

Inter-American Development Bank
Technical Cooperation Program (Trust Funds)

T/C PROFILE

TC-9811896-BR

I. GENERAL INFORMATION:

Name of the T.C. Project	Regional Transportation Planning Information System – Phase I
Name of the Fund	Japan Trust Fund for Consultancy Services (JCF)
Beneficiary Country	Brazil
Executing Office	Finance & Basic Infrastructure 1 (RE1/FI1)
Primary Beneficiary Agency	GEIPOT – Empresa Brasileira de Planejamento de Transportes (Brazilian Transportation Planning Agency)
Secondary Beneficiary Agencies	DNER – Departamento Nacional de Estradas de Rodagem (National Highway Department)
Estimated Total Amount to be Financed	US\$ 850.000
Amount to be financed by trust fund	US\$ 750.000
Amount to be financed by local counterpart	US\$ 100.000
Execution and Disbursement Deadlines	Project Execution: 12 months Disbursement Period: 18 months from the approval of the Plan of Operations

II. OBJECTIVES:

- 2.1 GEIPOT is responsible for supporting the Federal Government in the study and planning of multi-modal transportation solutions. DNER is responsible for the implementation and maintenance of the main federal highways. Both institutions have started utilizing GIS to support some of the activities the institutions are responsible for. GEIPOT is presently developing a number of studies involving socio-environmental vulnerability analysis

utilizing a GIS and recent satellite imagery. DNER is responsible for compiling the digital version of the National Highway grid to support its planning and management activities.

- 2.2 GEIPOT has requested support from the IDB to enhance their present capabilities in the area of geomatics technologies: GIS, remote sensing and GPS. At the same time, GEIPOT is aiming at integrating into one spatial database the spatial data presently available at DNER and also the State Departments of Transportation. This is a major task considering that the State Highway Departments have been developing their GIS solutions independently of each other. By bringing all this information together GEIPOT would be able to consolidate one national transportation spatial database which could then be made available to all interested users, including the Bank for the various transportation projects presently in the pipeline.
- 2.3 Planning depends on the availability of data to be processed into information, and within a specific context transformed into knowledge. GEIPOT depends on data that is available in a number of other institutions around the country. Specifically, the spatial data being compiled by the State Department's of Transportation is central to GEIPOT's needs. The management of these data should continue to be the responsibility of the present institutions but GEIPO needs to have dynamic access to the information of each one of the Departments.
- 2.4 At the same time further consolidation of this important initiative will also contribute to other sectors such as health, education and environment which will benefit from the availability and coordination of spatial data.
- 2.5 The strengthening of the GIS system will contribute to the understanding of the socio-environmental consequences of highway projects and of other infrastructure projects, in which the Bank is presently involved. At the same time, the system will provide the MT and the Bank with additional analytical tools and spatial data to support the study of the inter-oceanic and other integration corridors. The tools and methodologies being developed for other Bank supported projects in Chile, Argentina and Bolivia will be incorporated into this project.

III. DESCRIPTION

- 3.1 The following activities are to be included:
 - a. Development of a 'Discovery and Needs Analysis' including institutional assessment, statement of needs and a conceptual design (focusing on access to spatial data and specific regional transportation planning tools) and a survey of GIS users and providers and available data in the transportation sector;
 - b. Development of guidelines for a National Transportation Spatial Data Infrastructure, including discussion of data structures and responsibilities;
 - c. Design and implementation of a prototype for a distributed GIS-based spatial data clearinghouse for the transportation sector;
 - d. Development of specific applications for socio-environmental vulnerability analysis;
 - e. Implementation of Network Analysis and Dynamic Segmentation capabilities to the present GIS system and an interface to HDM-III (and HDM –IV, when available);
 - f. Implementation of a prototype GPS-based Highway Inventory System;

- g. Incorporation of a GIS-based Decision Support System for supporting the study of the inter-oceanic and other integration corridors. Incorporate the GIS solution for viewing the Strategic Transportation Analysis model (STAN);
 - h. Seminars, training and workshops with participants from GEIPOT and DNER and other government agencies;
 - i. Coordination of this project with other GIS-based projects in Brazil and throughout the region; and
 - j. Hardware and software – 4 PC workstations with GIS software.
- 3.2 It is envisaged that an international firm with expertise in developing GIS solutions for regional transportation and environmental planning, also employing local experts, will carry out the study. The study will cover a period of 12 months. The expertise of the consultants is included in the budget.
- 3.3 A supervisory consultant will also be hired to provide the needed analysis of the reports, evaluate the products delivered, coordinate with local counterparts and support the Bank's staff in the task of integrating this project with other GIS-related projects in the Region.
- 3.4 In the execution of this Technical Cooperation GEIPOT will provide logistic support and arrange for the cooperation of the other institutions involved. GEIPOT will also be involved in the review of the proposals and the selection of the consulting firm.

IV. JUSTIFICATION

- 4.1 The Bank has supported several GIS initiatives in the region, promoting the strengthening of the planning activities by introducing GIS technologies and seeking to strengthen the capabilities of each country's Transport Ministry and highway department. In Bolivia during 1996 a GIS survey and seminars (with transport applications included) were carried out. General GIS surveys and seminars were carried out during 1995 and 1996 in Argentina and some agricultural applications were developed. Presently, the Bank is supporting 3 GIS projects in Bolivia, Chile and Argentina with the aim of strengthening the area of regional transportation planning (focusing on the integration and inter-oceanic corridors) and infrastructure management (focusing on highway management).
- 4.2 All data and models identified during the development of the study will be incorporated into a GIS-based planning tool. GIS-based planning and decision tools being developed for other Bank supported GIS projects will also be incorporated into this system and made available to the various beneficiaries.
- 4.3 This program could have a decisive impact on structuring and supporting a planning process, which will optimize the actions, needed to plan and manage existing and future transportation infrastructure. In particular support will be provided to the preparation and execution of the Sao Paulo beltway project (BR-0280), the Highway Program for the State of Sao Paulo (BR-0295) and the Modernization of the Florianopolis-Osorio Highway - Mercosur Integration II (BR-0254). The benefits of this program would provide important and essential steps toward consolidating the role of Brazil as a leader in transportation planning in the MERCOSUR region.

- 4.4 All spatial data compiled will be made available and distributed on a Data CD to interested government and non-government organizations, together with a free GIS software such as ArcExplorer™, which will allow users to view and analyze the data.

V. BUDGET

- 5.1 The total cost of the project will be the equivalent of US\$ 850,000, of which the Bank will provide non-reimbursable financing of up to US\$ 750,000 from the Japan Trust Fund for Consultancy Services, in accordance with the attached estimated budget summary.
- 5.2 The Bank's contribution will be used to finance a total of 47 person/months of consulting services and 4 person/months of general support, including computer equipment and digital data.

VI. RESPONSIBILITY IN THE BANK

- 6.1 The Finance and Basic Infrastructure Division (RE1/FI1) has the responsibility for the Project. The officer with direct Technical Responsibility and Responsibility for Disbursements is Henry Green (RE1/FI1) - telephone (202) 623-1989, e-mail "henryg@iadb.org").