

DEVELOPMENT OF A SUSTAINABLE PUBLIC TRANSPORTATION SYSTEM IN AREQUIPA

(TC-00-12-008)

EXECUTIVE SUMMARY

Beneficiary:	Municipal Government of Arequipa (MGA)		
Executing agency:	Municipal Government of Arequipa		
Amount and Source:	IDB: Japanese Trust Fund for Consultancy Services (JCF)	US\$	1,000,000
	Cofinancing:		
	Local:	US\$	200,000
	Total:	US\$	1,200,000
Financial Terms	Execution Period:	12 months	
And Conditions:	Disbursement Period:	18 months	
Objectives:	The objective of this technical cooperation (TC) is to facilitate improvement in the urban transportation system in Arequipa through the development of an urban transportation project for the short-term (3 years) with special focus on public transportation. This project will be formulated within the context of the organization of a comprehensive medium-term (10 years) master plan for urban transportation, which will be used as a core input to the area’s next urban development plan. This TC will assist the MGA in taking a more active role in planning, operating, regulating, maintaining and expanding its urban transportation system.		
Description:	The technical cooperation will be divided into four Task Groups: <ul style="list-style-type: none">• Inventory of the urban transportation system;• Identification and evaluation of alternative initiatives for inclusion as components of the urban transportation project, which will entail the construction of a computer-based transportation-planning model;• Development of the urban transportation project, with the full preparation of its first phase (year 1), which will include a new framework for the regulation of public transportation services; and		

- Development of an implementation program for the urban transportation project, addressing technical, institutional, financial and legal aspects necessary for its proper execution.

**Environmental/
Social review:**

In general the implementation of the products of this TC will be positive with regard to environmental and social impacts. Their implementation will result in a more efficient and effective system of urban transportation. This improved system will provide greater accessibility; reduce environmental degradation, including air pollution (decrease associated health problems); enhance safety (decrease frequency and severity of accidents), and be more economically and financially sustainable.

The present TC has been reviewed by the TRG of the Committee on Environmental and Social Impact (CESI) on July 13, 2001. No comments were made and no further action was deemed necessary.

**Benefits and
beneficiaries:**

Since this TC will focus on the development of initiatives to improve public transportation, the implementation of its products will benefit poorer segments of the population most, increasing their access to job markets and social services.

Risks:

Any modernization activity is likely to result in opposition from those who fear change in the status quo, most notably those private sector operators that presently provide public transportation services under little regulatory oversight. The TC will minimize this risk by actively including the private operators, as well as other key stakeholders, in the dialogue about the design of the urban transportation system. In addition, mitigation of impacts of pertinent improvement initiatives on present public transportation operators will form a key part of the implementation program.

Restructuring the present transportation system presumes that present trends to decentralize governmental functions in Peru, particularly in urban transportation regulation, will continue. The TC will mitigate the risk that decentralization efforts lag by preparing a group of urban transportation improvement initiatives which balances initiatives that can be implemented by the MGA without changes to present national law with initiatives requiring changes which can realistically be achieved (as determined through the legal feasibility analysis performed as part of the alternative evaluation process).

**Bank's country
and sector
strategy:**

The strategy of the Bank in the transportation sector in Peru is to support publicly-financed improvement in infrastructure with focus on that infrastructure most socially-oriented, while facilitating the creation of modalities allowing private investment in infrastructure or operations which can be made financially viable. This TC aims to improve the framework for regulation of public transportation services, thus facilitating larger and more sustainable investment by private operators in newer and improved buses.

Recent Bank efforts in the urban transportation sector have made improving traffic safety and the circulation of nonmotorized transportation high priorities, given the large social and economic effects of the chronic neglect of these issues. These two initiatives will form critical components of the urban transportation project for urban transportation developed by this TC.

Consistent with the Bank's effort to alleviate poverty, the activities of this TC will focus heavily on improvement of the public transportation services, that facet of the urban transportation system most affecting poorer segments of the population. Better services result in improved access to labor markets and social services.

**Special
contractual
conditions:**

Japanese Trust Fund for Consultancy Service must be awarded to a Japanese firm and 50 percent of contract resources must go to a Japanese firm.

**Exceptions to
Bank policy:**

None.

Procurement

The Bank's procurement procedures will be used in the acquisition of goods and in the hiring of the consultancy services required for the execution of this TC.

I. FRAME OF REFERENCE

A. General

- 1.1 Arequipa the second largest city in Peru, and is located 7,550 feet above sea level in the Chile River Valley of Southern Peru. The Municipal Government of Arequipa (MGA) is both a municipal and provincial government. During the Incan Empire, the city was a major hub in the Empire's communications and transportation system. In more recent years, municipality has become the political, economic, cultural and transportation center for the southern part of the country, and hence a focal point for development in the country.
- 1.2 The population of the metropolitan area of Arequipa, which has grown approximately 5-8% per annum for the last 10 years, was estimated at 754,000 in 2000. The urban area of Arequipa is characterized by radial development closely adhering to the city's main access roadways, separated by agricultural land. In recent years, it has expanded rapidly and in a disorganized fashion as the result of rural-urban migration. The MGA has initiated activities to update its 14-year-old urban development plan for its metropolitan area to reflect current priorities, including those in the transportation sector. In addition, a master-plan is being elaborated for development of the historical center of Arequipa.
- 1.3 During last ten years, local governments in Peru have witnessed a systematic reduction in their responsibilities and income base. The new GOP promises to reverse this trend, both promoting decentralization of responsibilities to local governments and increasing their consistent access to the funds necessary to execute these responsibilities. A national commission for decentralization has been created, which is headed by the mayor of Arequipa.
- 1.4 Typical of local governments in Peru, nearly 40% of MGA's yearly income (approximately US\$30 million) is received from the national level (transfers/donations and municipal compensation fund), 30% from municipal taxes, and 30% from municipal service fees. Their debt-carrying capacity is unknown; however, there are strong indications it could improve as the municipal income base broadens due to an increase in transfers from the national government, through the municipal compensation fund (which has been promised by new national authorities), and modernization of their revenue collection system, which is very ineffective (they are currently investigating the solution of creating a decentralized municipal company).

B. Public Transportation

- 1.5 Public transportation in Peru has been deregulated since the passage of a 1992 law by the national Government of Peru (GOP). This law, modeled on the approach used in Chile during the previous decade, prevents the regulation of fares and eliminates most restrictions on the number of operators and type of vehicles. The

Chileans have since abandoned this model for active governmental regulation. This lack of active economic or technical regulation has resulted in:

- a. A tremendous increase in the number of public transportation vehicles circulating in Arequipa, reaching levels far above those of comparable cities in Latin America (Currently the city has 9 "circuits" on which operate some 4,417 vans, sedans, and buses--representing 5% of the city's total amount of vehicles.;
- b. A public transportation fleet, with an average age of 18.5 years (The GOP has been unable to enforce vehicle age restrictions), roughly equal to that of comparable Latin American cities; however, this average age is very high relative to that of cities in developed countries;
- c. High levels of road congestion, especially in the center city;
- d. Poor levels of service for users, significantly affecting the quality of their lives (Despite the fact that supply exceeds demand in general, due to the lack of an effective route structure, some areas of the city remain under-served, especially those in the city's periphery);
- e. Worsening air and noise pollution (Air pollution and acid rain are growing problems in the municipality due to its high altitude and topography);
- f. Rates of serious traffic accidents, especially those involving pedestrians (4,000 accidents, 140 deaths and 1,800 injuries were reported in 1999) among the worst in Latinamerica.

TABLE 1: COMPARISON OF AREQUIPA TO OTHER URBAN TRANSPORTATION SYSTEMS						
	Arequipa (city)	Panama, PN (city)	Managua, NI (city)	Mexico (country)	USA (country)	Santiago, CH (city)
Accident Rate (Fatalities per year / 10,000 regustered vehicles)	17.5	-	-	25	1.1	-
Average Age of Public Transportation Fleet (yr.)	18.5	17.5	20	-	5	9
Number of Public Transportation Vehicles (minus taxis)	4,400	1,400	1,100	-	-	-
Population	760,000	1.1 million	1.2 million	-	-	-

C. Road Infrastructure

- 1.6 The city's road network is under-dimensioned and badly developed relative to the scale and nature of the demand it must service. It is configured in a radial manner, requiring suburb-to-suburb and interurban traffic to pass through the tight streets of the city center, where it conflicts with local traffic.
- 1.7 It has suffered from chronically low levels of maintenance and investment. While the MGA is legally responsible for regulating the use of, maintaining and expanding its road infrastructure (with the exception of national highways), it does not directly receive any sector revenues. Sizable investments are only possible through transfers from the GOP, which are made in a discretionary, infrequent manner.

D. Local Government Perspective and Initiatives

- 1.8 In recognition of the problems posed to Arequipa's viability and livability by the deficiencies in its urban transportation system, the MGA has made improving it, especially in the central city, a top priority. They are focusing on public transportation as that mode whose on-going success can best ensure the sustainability of the system as a whole. They have been actively pushing improvements in the sector, despite presently binding legal and financial barriers.
- 1.9 In an effort to protect the historic city center, which was designated in 2000 an United Nations Educational, Scientific and Cultural Organization (UNESCO) Cultural Heritage Site, for reasons among which is its unique white volcanic sillar rock (from which the city's nickname "white city" comes), the MGA has banned public transportation from entering this area. In addition, a municipal law has been passed allowing municipal authorities to take action to address air pollution, including that from vehicles. An inspection and maintenance program for all vehicles (both public and private) registered in the province of Arequipa is being phased in.
- 1.10 Future plans are to also restrict private vehicle access to part of the city center, a policy viable only if alternate, by-pass, routes are developed through changes in the use of existing streets (circulation, parking, etc.), increase in the supply of off-street parking; expansion of key roadways and intersections and possibly new construction.
- 1.11 Although the MGA has targeted public transportation within its urban transportation sector improvement initiative, it is presently incapable of fully acting. In practice, the MGA is actively participating in regulation of public transportation, yet only in a limited fashion, mainly consisting of modifying bus routes through negotiation with operators.
- 1.12 An exemption can be granted by the National Congress (and already has been in the case of Lima) to the 1992 deregulation legislation, allowing a municipal government to impose a stronger regulatory framework on privately operated

public transportation services on a geographic basis, specifically on road segments declared “saturated” due to extreme congestion. However, in order to successfully request the National Congress for such a waiver, the MGA would need to first justify the seriousness of the problems with the city’s public transportation and then prove its capacity to solve them. The proposed Technical Cooperation (TC) will support the MGA in this pursuit.

- 1.13 This stronger regulatory framework, while allowing the MGA to carry out changes necessary in the short to medium term; would still be insufficient relative to the MGA’s ultimate goal of completely modernizing public transportation services. They would still lack the power to regulate vehicle age, fares and restrict entry into the operating market, all tasks that should be eventually carried out.

E. Bank Strategy

- 1.14 The strategy of the Bank in the transportation sector in Peru, is to support publicly-financed improvement in infrastructure with focus on that infrastructure most socially-oriented, while facilitating the creation of modalities allowing private investment in infrastructure or operations which can be made financially viable. This TC aims to improve the framework for regulation of public transportation services, thus facilitating larger and more sustainable investment by private operators in newer and improved buses.
- 1.15 Recent Bank efforts in the urban transportation sector have made improving traffic safety and the circulation of nonmotorized transportation high priorities, given the large social and economic effects of the chronic neglect of these issues. These two issues will form critical components of the urban transportation project to be developed by this TC.
- 1.16 Consistent with the Bank’s effort to alleviate poverty, the activities of this TC will focus heavily on improvement of the public transportation services, that facet of the urban transportation system most affecting poorer segments of the population. Better services result in improved access to labor markets and social services.
- 1.17 This TC will develop an urban transportation project for the short-term (3 years), fully preparing the components of its first stage (year 1). The debt-carrying capacity of the MGA will be determined and possibly improved through the activities of this TC. This TC is designed to be replicated in other secondary cities in Peru, thus preparing urban transportation projects with these municipalities as well. This replication will be supported by an urban transportation center created at an Arequipa University through the activities of this TC.

II. THE PROGRAM

A. Objective

- 2.1 The objective of this TC is to facilitate the improvement of the transportation system in Arequipa through the development of an urban transportation project for the short-term (3 years) with special focus on public transportation. Other areas of important attention include maintenance of road infrastructure, traffic operations and nonmotorized transportation facilities. This project will be formulated within the context of the organization of a comprehensive medium-term (10 years) master plan for urban transportation, which will be used as a core input to the area's next urban development plan.
- 2.2 The TC will include the definition of those actions necessary to properly construct the institutional, legal and financial structure with which to implement the components of the urban transportation project, and the execution of those actions necessary for the implementation of those components associated with its first stage (1 year).

B. Activities

1. Inventory

- 2.3 *An inventory of the existing urban transportation system, with emphasis on those components of the urban transportation system that effect public transportation.* This involves the performance of a diagnostic, whose scope is to be the city's central, downtown area and its major radial corridors, focusing on those aspects of this "priority" system that are judged to be the most problematic.
- 2.4 The inventory is to include: elements of the supply of transportation; elements of the demand for transportation; level of service characteristics; including environmental and social concerns such as air pollution characteristics, highway safety (collection of accident data, identification of hazardous locations), urban development; and applicable elements of the legal, institutional and financial framework. Projections in demand characteristics will be made based not only on continuation of past trends with respect to land use, but also a general vision developed for future physical settlement patterns.

2. Alternative identification and evaluation

- 2.5 *Identification and evaluation of alternative initiatives for inclusion in urban transportation project.* Evaluation will be performed based on quantitative and qualitative criteria including: institutional, legal, administrative, and financial feasibility; costs; direct user benefits; and environmental and urban development impacts. Alternative initiatives will focus on solution of problems associated with the "priority" urban transportation system.

- 2.6 Urban development impacts will be determined within the context of an urban development strategy exercise, to be facilitated by the consultant (local urban planners should form part of this work group). In this exercise a general vision will be developed for physical settlement patterns, to include identification of future density poles. As part of the culmination of this exercise, an explicit mechanism for coordination between the municipality's development plans and its transport plan will be developed and formalized by the MGA with help from the consultant, subject to the Bank's approval.
- 2.7 It will be necessary to develop an analytical tool (urban transportation planning model with a GIS platform) to be used in the quantitative evaluation of alternative initiatives. The municipal counterpart group is to be trained in an operation and updating of this model to such a point such that they may perform these functions independently.

3. Urban transportation project

- 2.8 *Development of an urban transportation project for the short-term (3 years), within the context of the organization of the comprehensive medium-term (10 years) master plan for urban transportation, which will be used as a core input to the area's next urban development plan.* Those components related to its first stage (year 1) will be fully prepared. Depending on the results of the evaluation process, recommendations could be given regarding:
- a. Public transportation: route, stop and terminal location, dedicated or preferential roadways/lanes, possible implementation of alternative fuel vehicles (AFV);
 - b. Traffic operations: circulation and parking management plan for the central area, traffic signal plan for main corridors;
 - c. Non-motorized transportation: infrastructure projects associated with pedestrian and bicycle facilities;
 - d. Highway safety: identification and solution of major hazardous locations, drafting of standards (based on Bank guidelines) for all traffic control and road infrastructure projects, facilitating the establishment of a local council for highway safety, and conceptual designs of an accident reporting system and educational campaigns;
 - e. Road maintenance: design for integrated system of administration of maintenance activities (which will then be contracted out);
 - f. Road infrastructure: projects for expansion new construction, rehabilitation, geometric changes;
- 2.9 The MGA, with help from the consultant, will design a thorough process for public participation in the selection of components for urban transportation project (to include public transportation users and operators).

- 2.10 All infrastructure projects associated with the first stage of the urban transportation project (year 1) will be fully developed, to include conceptual designs, environmental impact analysis, cost estimates and timetables.

4. Implementation program

- 2.11 *A detailed strategy through which to best implement the urban transportation project.* This strategy will address issues with respect to the transition between the existing state of the urban transportation system and the desired goal through the definition of those actions necessary to construct the technical, institutional, legal and financial structure with which to properly execute the components of the project, and the execution of those actions necessary for the implementation of those components associated with its first stage (1 year), including:
- a. Legal regime: public transportation concession contract and applicable national and municipal laws and regulations.
 - b. Institutional framework: strengthening or creation of governmental and private entities.
 - c. Financial mechanisms: tariff structure for public transportation services, consistent funding for municipal administration of transportation (public transportation regulation, road maintenance, traffic operations, projects planning and programming).
 - d. Technical Capacity: development of an urban transport management system, including: technical regulations, norms and procedures for its implementation, considering engineering, environmental and social aspects.
 - e. Public participation: design of a thorough process through which to effectively involve key stakeholders in further elaboration and implementation activities.
- 2.12 A diagnostic will be performed of the MGA's financial situation, with emphasis on evaluating its debt carrying capacity and identifying, at a general level, actions the MGA may need to take to improve it.
- 2.13 The implementation program is to address the proper training of the counterpart group, which will be comprised of municipal employees of the DUT, and officials from a newly formed urban transportation center at a local university. Training the counterpart group will be accomplished through their direct inclusion in the execution of the tasks of this TC, as well as through the implementation of a series of workshops targeted towards their special needs.
- 2.14 The counterpart group will be trained to implement the components of the urban transportation project, as well as evaluate their environmental and social impacts (DUT employees and university officials), and establish mechanisms through which to train municipal employees and university students in critical urban

transportation issues (university officials). This urban transportation center will also be strengthened in order that it may facilitate the execution of similar work in other secondary cities in Peru, towards the development of urban transportation projects. The organizational design of the urban transportation center, as well as the definition of its role, will be accomplished as part of the work of this TC.

- 2.15 The implementation program will also identify impacts of the modernization of public transportation services on existing private operators, developing actions through which to mitigate these impacts, such as training towards the formation of viable business entities, and mechanisms through which to compensate/retrain operators that will no longer form part of modernized services.

C. Cost

- 2.16 The total cost of this project will be US\$1,000,000. The technical cooperation has been approved by the Japanese Trust Fund for Consultancy Services for this amount. The local match is approximately \$200,000 and is in the form of counterpart time and in-kind services (office space, local transportation) provided by the MGA. A budget summary is presented below in Table 2.

TABLE 2: BUDGET SUMMARY			
ACTIVITY	ESTIMATED COSTS	JCF COMPONENT	LOCAL COMPONENT
Task Group I and II (Transportation System Inventory, Identification and Evaluation of Alternative Initiatives)			
Labor (450 days @ 500/day)	225,000	225,000	
Overhead (100% on labor only)	225,000	225,000	
Per Diem (400 days @ 100/day--Assumes some labor at home offices)	40,000	40,000	
Travel (10 trips @ 2,500/trip)	25,000	25,000	
Equipment & supplies, & printing	35,000	35,000	
Contingency	35,000	35,000	
Subtotal: Inventory and Alternative Iden./Eval.	585,000	585,000	
Task Group III and IV (Comprehensive Urban Transportation plan, Implementation Program)			
Labor (410 days @ 400/day)	164,000	164,000	
Overhead (100% on labor only)	164,000	164,000	
Per Diem (370 days @ 100/day--Assumes some labor at home offices)	37,000	37,000	
Travel (20 trips @ 1,000 trips)	20,000	20,000	
Equipment, supplies, & printing	15,000	15,000	
Contingency	15,000	15,000	
Subtotal: Urban Transportation Plan and Implementation Program	415,000	415,000	
Local logistical, support services and Counterpart Time (In Kind)	200,000		200,000
TOTAL	1,200,000	1,000,000	200,000

III. PROGRAM EXECUTION

A. Executing unit

- 3.1 The executing agency of this TC will be the MGA. The Division of Urban Transportation (DUT) of the MGA will act as the direct counterpart for the activities of this TC. In addition, a special purpose committee will be formed, comprised of the directors of all other relevant municipal divisions (historic center, environmental, public works), to facilitate coordination with these divisions

B. Program execution and administration

1. Contracting of consultant and disbursement administration

- 3.2 Procurement will be done in accordance with the requirements of the JCF, which calls for a competitive bidding process among consortia led by Japanese firms. Under the guidance of the Finance and Basic Infrastructure Division of Regional Operations Department 3 (RE3/FI3) the Bank will advertise an Expressions of Interest (EOI), in cooperation with the Japan Funds team. A short list of Japanese firms will then be prepared and a Request for Proposals (RFP) will be sent to those firms. The MGA will subsequently select the winning consulting firm, jointly with the Bank Project Team and then the Bank will contract this firm. A contract will be given in an amount no greater than US\$ 1,000,000.
- 3.3 Disbursement of funds will be administered by RE3, with FI3 providing technical coordination for this administration. The disbursement of each installment will be subject to approval of the corresponding consultant report by both the MGA and Bank Project Team.

2. Reporting and supervision

- 3.4 The Bank Project Team will supervise the work of the consultant, a task to be coordinated with the MGA. This supervision will be centered on a mid-term evaluation of the consultancy, to be performed following the completion of Task Groups I and II (month 5), and a final evaluation, following the completion of the final report.
- 3.5 The consultant is to directly involve the municipal counterpart group in the performance of all the tasks of this TC. This group will be comprised of municipal employees of the DUT, those to be responsible for the implementation of the urban transportation project, and officials from a newly formed urban transportation center at a local university, who will, in addition to aiding the execution of the project, be responsible for the ongoing training of municipal employees and teaching of university students in area of urban transportation. The urban transportation center will also serve to facilitate the execution of

similar work in other secondary cities in Peru, towards the development of urban transportation projects.

- 3.6 The local university will formalize its commitment to aid in project execution through signing a general agreement with the MGA before the onset of the TC and subsequently signing a detailed, quantitative agreement as a pre-requisite for the beginning of Task Group III. This will be verified during the mid-term evaluation of the consultancy.
- 3.7 Given the importance of the urban transportation master plan (10 years) to be developed as a core input to the area's next urban development plan, urban planners involved with the concurrent elaboration of the development plans for both the metropolitan area and historical center of Arequipa are to form part of the municipal counterpart group.

3. Duration and schedule

- 3.8 The expected duration of this project is 12 months for execution. It is envisioned that the consultant will complete Task Group I (Inventory of the Transportation) by month 3, Task Group II (Identification and Evaluation of Alternative Initiatives) by month 5, and Task Group III (Urban Transportation Project) by month 8. The final report, to be written after the completion of Task Group IV (Implementation Program), will be delivered around the tenth month and the consultant will respond to MGA and Bank comments by the end of the first year. The period for disbursement will be 18 months.

IV. ENVIRONMENTAL AND SOCIAL CONSIDERATIONS

- 4.1 In general the implementation of the results this TC will be positive with regard to environmental and social impacts. The ultimate aim of this TC, is to support the MGA in its effort to create an effective, efficient, and environmentally-, institutionally- and financially-sustainable urban transportation system for Arequipa. The fostering of such a system will have far reaching benefits for all of the city's population.
- 4.2 An efficient urban transportation system minimizes congestion, air pollution, energy use, and promotes economic growth. Arequipa's public transportation system is presently characterized by an excessively large number of vehicles, many of which are more than 20 years old. Improvements implemented as a consequence of this technical cooperation will result in more efficient and effective public transportation services. New concession contracts will include standards for emissions and possibly criteria for "green accounting" on behalf of operators, as a potential means for improving awareness of the environmental consequences of their activities. The average age of the vehicle fleet will drop significantly, the number of vehicles will decrease as route redundancies are

eliminated. The expected outcome will include substantially lower air pollution from the transportation sector, greater transportation safety, and greater accessibility.

- 4.3 The activities of this TC include evaluation of the environmental and social impacts of each initiative proposed for inclusion in the urban transportation project, with a more detailed analysis to be performed of those initiatives to be implemented in the short term. In addition, the environmental evaluation and oversight capacity of the MGA will be strengthened through training activities.

V. RISKS

- 5.1 Restructuring the present transportation system presumes that present trends to decentralize governmental functions in Peru, particularly in urban transportation regulation, will continue. Since 1992 the regulation of public transportation fares is prohibited and local governments may only restrict operations on those streets or highways in which a compelling public interest can be shown (e.g. excessive congestion). In order for the city of Arequipa to properly regulate public transportation services within its borders, this law must be either be amended or the city must obtain a special exemption.
- 5.2 Should progress on amending the 1992 law be delayed, a precedent for a special exemption already exists, as the capital Lima already has gained authority in the area of public transportation. All indications are that the new national government will strongly emphasize decentralization, which should lead to some clear resolution of this issue within the short-term. However, given the uncertainty with respect to the timing of this decentralization resolution, the TC will prepare a balanced group of urban transportation improvement initiatives. This group will balance initiatives that can be implemented by the MGA without changes to present national law with initiatives requiring changes which can realistically be achieved (as determined through the legal feasibility analysis performed as part of the alternative evaluation process).
- 5.3 Without any further changes to National Legislation the MGA has significant regulatory power, such as the ability to define the structure of bus routes. However, it will be unable to directly regulate vehicle age, fares and restrict entry into the operating market - -important means to improve services.
- 5.4 Improvement and rationalization of the public transport sector will likely involve changes such as reducing the size of the bus fleet, requiring investment in newer vehicles, and a new higher fare structure. Attempts to implement these changes could create tensions among the various stakeholders, including the MGA, the public transportation operators and the public transportation passengers. The MGA is aware of the problems associated with modernizing public transportation systems and intends to conduct an ongoing program of stakeholder meetings and

involvement as it moves forward in the planning process so as to minimize this risk.

- 5.5 This TC is designed to strengthen this program by actively including the private operators, as well as other key stakeholders, in the dialogue about the design of the urban transportation system. In addition, a mitigation program targeting the effect of pertinent improvement initiatives on present public transportation operators will form part of the implementation program.

VI. RECOMMENDATION

- 6.1 The Finance and Basic Infrastructure Division of Regional Operations Department 3 recommends approval of and the use of resources of the Japanese Trust Fund for Consultancy Services up to a total amount of US\$1,000,000 to finance the activities summarized in this Plan of Operations.

VII. CERTIFICATION

- 7.1 I certify that resources from the Japanese Trust Fund for Consultancy Services are available up to US\$1,000,000 in order to finance the activities described and budgeted in this Plan of Operations



Takeo Shinde, RE2/FSS

Date

OCT - 1 2001

LOGICAL FRAMEWORK

NARRATIVE SUMMARY	VERIFIABLE INDICATORS BY PROGRAM COMPLETION	MEANS OF VERIFICATION	ASSUMPTIONS
<p>Objective:</p> <p>Equitable, efficient, effective and sustainable system of urban transportation for Arequipa managed by the municipality, facilitating the economic efficiency and quality of life in the city.</p>	<p>Good levels of accessibility (at reasonable cost, with high quality of service) offered to all segments of population, with emphasis on persons of low income.</p> <p>Adequate and consistent levels of municipal financial and human resources for urban transportation system maintenance and operation (public transport regulation, traffic management).</p> <p>Focus of municipal sector investment activities on infrastructure supporting public transportation and non-motorized transportation.</p>	<p>Annual field data collection (travel time measurements, public transportation service quality surveys).</p> <p>Annual municipal budget (actual and projections).</p> <p>Annual municipal investment plan (actual and projections)</p>	<p>Continuance of municipal focus on this vision of urban transportation system.</p> <p>Ongoing national government support for decentralization of control over urban transportation (both responsibilities and appropriate resources).</p>
<p>Specific Objective:</p> <p>Municipal possession of a short-term (3-5 years) coherent package of initiatives with focus on promotion of urban public transportation, traffic operations, non-motorized transportation and highway maintenance <Urban Transportation Project (UTP)>.</p> <p>Technical preparation (complete technical designs, execution of legal, institutional and financial framework) of its first stage (1-year)</p>	<p>Technical preparation of components of UTP (may include circulation plan, parking management plan, public transportation operation plan, and feasibility studies for pedestrian and bicycle facilities).</p> <p>Complete technical preparation of with respect to infrastructure works of first stage (final designs, cost estimates and implementation schedule).</p> <p>Implementation of UTP is part of municipality's short-term priorities (municipal decision-makers understand and share underlying vision for urban transportation).</p>	<p>Independent review of technical elements.</p> <p>Independent review of technical elements.</p> <p>Municipal budget and investment plan (actual and projections).</p>	<p>Implementation of UTP through proper and timely execution of IDB loan to finance infrastructure and technical assistance components of UTP, and facilitate next steps in strengthening of municipal capacity to properly implement UTP and manage the urban transportation system.</p>

NARRATIVE SUMMARY	VERIFIABLE INDICATORS BY PROGRAM COMPLETION	MEANS OF VERIFICATION	ASSUMPTIONS
	Pertinent municipal agencies are technically, legally and financially capable of implementing first stage of UTP.	Legal, institutional and financial actions by Municipal or National Government necessary to implement first stage (1-year).	
<p><u>Outputs (Project Components):</u></p> <p>Inventory of urban transportation em.</p> <p>Identification and evaluation of urban transportation initiatives for inclusion in P.</p> <p>Development of UTP, with final variation of its first stage (1-year).</p> <p>Design of implementation program for P, addressing development of necessary institutional, legal and financial structure.</p>	<p>Collection of data necessary to identify problems and design solutions.</p> <p>Practical and feasible urban transportation initiatives consistent with vision.</p> <p>Municipal influence over urban transportation initiatives developed in UTP.</p> <p>Municipal influence over content of implementation program (legal, institutional and financial changes anticipated as part of UTP implementation).</p> <p>Proper training of municipal counterpart group.</p>	<p>Independent technical approval of this stage of work.</p> <p>Independent technical approval of this stage of work.</p> <p>Report from municipal counterpart group and decision-makers after this stage of work (approval of UTP).</p> <p>Awareness of municipal decision-makers of ramifications of initiatives being developed (formal endorsement of implementation program).</p> <p>Full participation of qualified municipal counterpart group in each activity Evaluation report of topic-specific training workshops.</p> <p>Ability of municipal counterpart group to independently perform key activities (update analytical models, etc.)</p> <p>Ability of municipal counterpart group to develop teaching programs based on topic-specific training workshops.</p>	<p>Municipality able to retain qualified personnel of counterpart group, expanding upon it to form institutional structure necessary to implement first stage of UTP.</p> <p>Continuing municipal agreement v and ownership over UTP and its implementation program.</p> <p>Pertinent national Government support of Municipality.</p>

<p><u>Activities</u></p> <p>Inventory of urban transportation system.</p> <p>Fieldwork/data collection regarding elements of supply.</p> <p>Fieldwork/data collection regarding elements of demand.</p> <p>Fieldwork/data collection regarding elements of level of service.</p> <p>Research regarding elements of institutional, legal and financial framework.</p> <p>Identification and evaluation of urban transportation initiatives for inclusion in UTP.</p> <p>Development of medium-term (10-year) master plan for urban transportation.</p> <p>Identification of diverse range of initiatives.</p> <p>Approval of qualitative and quantitative basis for evaluation.</p> <p>Performance of sensitivity analysis on evaluation results.</p> <p>Development of UTP, with full operation of its first stage (1-year).</p> <p>Elements: Public transportation operation plan, traffic operations (signaling, circulation and parking) plan identification of infrastructure works associated with roadways, pedestrian and bicycle facilities.</p> <p>Design of implementation program.</p> <p>Definition of those actions necessary for institutional, legal and financial structure with which to</p>	<p>Completed terms of reference</p> <p>Field work and research reports by month 3.</p> <p>Approval of evaluation methodology by month 4.</p> <p>Development of UTP by month 8.</p> <p>Design of implementation program by month 10.</p>	<p>Monthly progress reports.</p> <p>Mid-term and final evaluation.</p>	<p>Consultants are available and qualified to work in each specific area.</p>
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properly implement the components of the UTP, and the execution of those actions necessary for the implementation of those components associated with its first stage (1-year). Elements: Legal regime, institutional framework, financial mechanisms and training of municipal counterpart group.			
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PROPOSED RESOLUTION

**PERU. NONREIMBURSABLE TECHNICAL COOPERATION FOR THE DEVELOPMENT
OF A SUSTAINABLE PUBLIC TRANSPORTATION SYSTEM IN AREQUIPA.**

The Board of Executive Directors

RESOLVES:

1. That the President of the Inter-American Development Bank, or such representative as he shall designate, is authorized, in the name of and on behalf of the Bank, as administrator of the Japanese Trust Fund for Consultancy Services, to enter into such agreements as may be necessary, and to take such additional measures as may be pertinent for the execution of the project proposal contained in Document ATN-_____ with respect to technical cooperation for the development of a sustainable public transportation system in Arequipa.
2. That up to the amount of US\$1,000,000, or its equivalent in other convertible currencies, shall be authorized for the purpose of this resolution, chargeable to the resources of the Japanese Trust Fund for Consultancy Services.
3. That the above-mentioned sum is to be provided on a nonreimbursable basis.