loaded Road Improvement Project and the ADB-assisted North Java Road Improvement Project. SURIP has been proposed to assist the GOI address existing constraints on urban sections of this principal road network. The three main components of SURIP are:

- an urban roads component, which will identify and prepare a priority program of improvement projects along the NJTC that can be implemented over the next five years;
- a technical assistance component, which will provide advisory support and assistance to BINKOT and local agencies to enhance their transport planning and implementation capacity;
- a procurement component, to support procurement of professional services needed for subsequent project preparation activities.

Five initial projects that could be started during the first two years of the loan period (1996-1998) have now been prepared for appraisal under the urban roads component. These proposed "year 1" projects involve the widening or new construction of some 36 kilometers of urban bypass roads. As selection criteria, these projects were in an advanced stage of preparation and did not present any significant impediments to implementation, such as major environmental concerns or the need to acquire substantial road right-of-ways (ROW). Typical project features include the provision for a divided, 4-lane asphaltic concrete roadway, with associated intersection, bridge and drainage structure improvements. The evaluation of possible "later year" (1998-2001) projects is on-going and presently involve some 50 kilometers of road widening or new construction activities of urban bypass alignments along the NJTC. The general locations of these projects are indicated in Figure 1.

3 EXISTING ENVIRONMENTAL AND SOCIAL CONDITIONS

The geographic focus of SURIP is the North Java Transport Corridor (NJTC), within the provinces of West, Central and East Java. Topographically constricted to a narrow coastal plain, this corridor has historically been a center for human settlement, cultural and agricultural development. With only 7% of the country’s land area, the island of Java accounts for some 60% of the nation’s population, resulting in population densities that are among the highest in the world today. National and regional planning strategies identify the NJTC as a major coastal development corridor and the trend towards urbanization and industrial development is expected as well as planned to continue.

Topography/Soils/Geology: The projects cross level terrain, at elevations ranging from 1 to 10 meters above sea level. Local soils are typically alluvial with high clay content and expansive characteristics. Java is volcanically active and all project areas are within seismic zone 4.

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2 Oversea Economic Cooperation Fund of Japan
3 Asian Development Bank
4 Urban road sections are broadly defined as those being within administrative areas with populations greater than 20,000 and under the jurisdiction of the Bina Marga's Directorate of Urban Road Development (BINKOT).
5 Refers to the design standard for basic shear coefficient.
Figure 1

Location Map of Currently Proposed SURIP Projects

Legend:

- Highly Developed Area
- Developing Area
- North Java Transport Corridor
- Year 1 and 2 Projects
- Later Year Projects

Source: Konsolidasi dari laporan "Rencana Struktur Tata Ruang Propinsi" in Interim Report III (May 1993) Heavy Loaded Road Improvement Project
Hydrology: Project alignments cross numerous small rivers, creeks, drainage and irrigation canals with poor water quality due to intensive domestic, agricultural and industrial use and discharges. Flooding is a significant seasonal concern in low lying coastal areas.

Meteorology and Air Quality: Climate is tropical and monsoonal, with lowland rainfall in the annual range of 1.2 to 2 meters. The wet season generally lasts from December to May, though rains do occur throughout the year. Typical wind conditions are described as light (< 5 meters/second). Available studies indicate increasing concern for air pollution and noise in congested urban areas.

Biological Resources: Based on field surveys, the proposed project areas do not involve sensitive ecological habitats or areas with identified high biodiversity values. All areas along these project alignments are devoted to intensive agricultural, residential, commercial and industrial land use.

Population and Human Settlements: Population densities are high in the NJTC, ranging from 1,110 persons/square kilometer in Kabupaten Pemalang to 6,953 persons/square kilometer in Kotamadya Cirebon. The concerned urban areas (and projected 1995 populations) include Cirebon (500,000), Pemalang (165,000), Weleri (47,000), Kaliwungu (54,000), and Semarang (1,700,000).

Cultural Resources: Java has an exceptionally rich cultural history, which typically includes historic buildings, cemeteries and mosques in roadside areas. With the exception of the Cirebon Bypass, areas with potential archaeological and historical resources have not been identified for the project areas to date, though limited information is available.

4 SIGNIFICANT ENVIRONMENTAL IMPACTS

Significant economic and environmental benefits have been identified for these initial projects, as measured by direct savings in vehicle operating costs and passenger travel time resulting from improved traffic flows and travel speeds. These project benefits would translate into overall reductions in fuel use and vehicular emissions, particularly along three congested urban routes where daily traffic levels in the range of 20,000 vehicles are predicted to be reduced by 30 - 80% following traffic diversions to the new bypass alignments which pass through sparsely populated, agricultural areas. The provision of urban bypasses with median dividers will contribute to reducing traffic accidents and their severity, as available statistics indicate that some 30% of traffic accidents along the NJTC are head-on collisions, with high fatality rates.

Based on a review of the proposed project areas and activities, the following environmental parameters were identified as being of primary importance to SURIP: soils, flooding, ecology, air quality, noise, population, land use planning, land acquisition, relocation and resettlement, and cultural resources. These general parameters are briefly below. Summary impact descriptions for the year 1 projects are provided in Table 1. A priority concern during the assessment of each project was the potential for social impacts of any required ROW areas. Identified social impacts primarily involve the Cirebon Bypass, where a proposed 22 meter wide ROW will require an additional 4 hectares of adjacent land, portions of 39 existing structures and potentially displace six families (30 people). No resettlement requirements have been identified for the other year 1 projects.

Soils: Proposed projects will be constructed on embankments requiring 200,000 to 300,000 cubic meters of fill materials. These quantities are considered moderate and ample supplies are available in the area. Under GOI regulations, all quarry or borrow materials must be obtained from permitted sites, which are under the jurisdiction of local government agencies at the district (kabupaten) level. The project contractor is directly responsible for selecting the licensed site that is used and for any required quarry site rehabilitation. Typical excavation quantities range from 10,000 to 40,000 cubic meters, and disposal requirements are addressed by Bina Marga’s standard operating procedures.
Flooding: The NJTC area has a history of flood events and construction of embankment roads could restrict storm waters, increasing upstream flooding levels. Except for the Cirebon Bypass, all year 1 projects are located downstream of urban areas. All proposed projects are provided with bridge and drainage structures designed according to historic records of flood events and the observed performance of existing upstream structures to minimize flood risks.

Ecology: The proposed road alignments involve areas that have been historically devoted to agricultural, residential or commercial use. Due to their proximity to urban areas, these projects are very unlikely to impact sensitive eco-systems, such as the habitats of rare or endangered species.

Air Quality: The completed projects are predicted to reduce ambient pollution levels in congested urban areas by improving traffic flows and diverting traffic outside of these highly populated areas. Cumulatively, SURIP projects will have a positive impact on air quality.

Noise: National noise standards have not yet been established in Indonesia. A school building and a health clinic are located adjacent to the Weleri Bypass. These noise sensitive facilities will be relocated or provided with noise barriers as part of the project.

Population: The proposed projects are expected to benefit the concerned cities by supporting local initiatives to divert heavy vehicle, through traffic outside of congested urban areas. Cumulatively, the SURIP projects are supportive of the rapidly expanding economy of Indonesia.

Land Use Planning: Proposed new road alignments may encourage "ribbon" development, resulting in conversion of farm lands. The proposed projects are in compliance with local development plans. Future development activities along these roads will require local government approvals in accordance with existing land use and development regulations which protect irrigated paddy rice areas as an issue of national importance. The capacity of local government agencies to control development and land use along new road alignments is likely to vary.

Land Acquisition: Additional ROW requirements for the year 1 projects is currently estimated at 7.5 hectares. Some additional ROW areas may be required for intersection improvements, the final designs of which are not yet available. All ROW areas will be acquired in accordance with current GOI regulations, which provide established procedures for community consultations and legal recourse in setting local land and building compensation values.

Relocation and Resettlement: These additional ROW areas include portions of some 45 - 50 commercial and residential structures, mostly of temporary construction. Current estimate of total building areas affected is less than 2,000 square meters. Based on local surveys, most affected occupants will rebuild their structures outside of new ROW area and prefer adequate cash compensation as opposed to formal resettlement. Under GOI laws, compensation is generally not provided for lost business, though significant appreciation in real estate values typically occurs as a direct result of completing a new road project, to the economic benefit of local land owners.

Cultural Resources: No significant impacts on cultural resources have been identified to date and excavations for the proposed construction activities are limited to licensed quarry operations and required drainage structures. Existing cultural facilities along the Cirebon Bypass (the Goa Sunyaragi complex) are located outside of the proposed ROW for this road widening project, along an existing 4-lane section of this busy route. Procedures governing the chance discovery of archaeologic or historic artifacts and sites are provided by Republic Act (UU RI) No. 5/1992 and included in standard Bina Marga tender documents.
<table>
<thead>
<tr>
<th>Project Description</th>
<th>Type of Environment</th>
<th>Sensitive Environmental Area</th>
<th>Land Acquisition Required for ROW</th>
<th>Relocation/Resettlement Issues Present</th>
<th>Identified Environmental Concerns</th>
<th>Environmental Management and Monitoring Plans Prepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cirebon Bypass</td>
<td>Semi-urban</td>
<td>Residential/commercial areas; cultural and historical resources (near Gua Sunyagari complex which does to early 1700's, sensitive area for archaeological and historic artifacts).</td>
<td>Yes. Estimated 4 ha needs to be acquired to complete 22 m ROW.</td>
<td>Yes. 39 buildings could be affected and 6 families (30 people) displaced by 22 m ROW along bypass.</td>
<td>Social impacts (land acquisition, air quality, cultural resources)</td>
<td>Yes. Revised RKL and RPL reports prepared to update 1993 studies. Resettlement action plan also prepared</td>
</tr>
<tr>
<td>Pematang Bypass</td>
<td>Rural/Semi-urban</td>
<td>Productive agricultural areas; limited residential areas; small school building and health center located near road.</td>
<td>No. Complete 22 m ROW along 6.1 km bypass road and 30 m ROW along 2.6 km section of North Java Transport Corridor (NJTC).</td>
<td>None. Compensation has been paid for 10-15 buildings that remain in ROW.</td>
<td>Land use (air quality, cultural resources)</td>
<td>Yes. UKL and UPL reports prepared based on initial environmental evaluation (K.L, Kajian Lingkungan).</td>
</tr>
<tr>
<td>Weleri Bypass</td>
<td>Rural</td>
<td>Productive agricultural areas; limited residential areas; small school building and health center located near road.</td>
<td>Yes. Estimated 2 ha area for improvement of west intersection with NJTC. 30 m ROW is complete along bypass.</td>
<td>Minor. Portions of 14 buildings may be affected by intersection ROW, but no residents are expected to be displaced.</td>
<td>Social impacts (land acquisition, land use, air quality, noise)</td>
<td>Yes. UKL and UPL reports prepared based on initial environmental evaluation (K.L, Kajian Lingkungan).</td>
</tr>
<tr>
<td>Kaliwungu Bypass</td>
<td>Rural</td>
<td>Productive agricultural lands with limited fishpond areas near Kali Kenceng; east section of alignment may be subject to flooding.</td>
<td>Yes. Estimated 1 ha area for intersection improvements with NJTC. 30 m ROW is complete along bypass.</td>
<td>None. Required ROW areas will not displace any residents.</td>
<td>Land use (air quality, noise, land acquisition)</td>
<td>Yes. UKL and UPL reports prepared based on initial environmental evaluation (K.L, Kajian Lingkungan).</td>
</tr>
<tr>
<td>Sarmang Northern Ring Road</td>
<td>Rural/semi-urban</td>
<td>Poor drainage/flooding and subsidence concerns at west terminus of project.</td>
<td>Yes. Estimated 0.5 ha required along eastern 600 m section of bypass. 30 m ROW is complete along rest of project.</td>
<td>None. Required ROW areas will not displace any residents.</td>
<td>Land use (land acquisition, hydro-technical problems, air quality)</td>
<td>Yes. Revised RKL and RPL reports prepared to update 1993 studies.</td>
</tr>
</tbody>
</table>

Notes: RKL = environmental management plan, Renca Pergioksanan Lingkungan UPL = environmental monitoring action plan, Upaya Keldal Lingkungan.
5 ANALYSIS OF ALTERNATIVES

Alternative analyses provided by the ADB-funded North Java Corridor Transport Study (1992) and the OECF-funded Heavy Loaded Road Improvement Project Study (1993) established the existing NJTC road alignment as the preferred route between Jakarta and Surabaya. Alternative transportation modes are available, namely rail, sea and air. Roads are presently the dominant mode of transport. An alternative strategy to improving the primary arterial road network as proposed by SURIP is the future extension and expansion of the network of toll roads on Java.

Project specific alternatives considered during the evaluation process included the "do-minimum" alternative; new alignment alternatives; improvements to existing traffic diversion routes, and railroad crossing alternatives. The initial year 1 projects involve the widening of existing roads or completion of projects with an established ROW. The "without" project, do-minimum alternative would lead increasing traffic congestion and continued environmental degradation in the urban areas through which existing routes pass. The design considerations of the year 1 projects served to minimize potential impacts by avoiding congested urban and village (kampung) settlement areas. Various other design and construction alternatives were evaluated, including number of travel lanes; cross-section alternatives; road access control; provisions for pedestrians and unmotorized vehicles; intersection configuration alternatives, and staged project implementation.

As a selection criteria, the year 1 projects were in an advanced stage of preparation and project implementation. More extensive alternative analyses are schedule and budgeted under SURIP to evaluate the later year projects, to include feasibility, urban transport and planning studies of proposed projects, supported by aerial photography and updated mapping of these areas.

6 ENVIRONMENTAL IMPACT MANAGEMENT AND MONITORING

6.1 Proposed Year 1 Projects

In accordance with Bina Marga's AMDAL screening process, environmental management and monitoring action plans have been prepared for all year 1 projects. The general requirements and responsibilities stipulated in these project documents are summarized in Tables 3 and 4. Additional environmental reviews are required as final engineering designs are completed and these reviews will be provided in the appraisal documents. Identified mitigation measures include the provision of noise barriers or relocation of sensitive school and health clinic facilities along the Weleri Bypass. The construction costs for these measures will be included as part of the loan package, while required land areas will be requested from the local government.

6.2 Potential Later Year Projects

Preliminary project descriptions and initial environmental reviews of these later year activities will be provided to the World Bank as part of project appraisal documents. Each of these projects will be subject to further studies in accordance with GOI and World Bank requirements, and a budget for these follow-up studies will be included in the loan package. For projects involving significant impacts, detailed environmental assessment (ANDAL) studies will be conducted in accordance with Bina Marga's AMDAL screening process (Annex 1). ANDAL studies are currently being prepared for the Cirebon Bypass flyovers and Kalibanteng Flyover and these projects will only proceed following approval under the GOI review process.
<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Activity Component</th>
<th>Impacted Environmental Component</th>
<th>Impact Concerns</th>
<th>Impact Management Activities</th>
<th>Implementation</th>
<th>Management Responsibility</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Construction Phase</td>
<td>Land acquisition</td>
<td>- Socio-economic and cultural component</td>
<td>- Unemployment of local residents for employment opportunities</td>
<td>- Provision of new settlement areas (houses - easy and acceptable) and relocation assistance</td>
<td>Project Proponent and local government (Land Procurement Team)</td>
<td>Provincial Government</td>
<td>Project Proponent</td>
</tr>
<tr>
<td>Resettlement (if any)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mobilization</td>
<td>- Physical component</td>
<td>- Air quality (decreasing)</td>
<td>- Noise (increasing)</td>
<td>Proper maintenance of contractor vehicles and equipment</td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td></td>
<td>Land clearing and grubbing</td>
<td>- Physical component</td>
<td>- Job opportunities (increasing)</td>
<td>- Air quality (dust increasing)</td>
<td>Prioritize the use of local labor</td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td></td>
<td>Construction bases</td>
<td>- Social component</td>
<td>- Visual impact</td>
<td>- Erosion and drainage problems</td>
<td>Proper planning and supervision</td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td>Construction Phase</td>
<td>Earthwork, including import of fill material and export of spoils</td>
<td>- Physical component</td>
<td>- Local drainage pattern changes</td>
<td>- Traffic congestion</td>
<td>Provide traffic routes and management</td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td></td>
<td>Excavation of borrow pits</td>
<td>- Aesthetic component, terrain of locality</td>
<td>- Visual impact</td>
<td>- Erosion and drainage problems</td>
<td>Renovation, regulated by Kathupatan decree, under mining category C</td>
<td>Contractor or Supplier</td>
<td>District/level II Government</td>
</tr>
<tr>
<td></td>
<td>Spills disposal</td>
<td>- Terrain of locality, drainage</td>
<td>- Visual impact</td>
<td>- Erosion and drainage problems</td>
<td>Renovation, regulated by Kathupatan decree, under mining category C</td>
<td>Contractor</td>
<td>Project/District level II Government</td>
</tr>
<tr>
<td></td>
<td>Pile driving for bridge foundations</td>
<td>- Physical component</td>
<td>- Noise (increasing)</td>
<td>- Vibration (increasing, particularly from pile driving)</td>
<td>Control noise sources and work hours</td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td></td>
<td>Drainage excavations and works</td>
<td>- Physical component</td>
<td>- Local drainage and irrigation (can be blocked or disrupted)</td>
<td>- Use methods that minimize vibrations from pile driving near sensitive structures</td>
<td>Maintain flow capacity of existing drainage and irrigation systems</td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td></td>
<td>Earthworks/ascensions</td>
<td>- Archaeological, historical, cultural sites and artifacts</td>
<td>- Dismantling of historical sites</td>
<td>- Follow RI Act No. 5 of 1992 regarding protection of cultural resources, site monitoring</td>
<td>Follow RI Act No. 5 of 1992</td>
<td>Contractor and Site Engineer</td>
<td>Contractor and Site Engineer</td>
</tr>
<tr>
<td></td>
<td>Landscaping</td>
<td>- Aesthetic component</td>
<td>- Aesthetic and ecological values (increasing)</td>
<td>- Good implementation practices</td>
<td></td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td></td>
<td>Traffic signal installation</td>
<td>- Traffic and social component</td>
<td>- Traffic congestion (increasing)</td>
<td>- Proper installation</td>
<td></td>
<td>Land Transportation Service (DILAIR)</td>
<td>Regional Communications Office</td>
</tr>
<tr>
<td>Post-Construction Phase</td>
<td>Road operation</td>
<td>- Social component</td>
<td>- Community (pedestrian) movement and access (disturbance)</td>
<td>- Provide pedestrian crossings and access</td>
<td>Contractor</td>
<td>Project Proponent</td>
<td>Contractor</td>
</tr>
<tr>
<td></td>
<td>Road maintenance</td>
<td>- Traffic and social component</td>
<td>- Normal road access</td>
<td>- Proper management of maintenance work</td>
<td>Provide diversion routes</td>
<td>Contractor</td>
<td>Project Proponent</td>
</tr>
<tr>
<td>No.</td>
<td>Impact Type</td>
<td>Indicator</td>
<td>Schedule</td>
<td>Location</td>
<td>Monitoring Responsibility</td>
<td>Monitoring Responsibility</td>
<td>Oversight / Feed Back</td>
</tr>
<tr>
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</tr>
<tr>
<td>1</td>
<td>Degraded air quality</td>
<td>Degraded air quality (dust and emissions), local complaints</td>
<td>Every 3 months during construction phase</td>
<td>Within project area and along access roads used by construction trucks</td>
<td>Project Manager</td>
<td>Local Government Level II</td>
<td>Contractor</td>
</tr>
<tr>
<td>2</td>
<td>Noise disturbance</td>
<td>High noise levels (specially at night), local complaints</td>
<td>Every 6 months during construction phase</td>
<td>Within construction sites and project vicinity</td>
<td>Contractor</td>
<td>Local Government Level II</td>
<td>Contractor</td>
</tr>
<tr>
<td>3</td>
<td>Groundwater and drainage disturbance</td>
<td>Noted changes in groundwater (local wells) and flood levels, local complaints</td>
<td>Every 3 months during construction phase</td>
<td>Along project alignment and existing drainage canals</td>
<td>Project Manager</td>
<td>Cipta Kabupaten Service</td>
<td>Contractor</td>
</tr>
<tr>
<td>4</td>
<td>Vibration disturbance</td>
<td>Damage to nearby buildings, local complaints</td>
<td>Every 3 months during construction phase</td>
<td>Near piling or quarry operations, project vicinity</td>
<td>Contractor</td>
<td>Project Manager</td>
<td>Contractor</td>
</tr>
<tr>
<td>5</td>
<td>Community health disturbance</td>
<td>Local health and public safety problems or accidents</td>
<td>Every 3 months during construction phase</td>
<td>Within workcamps, construction sites and project vicinity</td>
<td>Contractor</td>
<td>Project Manager</td>
<td>Contractor</td>
</tr>
<tr>
<td>6</td>
<td>Traffic disruption and congestion</td>
<td>Traffic interruptions, increased travel times</td>
<td>Every 3 months during construction phase</td>
<td>Along project road, access or traffic diversion routes</td>
<td>Land Transportation Service (DLLAIR)</td>
<td>Local Government Level II</td>
<td>DLLAIR and Traffic police</td>
</tr>
<tr>
<td>7</td>
<td>New employment opportunities</td>
<td>Increase in local employment opportunities</td>
<td>Every 3 months during construction phase</td>
<td>Within nearby communities</td>
<td>Contractor</td>
<td>Manpower service</td>
<td>Contractor</td>
</tr>
<tr>
<td>8</td>
<td>Community jealousy</td>
<td>Community complaints, public disturbances</td>
<td>Every 3 months during construction phase</td>
<td>Within nearby communities</td>
<td>Sub District Chief</td>
<td>Local Government Level II</td>
<td>Sub District Chief</td>
</tr>
<tr>
<td>9</td>
<td>Visual and aesthetic</td>
<td>Poor sanitation, waste and erosion controls</td>
<td>Every 3 months during construction phase</td>
<td>Within workcamps, construction sites and project vicinity</td>
<td>Contractor</td>
<td>Local Government Level II</td>
<td>Contractor</td>
</tr>
<tr>
<td>10</td>
<td>Economic and business</td>
<td>Community welfare degree</td>
<td>Every 6 months during construction phase</td>
<td>Within nearby communities</td>
<td>Local Government Level II</td>
<td>Sub District Chief</td>
<td>Local Government Level II</td>
</tr>
<tr>
<td>11</td>
<td>Traffic accidents</td>
<td>Increased accident frequency near project location</td>
<td>Every 6 months during construction phase</td>
<td>Along project road, access or traffic diversion routes</td>
<td>Traffic police, DLLAIR</td>
<td>Bina Marga Service</td>
<td>Traffic police, DLLAIR</td>
</tr>
<tr>
<td>12</td>
<td>Access road damage</td>
<td>Changes in road conditions, damage degree</td>
<td>Every 3 months during construction phase</td>
<td>Along access and traffic diversion routes</td>
<td>Contractor</td>
<td>Bina Marga Service</td>
<td>Contractor</td>
</tr>
<tr>
<td>13</td>
<td>Public utility/services</td>
<td>Service interruptions, disturbance degree</td>
<td>At any time during construction phase</td>
<td>Along project alignment and within nearby communities</td>
<td>Contractor</td>
<td>Project Manager</td>
<td>Contractor</td>
</tr>
<tr>
<td>14</td>
<td>Community movement</td>
<td>Disturbance degree</td>
<td>At any time during construction phase</td>
<td>At pedestrian crossings, access routes along project alignment</td>
<td>Sub District Chief</td>
<td>Local Government Level II</td>
<td>Contractor</td>
</tr>
<tr>
<td>15</td>
<td>Archaeological/historical</td>
<td>Damage/disturb cultural resources</td>
<td>Any time during excavation works</td>
<td>At excavation site</td>
<td>Site Engineer</td>
<td>Provincial Archaeological service</td>
<td>Contractor</td>
</tr>
</tbody>
</table>
6.3 Institutional Responsibilities

As their environmental unit, the BINKOT Section AMDAL will be directly responsible for planning, coordinating and monitoring all required environmental activities for SURIP. These responsibilities will place significant demands on the limited staff and resources of BINKOT Section AMDAL. To support their important project role, institutional strengthening and environmental training activities will be proposed under SURIP's technical assistance component. These training activities will specifically include all on-site project managers (Pinpros).

7 SOCIAL IMPACT MANAGEMENT AND MONITORING

7.1 Proposed Year 1 Projects

The selection criteria of these initial projects specifically included ROW availability and unavoidable social impacts are addressed in the environmental management and monitoring plans prepared for each of these projects. With the noted exception of six families that could be displaced along the Cirebon Bypass, no other resettlement impacts have been identified. As a result, a primary form of impact management for these initial projects is expected to be cash compensation for the estimated 7.5 hectares of additional ROW areas. Preliminary estimates of ROW land and building compensation costs have been prepared for project appraisal. Actual costs will be determined based on mapping surveys, consultations and negotiations to be conducted by concerned local government agencies.

7.2 Potential Later Year Projects

Most ROW areas for later year projects have not been acquired and these ROW requirements may involve more significant social impacts and resettlement issues. Preliminary project descriptions and initial social impact reviews will be provided to the World Bank as part of project appraisal documents. Each of these projects will be subject to further social impact reviews and approvals in accordance with GOI and World Bank requirements. In compliance with World Bank OD 4.30, resettlement action plans would be prepared by BINKOT for any proposed projects where displacement is unavoidable. These plans will detail project requirements and time-bound procedures for land acquisition and resettlement, consultation, property and building surveys, building demolition and restoration, available compensation and resettlement alternatives, and all monitoring and evaluation activities. SURIP funding of these later year projects will be conditional on the Bank's approval of these resettlement action plans, and full documentation of all land acquisition and resettlement activities.

7.3 Land Acquisition and Compensation Procedures

Recent reports, local consultations, and household surveys along the Cirebon Bypass all indicate that cash compensation as opposed to formal resettlement, will generally be the preferred option for land and building acquired for ROW areas. The GOI's land acquisition and compensation procedures to be applied under SURIP are currently governed by Presidential Decree No. 55 of 1993 (Keppres 55/1993)⁷, which stipulate that community consultations ("musyawarah") will be conducted to reach agreement on the form and amount of compensation.

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⁷ The operational directive of Keppres 55/1993 is Regulation of the Minister of State for Agrarian Affairs/Chairman of the National Land Agency No. 1/1994.

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Keppres 55/1993 further stipulates that alternative forms of compensation will be made available and these may take the form of:

- cash compensation;
- land in substitution;
- resettlement;
- a combination of two or more of these forms of compensation, or
- other forms agreed upon by the parties concerned.

All land acquisition requirements of SURIP will be conducted in accordance with the mechanisms provided in the operational directive of Keppres 55/1993. At this preparation stage of the program, these land acquisition and compensation procedures have been informally agreed between BINKOT and the concerned local governments. Formal agreements will be entered into following World Bank funding approval of the SURIP program and the proposed projects.

According to Keppres 55/1993, the monetary value of land compensation will be based on current prices, with consideration of the sales value of tax object (Nilai Jual Obyek Pajak, NJOP). Existing site improvements and buildings are separately valued according to rates established by the provincial offices of the Directorate General of Human Settlements (Dinas Cipta Karya). Grievance procedures for dispute settlement, administrative and legal appeals are provided for under Keppres 55/1993.

Based on draft reports of the Bank's Resident Staff in Indonesia, these current GOI procedures provide a framework for land acquisition that is compatible with World Bank resettlement policies (OD 4.30). The principle objective of these of these policies is to ensure that those displaced by a project should be at least as well off, if not better off, than they would have been without the project.

7.4 Resettlement Principles of the SURIP Program

In line with GOI regulations and World Bank policies, the resettlement principles that will guide the SURIP program are:

- projects will be selected and designed in a manner that will avoid or minimize resettlement;
- compensation for land areas acquired for project ROWs will be valued at replacement costs, with consideration of the sales value of the tax object (NJOP), and local surveys to be conducted during the preparation of each resettlement action plan;
- the compensation value of project affected buildings and site improvements will be calculated at replacement costs according to provisions of the respective resettlement action plan;
- displaced families will be allowed to retain existing building materials and relocation assistance will be provided;
- as needed, resettlement sites will have sufficient infrastructure and public facilities;
- assistance will be provided to support livelihood activities at the new site; and
- consultations will be held with the displaced families prior to resettlement.

These general principles will be defined in accordance with Keppres 55/1993 as loan agreements during project appraisal and further developed in the form of an operational manual during follow-up, project preparation activities.
7.5 Institutional Responsibilities

Institutional implementation and monitoring responsibilities will be clearly defined in the resettlement action plans that will be prepared for SURIP projects involving social displacement. Under World Bank policies (OD 4.30), the responsibility for land acquisition and resettlement rests with the GOI. In accordance with Keppres 55/1993, this responsibility is placed under local government authorities and the currently proposed projects will directly involve 12 different local governments in three provinces. The GOI will accord priority to the allocation of sufficient funds for the purpose of acquiring ROW and any resettlement requirements of the project. For projects that have substantial ROW requirements, Keppres 55/1993 also stipulates that a Land Procurement Team will be formed to facilitate the land acquisition process, and these teams will include representatives from concerned local government agencies; village, municipal and district officials; and the project manager.

Documentation of all land acquisition activities will be provided to the provincial agrarian office, Office of the Governor or Mayor according to project jurisdiction. For monitoring purposes, each project manager (Pinpro) will be required to maintain a complete set of these documents, to include cadastral maps, physical descriptions of house locations and building type, owners’ name, tenure status, and evidence of payment. Summary reports of all land acquisition activities will be provided to the BINKOT Section AMDAL to support their central role in project monitoring. Draft terms of reference for the SURIP general consultant will be presented at project appraisal and will include specific project monitoring and information management responsibilities.

8 LOCAL CONSULTATION AND PARTICIPATION

8.1 Program Preparation Activities

Local consultations have been conducted within the Indonesian political and cultural framework, which typically involves two stages of consultations - preliminary, project development consultations at an inter-agency, local government level; followed by community consultations ("musyawarah") which are conducted by local officials. During the course of program preparation and field surveys, extensive meetings and consultations were held with local officials and government departments to discuss the rationale and current status of each project. These consultations have included city, district and provincial government officials; representatives of concerned planning and public works departments; project managers (Pinpros) of each area; members of local land procurement committees, and officials of related transport sectors (railways, ports, bus terminals). A summary list of project contacts is provided in Annex 2. During these initial assessments and preparation of the AMDAL documents for year 1 projects, informal discussions were also held with residents and businesses located along each alignment. The proposed year 1 projects involve the completion of activities that have been in progress for several years, but the participants and outcome of previous community meetings and consultations were not recorded.

The proposed projects have a high level of local government support and compliment on-going initiatives and transport planning measures to divert heavy vehicle, through traffic outside of congested urban areas. Residents and businesses located along the road alignments are generally aware of the proposed projects from information provided to them by local officials and project managers. Project ROW requirements, compensation values for affected land and building areas, and availability of local budgets to fund ROW costs were the primary environmental issues raised during these program preparation consultations. Based on available reports, such issues are common for road capacity expansion projects along the North Java Transport Corridor. These sensitive issues remain to be resolved and will need to be fully addressed as part of the follow-up activities, project appraisal documents and project-specific resettlement action plans. During the eight month program preparation period covered by this report, no opposition to the proposed projects has been noted or reported other than the identified concern for land compensation based on market values.

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Cirebon Bypass: As a formal means of consulting local residents on resettlement issues, detailed socio-economic/perception surveys were conducted for 131 households along the Cirebon Bypass that could be affected by the project. The number of residents and businesses identified in these surveys contributed to design changes that reduced the proposed ROW width from 38 to 22 meters to minimize the number of residents and businesses that would be displaced.

These survey results indicate that most respondents (82%) have been informed of the project by local officials and nearly all (97%) support it if compensation for their affected properties is based on market value. Cash compensation is the preferred alternative (80%), although 20% of the respondents reported that they would be willing to move if a nearby resettlement area was available. Three possible sites were identified in subsequent discussions with the city government of Cirebon, including commercial areas within the new bus terminal located along the bypass and two other nearby areas for residential and commercial use. These consultations and the alternative options of cash compensation or resettlement are documented in the resettlement action plan prepared for the Cirebon Bypass.

8.2 Follow-up Activities

The Summary Environmental Assessment addresses program preparation activities completed over an eight month period, involving a full time expatriate and Indonesian environmental team. Local consultations are scheduled to continue during subsequent program preparation activities to address project-specific issues of ROW status, land and building valuation, compensation alternatives and availability of local budgets. Follow-up impact studies for future projects are part of the programmatic appraisal procedure agreed to between the Bank and BINKOT and will be included for funding under SURIP.

These follow-up activities will include the preparation of detailed environmental impact assessments (ANDAL studies) and resettlement action plans, which will involve and document more extensive local consultations and participation. Current GOI regulations (PP 51/1993) requires that the public is informed of all project activities that require an ANDAL study and recommends the representation of local communities and non-government organizations on the AMDAL commissions responsible for project reviews. To address unavoidable social impacts, local consultation and participation are an integral part of land acquisition procedures under Keppres 55/1993 and are required under World Bank OD 4.30.
Annex 1

AMDAL SCREENING PROCESS FOR ROAD AND BRIDGE PROJECTS,
Directorate General of Highways (BINA MARGA)

First Phase
(screening of project type and scale)

Is the Project:
1. Development of new
   a. Toll Roads
   b. Fly Overs
   c. Interurban Roads >25 km in length
   d. Urban Roads (metropolitan areas/large cities)
2. Improvements to urban roads in large
cities >5 km in length extending
outside of existing right-of-ways (ROW)

Second Phase
(screening of project area and sensitive environmental issues)

Is the Project:
1. Development of new
   a. Interurban Roads <25 km in length
   b. Local/District Roads
   c. Urban Bridges >20 m in length
   d. Interurban Bridges >60 m in length
2. Urban road improvements <5 km in
length extending outside of existing
right-of-ways (ROW)

Is the Project:
1. Development of new
   a. Urban Bridges <20 m in length
   b. Interurban Bridges <60 m in length
2. Improvements to
   a. Existing urban/interurban roads within
   established right-of-ways (ROW)
   b. Existing local/district roads within or
   extending outside of established
   right-of-ways (ROW)

1. Road improvements that do not involve
   expansion or widening of existing
   roadway
2. Routine/periodic maintenance projects

NOTE:
- AMDAL: Environmental Impact Assessment Process
- AMDAL: Environmental Impact Assessment Statement
- EA: AMDAL Terms of Reference

Initial Environmental Evaluation (Kajian Lingkungan)

AMDL Study Documents
- AMDL, RKL, and RPL
- UPL / LPL
- Exempt from AMDAL
  Requirements

NOTE:
- AMDAL: Environmental Impact Assessment Process
- RKL: Environmental Management Plan
- RPL: Environmental Monitoring Plan
- UPL: Environmental Management Action Plan
- LPL: Environmental Monitoring Action Plan

Strategic Urban Road Infrastructure Project
Summary Environmental Assessment
Environmental Documents Prepared for Proposed Year 1 SURIP Projects
in Bahasa Indonesia during the Program Preparation Activities

2. Revisi RKL & RPL AMDAL (PIL-1993), Pembangunan Peningkatan Jalan Bypass Cirebon, Jawa Barat. (revised environmental management and monitoring plans for the Cirebon Bypass to updated 1993 documents)

Document Descriptions

Kerangka Acuan (KA; ANDAL terms of reference) - a set of project-specific guidelines and criteria which define the scope of studies and analyses that should be undertaken by proponents in their preparation of an ANDAL.

Analisis Dampak Lingkungan (ANDAL; environmental impact assessment) - a detailed impact assessment report. It provides an analyses of the potentially significant environmental effects, both positive and negative, generated by a project, and serves to identify and evaluate possible solutions.

Rencana Pengelolaan Lingkungan (RKL; environmental management procedures) - a specific guide derived from an ANDAL that sets design and operating requirements for mitigating project impacts. The RKL may specify operating procedures, compliance standards, responsibilities and schedules.

Rencana Pemantauan Lingkungan (RPL; environmental monitoring plan) - a specific guide derived from an ANDAL that describes the means for monitoring project compliance with requirements and procedures provided in the RKL as well as with established with environmental standards.

Kajian Lingkungan (KL; initial environmental evaluation) - a preliminary level of environmental studies that describe the existing conditions of an area, and types and magnitude of predicted project impact. The KL further serves as a "decision document" that supports a determination of the project's need for a detailed ANDAL study. For projects that do not require further study, the KL guides the preparation of the related UKL and UPL.

Upaya Kelola Lingkungan (UKL; environmental management action plan) - similar in many respects to a RKL, the UKL is derived from a KL study and a determination that predicted impacts are not significant and can be managed by standard operating procedures. The UKL is operational in scope and serves as a binding instrument for the proponent with regard to environmental management.

Upaya Pemantauan Lingkungan (UPL; environmental monitoring action plan) - similar in many respects to a RPL, the UPL provides the monitoring counterpart to a project's UKL.
### Annex 2 Summary List of Project Contacts

<table>
<thead>
<tr>
<th>Location</th>
<th>Institution/Agency</th>
</tr>
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<tbody>
<tr>
<td><strong>Kotamadya Cirebon</strong></td>
<td>Bappeda level II (Regional Planning Board)</td>
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<tr>
<td>(Cirebon City)</td>
<td>Regional Government Office</td>
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<tr>
<td></td>
<td>Members of Land Procurement Team Ex Karang Ampel and Cikampek-Cirebon TOL Road Projects</td>
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<tr>
<td></td>
<td>Cirebon Arterial Road Upgrading Project</td>
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<td></td>
<td>Gua Sunyaragi Complex (Department Of Education and Culture)</td>
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<tr>
<td></td>
<td>Kotamadya Public Works Service</td>
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<tr>
<td></td>
<td>131 surveyed households and businesses along the Cirebon Bypass</td>
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<td></td>
<td>Railways Station Chief</td>
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<td></td>
<td>Harbour Chief</td>
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<td>Bus Terminal Chief</td>
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<td>Karang Ampel Arterial Road Upgrading Project</td>
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<td>Road Betterment Project</td>
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