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Report No.: PAD897

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$52.5 MILLION

TO THE

MUNICIPALITY OF IBARRA

WITH THE GUARANTEE OF THE REPUBLIC OF ECUADOR

FOR AN

IBARRA TRANSPORT INFRASTRUCTURE IMPROVEMENT PROJECT

December 30, 2015

Transport and ICT Global Practice
Latin America and Caribbean

CURRENCY EQUIVALENTS

The U.S. dollar is the official currency of Ecuador, effective January 2000

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

COPLAFIP	*Código Orgánico de Planificación y Finanzas Públicas* (Organic Code of Planning and Public Finance)
DA	Designated Account
DPW	Ibarra Department of Public Works
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FM	Financial Management
FMA	Financial Management Assessment
GAD	*Gobierno Autónomo Descentralizado* (Autonomous Decentralized Government)
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoE	Government of Ecuador
GRS	Grievance Redress Service
HDM	Highway Development and Management Model
ICB	International Competitive Bidding
INPC	National Institute of Cultural Heritage of Ecuador
IPP	Indigenous Peoples Plan
IRR	Internal Rate of Return
MAE	*Ministerio de Ambiente de Ecuador* (Ministry of Environment)
M&E	Monitoring and Evaluation
NCB	National Competitive Bidding
NPV	Net Present Value
OD	Original Destination
PDO	Project Development Objective
POM	Project Operational Manual
PMS	*Plan de Movilidad Sostenible* (Sustainable Mobility Master Plan)
PMU	Project Management Unit
QCBS	Quality- and Cost-Based Selection
RAP	Resettlement Action Plan
SSS	Sole Source Selection
ToR	Terms of Reference
UBI	Unsatisfied Basic Needs Index
VAT	Value Added Tax

Regional Vice President:	Jorge Familiar
Country Director:	Alberto Rodriguez
Senior Global Practice Director:	Pierre Guislain
Practice Manager:	Aurelio Menendez
Task Team Leader:	Mauricio Cuellar

ECUADOR
Ibarra Transport Infrastructure Improvement Project

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PAD DATA SHEET

Ecuador

EC Ibarra Transport Infrastructure Improvement Project (P147280)

PROJECT APPRAISAL DOCUMENT

LATIN AMERICA AND CARIBBEAN
Transport and ICT Global Practice

Report No.: PAD897

Basic Information			
Project ID P147280	EA Category B - Partial Assessment		Team Leader(s) Mauricio Cuellar
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]		
Project Implementation Start Date 01-Jul-2016	Project Implementation End Date 31-Dec-2020		
Expected Effectiveness Date 31-May-2016	Expected Closing Date 30-Jun-2021		
Joint IFC No			
Practice Manager Aurelio Menendez	Senior Global Practice Director Pierre Guislain	Country Director Alberto Rodriguez	Regional Vice President Jorge Familiar
Borrower: Municipality of Ibarra			
Responsible Agency: Municipality of Ibarra			
Contact: Juan Vaca Telephone No.: 011-593-983500313		Title: Director of Public Works Email: jvaca@ibarra.gob.ec	

Project Financing Data(in US$, millions)					
[X] Loan [ ] Credit	[ ] IDA Grant [ ] Grant	[ ] Guarantee [ ] Other			
Total Project Cost:	91.02		Total Bank Financing:	52.50	
Financing Gap:	0.00				

Financing Source	Amount
Borrower	38.52
International Bank for Reconstruction and Development	52.50
Total	91.02

Expected Disbursements (in US$, millions)

Fiscal Year	2016	2017	2018	2019	2020	2021	0000	0000	0000	0000
Annual	2.20	10.50	14.50	11.30	10.00	4.00	0.00	0.00	0.00	0.00
Cumulative	2.20	12.70	27.20	38.50	48.50	52.50	0.00	0.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Cross Cutting Topics

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] Gender

[ ] Jobs

[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Transportation	General transportation sector	50		
Transportation	Urban Transport	50		
Total		100		

[x] I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Urban development	City-wide Infrastructure and Service	100

	Delivery	
Total		100

Proposed Development Objective(s)

The Project Development Objective (PDO) is to improve mobility in Ibarra and the use of recreational spaces in the Yahuarcocha Lagoon area.

Components

Component Name	**Cost (US$, millions)**
Component 1: Improve mobility in the city	85.86
Component 2: Improve public and tourist spaces	2.51
Component 3: Technical assistance	1.57
Component 4: Project management	1.08

Systematic Operations Risk-Rating Tool (SORT)

Risk Category	**Rating**
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	

Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10	**X**	
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	Recurrent	Due Date	Frequency
Institutional Arrangements. Schedule 2. Section I.A.2	**X**		CONTINUOUS

Description of Covenant

The borrower shall maintain throughout implementation of the project the Project Management Unit (PMU) within the Ibarra Department of Public Works (DPW) with terms of reference (ToR), resources, and staff in numbers and with experience, qualifications, and functions as provided in the Project Operational Manual (POM) and satisfactory to the Bank.

Name	Recurrent	Due Date	Frequency
Institutional Arrangements. Schedule 2. Section I.A.4.		30-Jun-2018	

Description of Covenant

The borrower shall carry out the project in accordance with the POM, which shall include the rules, methods, guidelines, standard documents, and procedures for the carrying out of the project, including, among others, measures to ensure proper land use in the terrains adjacent to the Ring Boulevard and measures to ensure the inclusion of new bus routes through the Ring Boulevard.

Name	Recurrent	Due Date	Frequency
Financial Management, Financial Reports and Audits. Schedule 2.Section II.B.4.	**X**		CONTINUOUS

Description of Covenant

The borrower shall select and contract, by no later than one (1) month before the first audit period or year-end (as applicable), and thereafter maintain, throughout the implementation, the services of a qualified and experienced auditor, acceptable to the Bank, under ToR satisfactory to the Bank, to serve as independent external auditor for a period of at least three (3) consecutive years.

Conditions

Source Of Fund	Name	Type
Article IV, Paragraph 4.01 (a)	Establishment of PMU	Effectiveness

Description of Condition

The borrower has established the PMU with functions, staffing, and responsibilities as provided in the POM and in a manner satisfactory to the Bank.

Source Of Fund	Name	Type
Article IV. Paragraph 4.01 (b)	Operational Manual	Effectiveness

Description of Condition

The POM satisfactory to the Bank has been adopted by the borrower.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Mauricio Cuellar	Team Leader (ADM Responsible)	Sr Transport. Spec.	Senior Transport Specialist	GTIDR
Anna R. Okola	Team Leader	Transport. Engineer	Transport Engineer	GTIDR
Jose Yukio Rasmussen Kuroiwa	Procurement Specialist	Senior Procurement Specialist	Procurement Specialist	GGODR
Ana Lucia Jimenez Nieto	Financial Management Specialist	Financial Management Specialist	Financial Management Specialist	GGODR
Antonio Cristian D'Amelj	Counsel	Senior Counsel	Legal	LEGLE
Claudio Luis Daniele	Safeguards Specialist	Consultant	Environmental Specialist	GENDR
Maria Virginia Hormazabal	Team Member	Finance Officer	Finance Officer	WFALN
Karla Dominguez Gonzalez	Team Member	Consultant	Gender Specialist	GTIDR
Martin Henry Lenihan	Safeguards Specialist	Senior Social Development Specialist	Senior Social Development Specialist	GSURR
Oscar Rodriguez Fuertes	Team Member	Operations Analyst	Operations Analyst	GTIDR
Robert H. Montgomery	Safeguards Specialist	Lead Environment	Lead Environment	GENDR

		Specialist	Specialist	
Satoshi Ogita	Team Member	Transport Specialist	Transport Specialist	GTIDR
Steven Farji Weiss	Team Member	E T Consultant	Poverty Specialist	GTIDR

Extended Team

Name	Title	Office Phone	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Ecuador	Imbabura	Ibarra	**X**	**X**	GAD Municipal San Miguel de Ibarra

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required? No consultants required.

I. STRATEGIC CONTEXT

A. Country Context

1. Economic growth, combined with falling income inequality, have led to important gains in reducing poverty and promoting shared prosperity in Ecuador over the past decade. During 2004–14, Gross Domestic Product (GDP) per capita growth[1] for Ecuador was at 3.1 percent, which was above the regional average of 2.4 percent. Following several years of strong performance, GDP growth decelerated from 7.9 percent in 2011 to 3.7 percent in 2014, and to 2.1 percent year-on-year in the first semester of 2015.[2] Income distribution has significantly improved, as expressed by the Gini coefficient, declining from 0.54 in December 2006 to 0.44 in June 2015. As a result of these efforts, Ecuador is among the countries of Latin America and the Caribbean region with the strongest results in reducing poverty. The national poverty rate decreased from 36.7 percent to 22.3 percent between December 2007 and September 2015.[3] Extreme poverty rate fell from 16.4 percent to 7.9 percent over the same period. Similarly, in the 2003–2012 period, the growth rate of the income of the bottom 40 percent has attained roughly 7 percent per year against 4 percent for the average population, placing Ecuador as one of the top performers in boosting shared prosperity. Notwithstanding these significant strides in poverty reduction and growth of the middle class, more than half of the population in Ecuador remains poor or vulnerable to falling back into poverty.

2. At the national level, the oil boom of the past has given way to a more constrained economic context. Oil prices have declined by more than half, from US$85 per barrel in 2014 to prices currently below US$40 per barrel. Reduced revenues from oil have resulted in a decline in public sector investments. Nevertheless, strategic infrastructure projects including large hydroelectric facilities and upgrading of a key refinery are expected to continue, with the hope of turning the economic tide once they come online.

3. At the subnational level, numerous challenges remain related to the impact of high levels of urbanization on the provision of urban infrastructure services. Urbanization rates have exceeded 65 percent. Effective urban development plans require key investments in transport, housing, water, sanitation, electricity, health, and education. As Ecuador's urban areas continue to expand, demand for urban services will expand beyond the two major cities of Quito and Guayaquil to secondary cities across the country, where urbanization rates are highest.

4. In 2013, the Government released an updated Development Plan (*Plan Nacional para el Buen Vivir 2013–2017*), with 12 objectives focused on improving the quality of life of the population: fostering equality, cohesion, inclusion, and social and territorial equity in diversity, among others. It also highlights the need for transforming the productive matrix; creating

[1] *Source:* World Development Indicators, World Bank.
[2] *Source:* World Development Indicators. World Bank. GDP growth reached a peak of 7.9 percent in 2011, and since then, the GDP growth has been decreasing to a value of 5.2 percent in 2012, 4.6 percent in 2013, and 3.8 percent in 2014.
[3] According to official data, the poverty line is measured at US$82.11 a month and the extreme poverty line at US$46.27 a month.

knowledge hubs; and developing a strategy for the eradication of poverty, which is currently being designed by National Planning and Development Secretariat.

B. Sectoral and Institutional Context

5. Ecuador is currently a rapidly urbanizing country. In recent years, medium-size cities have been growing, creating a situation of increased mobility and accessibility challenges for the population to access employment opportunities, social services, and recreational facilities (see Annex 2). During the last decade, the Government of Ecuador (GoE) has introduced strategies and actions aimed at enhancing the planning and management of urban transport systems, as well as increasing investments in infrastructure. In particular, the GoE, within the context of decentralization and commitment to empowering autonomous local governments, collaborates with local authorities that are in charge of constructing, rehabilitating, and preserving urban road networks. Furthermore, the GoE has committed to support the implementation of context-sensitive urban transport projects both for large and medium-size cities. In the case of the largest cities, support has been provided for urban mass transit systems (such as the Quito Metro and Cuenca Tram). For medium-size cities (such as Manta and Ibarra), support has been provided to improve urban road networks to benefit transit operations, non-motorized transport, and overall traffic safety and vehicular circulation.

6. The city of Ibarra is the capital of the province of Imbabura located 130 km north of Quito, Ecuador's capital city. Ibarra registered a population of 182,000 in 2010, projected to grow to 190,000 by 2015.[4] Eighteen percent of the population is indigenous and Afro-Ecuadoran. By Ecuadoran standards, the city is considered as a medium-size urban agglomeration. Ibarra registers important urbanization and demographic growth rates, and its economy is based on agriculture and tourism. Geographically, Ibarra is located on a small plateau in the Andes mountain range, bounded on the north by the Yahuarcocha Lagoon and on the east, south, and west by mountains. The Yahuarcocha Lagoon is the city's main landmark, touristic attraction, and natural reservoir. Recently, Ibarra has been included among one of the destinations in a tourist circuit identified by the GoE to enhance tourism both on a national and international level. Likewise, the city is pursuing new activities to enhance the touristic attractiveness and capacity of the Yahuarcocha Lagoon to adapt to this new classification, such as the improvement of street furniture, connectivity between the city and the touristic spaces, and mobility within the Yahuarcocha Lagoon.

7. According to the 2010 National Census, the extreme poverty incidence in Ibarra was 24.2 percent of the population. This incidence, defined by the unsatisfied basic needs index (UBI),[5] also reflects that the southern part of the city (*parroquias*) hosts a much larger share of the low-income population. For example, Ambuqui and Angochagua account for more than 78 and 96 percent, respectively, of their population with at least one basic need unsatisfied. When looking solely at the consumption-based poverty rate, with 21 percent, Ibarra has a higher prevalence

[4] Ibarra update to the urban mobility plan, May 2015 '*Actualización del Plan Movilidad Sustentable*'.
[5] The UBI differs from the monetary/income-based definition of poverty as it considers other variables which are highly correlated to income and consumption such as housing, access to water and basic education. In Ibarra, this figure corresponded to 21.2 percent according to the 2010 National Census data.

than other cities such as Quito, Guayaquil, and Cuenca with 6.6, 9.7, and 5.5 percent, respectively. This is also higher than the national urban rate of 14.4 percent.[6]

8. Ibarra's relative proximity to Quito, and that the road network connecting the north of Ecuador with neighboring Colombia crosses Ibarra, have contributed to the city being one of the fastest growing urban agglomerations in northern Ecuador. The city is a midpoint between Quito and the Colombian border and has strategic importance because of its proximity to Yachay, the City of Knowledge planned by the GoE as one of the most important educational centers in the country. Yachay is located less than 20 km from Ibarra and people are using the city of Ibarra as a commuter hub. Ibarra has historically experienced the perks and downsides of its proximity to the *Panamericana* Highway. For example, Ibarra's traffic volumes currently register nearly 26,000 daily vehicles entering the city from the highway. In this sense, dealing with through traffic is an important issue for Ibarra since increasing traffic volumes have been associated with increased transport-related negative externalities, particularly air pollution, road traffic crashes, and related losses and injuries. Currently, the GoE is building a lateral bypass for the *Panamericana* Highway. This bypass will reduce the traffic inside the city, in particular lowering the number of heavy vehicles across the city center.

9. The Ibarra Ring Boulevard is planned as a boundary to curb urban expansion, particularly in the southern, lower-income areas. Planning for this road dates back to 1988 and already identified the Project as a way to alleviate congestion, improve connectivity, reduce travel times, and reduce unnecessary through traffic by the city center while addressing both lateral and transversal movements of goods and people. Ibarra's vision for its transport network has since evolved in response to increasing motorization, congestion, traffic-related accidents, and pollution. The Sustainable Mobility Master Plan[7] (PMS) identified key challenges for the mobility sector and proposed short, medium, and long-term actions to foster transit and non-motorized oriented urban development.

10. The PMS identified that the city is confronting typical mobility challenges associated with rapidly growing intermediate cities. Traffic volumes both for passenger and freight vehicles are now at the level of generating congestion in the main road network corridors and segments. The historic center is facing severe traffic challenges caused by through traffic that is affecting the quality of its mobility and deteriorating the potential of non-motorized transport public space. An additional area of increasing concern is the limited accessibility to public transport in the southernmost, predominantly lower-income neighborhoods and the Northern Segments of Ibarra. The PMS diagnostic identified important deficiencies in the sidewalk network as well as a suboptimal bus network and over-supply of taxis. Considering that the poorest are the ones more dependent on non-motorized infrastructure and public transport services, the lack of proper transit options, an entangled road system, poor road infrastructure, and opportunistic taxi services[8] entail significant impacts to their accessibility to opportunities and services, especially considering that they spend a large share of their income on transit (around 20 percent of the household income).

[6] Statistics National Institute of Ecuador, rates as of June 15, 2010.
[7] Ibarra update to the urban mobility plan, May 2015 '*Actualización del Plan Movilidad Sustentable*.
[8] A town hall meeting held in the northern neighborhood of Vista Lago in December 2014 revealed price extortion practices by taxi services due to the lack of proper road infrastructure and alternative public transit options.

11. In an effort to create a new sustainable mobility paradigm for Ibarra, the city administration has made efforts to increase accessibility to transport and economic opportunities and social facilities. Indeed, the city administration has implemented a series of key actions aimed at increasing accessibility to transport and opportunities to low-income residents of the south while fostering non-motorized mobility. The city also intends to organize and limit circulation of pass-through traffic (including trucks), prioritizing urban space for pedestrians in the historic core, and reshaping the city's urban landscape to incorporate the lagoon as the city's main waterfront, urban park, and leisure/touristic attraction.

12. The Municipal Investment Plan of the current administration includes five key components of the PMS to improve mobility and accessibility: (a) rehabilitation and construction of road connections to give shape to the Ring Boulevard and connect lower-income neighborhoods in the north and south of the city with both the historic center and the Yahuarcocha Lagoon; (b) construction of pedestrian strips and bike paths in the historic center and along the Ring Boulevard to increase available public space for active transport modes; (c) optimization of the bus network to allow increased coverage to the city's lower-income or peripheral neighborhoods; (d) rerouting of motorized traffic through the ring-road to reduce travel times, alleviate congestion, and decrease air pollution and risk of road crashes; and (e) revision of traffic circulation patterns to limit pass-through traffic in the city center, regulate heavy traffic, and allow Ibarra's historic downtown to adopt a human scale for its public space. Along with this, the municipality is considering a road maintenance plan to ensure that all these measures are sustainable and conserved in the long run.

C. Higher Level Objectives to which the Project Contributes

13. The proposed operation is fully consistent with the Ecuador Interim Strategy Note for FY14–15, which includes financing for investment lending operations with a focus on subnational lending and particular emphasis on investments that foster transport and public service provision in urban areas. The GoE has requested the World Bank's support for subnational governments in the infrastructure sector as well as in improving urban transport in several cities, where limited public transport services affect productivity and create a trend toward a high-carbon motorized urban footprint. The proposed operation is particularly consistent with the first two pillars, namely 'Sustainable and Inclusive Growth' and 'Access to Social Protection and Quality Services for All'. The proposed Project aims to address investment priorities identified through a strategic planning background within which Project components have been selected to support the development plans of the municipality, as well as address demands expressed through community participation. The municipality systematically plans for projects in line with strategic development goals outlined in the *Plan de Desarrollo y Ordenamiento Territorial*,[9] which is regularly updated and is aligned with the Municipality Mobility Plan and congestion alleviation plans. These plans seek to enhance the strategic location of Ibarra, close to Quito and the border with Colombia. In addition, the municipality has

[9] The Development Plan and Land Management (PDOT) is a long term instrument of planning (20 years) that allows to reconcile the objectives of economic development and social objectives with conservation and management of natural resources.

an ongoing program of community participation to further support the identification of development needs at the community level. These efforts resulted in the identification of the proposed Project, which aims to increase access, promote cultural heritage preservation, facilitate renewal of urban spaces, and encourage tourism.

14. The proposed Project responds to the World Bank's twin goals of ending extreme poverty and boosting shared prosperity. Results from a household survey carried out throughout the bypass road area of influence demonstrated that dwellers face significant accessibility and mobility constraints. Over 60 percent of surveyed households are users of public transport and, in some of the more peripheral low-income communities, citizens must walk more than 15 minutes to access public transport in suboptimal pedestrian sidewalk conditions (sometimes inexistent), facing injuries or being exposed to road safety hazards. Indeed, results from the survey show that access to infrastructure and public transport was identified as the greatest problem in the city area where the Project will intervene. Through the planned construction of the bypass road and complimentary interventions, the proposed Ibarra Transport Infrastructure Improvement Project, seeks to stimulate intra-metropolitan connectivity and reliability and affordability of transport options for both central and peripheral areas. Similarly, it will bring about important habitat improvements in the surroundings of Yahuarcocha Lagoon benefiting the entire Ibarra Canton population as it is one of the city's main recreational landmarks (further details in Annex 5).

II. PROJECT DEVELOPMENT OBJECTIVE

A. PDO

15. The proposed Project Development Objective (PDO) is to improve mobility in Ibarra and the use of recreational spaces in the Yahuarcocha Lagoon area.

B. Project Beneficiaries

16. The Project will benefit the city residents and visitors of Ibarra with improved access and mobility options associated with the Ring Boulevard as well as access to recreational and outdoor spaces and greater opportunities for social integration and community engagement. Direct beneficiaries of the Project include around 131,856 city residents who are currently negatively affected by the lack of adequate roads infrastructure and transport services, especially those in the peripheral parishes of San Antonio and Alpachaca, where the poverty rate exceeds 50 percent.[10] Other direct beneficiaries include the municipal government, particularly the Departments of Public Works, Traffic and Safety, Tourism, and Planning, through the technical assistance component to strengthen their functions in ensuring sustainability of transport infrastructure as well as alignment with overall urban development planning.

17. The Project will also benefit local and external visitors using the cultural and touristic sites in Yahuarcocha (around 370,000 per year). The envisaged works will promote tourism in the area, benefiting 140 establishments (88 formal vendor families and 50 informal vendor families) and significantly improving recreation, leisure, and environmental conditions around

[10] As measured by the UBI.

the lagoon, thereby enabling improvement to the livelihoods of the population subgroups in the immediate area of influence.

C. PDO Level Results Indicators

18. The achievement of the PDO will be measured by (a) change in travel time of routes across the city connecting primary services with low income neighbourhoods; (b) share of project beneficiaries expressing satisfaction with the Ring Boulevard infrastructure and mobility options; and (c) change in the percentage of visitors cycling and walking in Yahuarcocha. The latter two indicators are disaggregated by gender.

III. PROJECT DESCRIPTION

A. Project Components

19. The proposed Project consists of four components, as follows (Annex 2):

20. **Component 1: Improve mobility in the city (US$85.86 million total; US$47.88 million IBRD).** This component will improve traffic flows by providing better access to the city center and mobility for through traffic and relieve congestion within the city center (including the historic core) by providing an alternate path for through traffic. This component will finance support for infrastructure investments in the City of Ibarra, including (i) the construction of a four lane Ring Boulevard, divided into two phases and comprising of: (a) Phase 1, the Northern Segment (approximately 9.5 km), for US$32.55 million total, of which IBRD will finance US$22.63 million, and (b) Phase 2, the Southern Segment (approximately 12 km), for US$53.31 million total, of which IBRD will finance US$25.25 million; and (ii) the supervision of any associated work. The urban ring road will feature two vehicular lanes and non-motorized infrastructure for walking and biking in each direction. Most segments of this boulevard will be upgraded through improvements to existing roads. The Project will finance construction supervision activities in both phases, starting with the Northern Segment, with an expected completion by 2018. Results indicators will be measured separately for each of the two phases.

21. **Component 2: Improve public and tourist spaces (US$2.51 million total; US$2.24 million IBRD).** This component will improve the quality and quantity of public space, including outdoor, recreational, and tourist-friendly public space. In the highly touristic and recreational area of Yahuarcocha Lagoon, the component will finance (i) the construction and rehabilitation of infrastructure to support sustainable tourism, including sidewalks, footpaths, and cycle infrastructure; (ii) the improvement of streetscapes, urban environment, and green spaces; (iii) the installation of urban community equipment to promote social interactions and potentially increase economic activities, such as fountains, playgrounds, picnic areas, or benches; and (iv) the supervision of any associated work.

22. **Component 3: Technical assistance (US$1.57 million total; US$1.40 million IBRD).** This component will provide technical assistance to support units in the municipality of Ibarra that are responsible for mobility, public works, traffic, urban transport, and urban planning. Specifically, this will include: (a) strengthening institutional capacity for road asset management; (b) supporting the reorganization of public transport and the creation of a non-motorized transport and road safety plan; and (c) carrying out an integration, urban planning, densification,

and mobility study aimed at promoting urban development. During implementation, the municipality will work on a reorganization of public transport routes through the Ring Boulevard and define a legal framework for land use in the terrains adjacent to the Ring Boulevard, to ensure proper use and avoid speculation and uncontrolled expansion of the city.

23. **Component 4: Project management (US$1.08 million total; US$0.98 million IBRD).** This component will finance targeted incremental costs associated with overall project management, including project-related audits, monitoring and evaluation (M&E) to track progress on project indicators, environmental and social management, beneficiary assessments, feedback mechanisms, procurement, training and staffing, including a project coordinator.

B. Project Financing

24. The lending instrument is an Investment Project Financing in the amount of US$52.5 million to the municipality of Ibarra, with a guarantee from the GoE. The total project cost is US$91.02 million. The borrower will provide US$38.52 million in counterpart funding, and the remainder will be financed by IBRD. Project costs include physical and price contingencies. The borrower's funds will mainly finance land acquisition, value added tax (VAT), and part of the second phase of the Ring Boulevard.

Table 1: Project Costs by Component

Project Components	Project Cost (US$, millions)	IBRD Financing (US$, millions)
1. Improve mobility in the city	85.86	47.88
Phase 1	32.55	22.63
Phase 2	53.31	25.25
2. Improve public and tourist spaces	2.51	2.24
3. Technical assistance	1.57	1.40
4. Project management	1.08	0.98
Total Financing Required	91.02	52.50

C. Lessons Learned and Reflected in the Project Design

25. The World Bank's broad experience in the transport sector, both within the Andean region and globally, provides valuable lessons that have informed the preparation of the Project. These experiences have been reflected in the use of urban transport as an urban planning element and in the measures for institutional strengthening of the transport sector entities based on previous cases of similar authorities.

26. **Urban roads as an urban planning element.** Experience from projects such as the Cusco Transport Improvement Project (P132505) shows that urban roads are an important element of urban planning and serve to improve urban mobility. The Ring Boulevard will enhance citywide connectivity, thereby promoting the economic integration of marginalized communities. Another lesson learned from Cusco is that a specific flagship project can be a catalyst of an overall rethinking of the mobility and urban planning paradigm through its accompanying technical assistance component.

27. **Institutional strengthening of transport sector entities.** To ensure sustainability of transport sector interventions, adequate institutional capacity activities need to be put in place for long-term planning and prioritization of investments and continued maintenance programs. The Project incorporates institutional strengthening activities to enhance road asset management aspects, including regular maintenance. In addition, based on experience, it is key to enhance sustainable mobility options to be able to anticipate increased motorization and provide early interventions to support continued and increased non-motorized transport usage. In addition, proper traffic management during construction is essential to minimize disruptions and inconveniences to all road users, and traffic engineering is needed to design detours in an inclusive manner. Experience from other projects, such as the Lima Urban Transport Project (P035740) and the Support to the National Urban Transport Program Project (P117947) in Colombia, has demonstrated the importance of upstream planning and the need for adequate environmental management plans (EMPs) that mitigate traffic impacts.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

28. The Autonomous Decentralized Government (*Gobierno Autónomo Descentralizado* [GAD]) of Ibarra, through the Department of Public Works (DPW), is responsible for overall project preparation and implementation to achieve the PDO. The DPW is responsible for execution of all components and for compliance with the Loan Agreement and fiduciary and safeguards policies. The Director of Public Works reports directly to the Mayor's Office and will have the support of a full-time project coordinator, who will ensure efficient and effective workflows on all matters related to the Project. The mayor will establish, through an administrative resolution, a Project Management Unit (PMU) for the duration of the Project, headed by a project coordinator and staffed full-time with a contracts administrator, an environmental specialist, a social specialist, and a financial management (FM) specialist. The PMU will draw upon technical, fiduciary, and administrative support from the Directors of Procurement, Finance, Urban Development, Mobility, Citizen Participation, Environment, Tourism, and the public transit company (*Movilidad del Norte Empresa Pública - Movidelnor EP*—a public company integrating the mobility management of several municipalities to achieve economies of scale). The Director of Valuation and Cadaster will supervise a firm hired to carry out the Resettlement Action Plan (RAP) on behalf of the municipality. The environmental specialist, in coordination with and support from the Department of Environment, is responsible for the implementation of the EMPs. Community engagement is overseen by the Citizen Participation Department, which is responsible for community relations and outreach, including conducting gender-sensitive consultations and engaging with the indigenous and Afro-descendant communities.

B. Results Monitoring and Evaluation

29. Overall responsibility for M&E of the Project is with the DPW of the GAD of Ibarra, through the PMU, which will consolidate all reports and provide timely information about the progress of project execution. The DPW will also be supported by the Department of Planning, which is responsible for coordinating the data collection for the different indicators, particularly those requiring surveys. The GAD will be assisted in the overall M&E process by other internal

institutions involved in the execution of the Project, including Tourism, *Movidelnor EP*, and Citizen Participation Department (some of them are already collecting information relevant to the Project, which can be shared to evaluate the results of the Project) and specialized consultants, as required. The Results Framework is presented in Annex 1 and M&E arrangements are detailed in Annex 3. The Project Operational Manual (POM) provides further details on M&E.

C. Sustainability

30. Sustainability issues are addressed through measures to ensure that project objectives are attained and its impacts are given continuity. These measures include (a) restructuring of public transport routes; (b) strengthening institutional capacity for overall transport and road asset management to ensure that upstream planning processes better link with overall urban development planning as well as land use to maximize the potential for densification of the urban core; and (c) strengthening maintenance practices, including planning, and programming of further works to preserve road assets and capital investments. These measures will allow sharing of the positive effects of the Project with the majority of citizens, thus ensuring that the city is able to avoid future urban problems and preserve achievements for a longer term.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
Overall	**Substantial**

B. Overall Risk Rating Explanation

31. The risk rating for implementation of the Project is Substantial. As identified by the Systematic Operations Risk-rating Tool, the risks are related not only to implementation, but also to the political and macroeconomic situation and to the technical design of the Project. Contributing factors include:

(a) **Lack of experience in implementing World Bank-financed projects.** Due to the municipality's lack of experience in implementing World Bank projects, the Project may experience delays related to procurement, financial audits, processing of contractual documents, and financial transactions, as well as monitoring of social and environmental safeguards. The World Bank team conducted a fiduciary, safeguards, and technical capacity review of the municipality of Ibarra and will provide the required support and capacity building during project implementation.

(b) **Risks associated with coordination among different departments within the municipality.** Mitigation measures for this risk include close collaboration with the client and provision of training and technical assistance to corresponding directorates on the World Bank's policies, particularly on safeguards and fiduciary aspects. This Project is a priority for the local administration, thus the highest level of the administration is committed to fostering collaboration to ensure successful project implementation.

(c) **Limitations of procurement capacities of subnational entities.** Despite improvements in regulation and procedures, information systems, expansion of suppliers, and others highlighted in the assessment of the Organization for Economic Co-operation and Development/Development Assistance Committee, implementation of World Bank-financed operations and trust funds by subnational governments still faces limitations with regard to procurement practices, as well as inadequate capacity among procurement entities at the subnational level. An expert in procurement shall be recruited in the PMU (see Annex 3, institutional arrangements) and the World Bank's fiduciary specialists will closely support local staff.

(d) **Political risks.** While the level of commitment of the current administration is very robust, local elections are expected in 2019. In case of an administration change, there is a potential for delays while the new administration takes ownership of the ongoing Project. There is also a likelihood that a new administration may not fully support the Project and may request design changes. The World Bank's task team typically engages proactively with potential new counterparts to inform them about World Bank-financed projects. If necessary, the Project may be restructured to incorporate changes agreed to between the World Bank and the new administration.

(e) **Limitations in counterpart funding.** The amount of the IBRD loan was defined based on the estimated costs of the Ring Boulevard works. This cost did not include supervision contracting, land acquisition, VAT, utility network relocation or repairs, and cost contingencies. These additional cost line items and any other component or project management costs will be totally or partially financed by counterpart funding. To mitigate the risks of limited counterpart funds, the implementation strategy allows for varying counterpart fund requirements. Since counterpart funds are limited in the early years, the IBRD loan proceeds will fully finance works and supervision of Phase 1 of component 1 and components 2, 3, and 4. The counterpart funds that are available in the initial stages are dedicated to cover the full costs of land acquisition and taxes. In the later stages, both IBRD and counterpart funds will finance Phase 2 of component 1, in the proportion described in Annex 3. A detailed review of municipal finances has been conducted and concluded that the plan presented by the municipality shows that it has the required capacity and sources of financing to fulfil its counterpart obligations (see Annex 7).

(f) **Cost estimate for the Ring Boulevard.** The World Bank team reviewed the Ring Boulevard estimated costs which reflect an average cost of US$2.4 million per kilometer. These design studies were conducted by a recognized consulting firm, and the cost per kilometer and specifications of the Project seem reasonable compared with similar urban roads projects in the region. There is a risk that bid proposals could be above the original

estimated cost, which could consequentially entail a funding shortfall. To mitigate this risk, the bidding process will be divided in two phases, starting with the Northern Segment (simpler from a technical point of view and has less land acquisition and relocation impacts). In the event that costs are greater than the funds currently budgeted, the GAD would be able to initiate works in the Northern Segment while trying to secure the counterpart resources needed to complete the Southern Segment. At that time, it is expected that the DPW will work with the World Bank to also identify areas or activities that could be further optimized.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

32. A cost-benefit analysis was carried out to determine the economic feasibility of investments using the standard 12 percent discount rate. The methodology used incorporates standard techniques in line with general practice criteria to evaluate economic and financial sustainability, as well as overall benefits to society and expected reductions in negative externalities due to poor mobility conditions. An economic appraisal assessed the economic viability of component 1, which accounts for 92 percent of the total investment. Following the methodology commonly used in road projects, the assessment estimated net savings in roadwork and road user costs, including vehicle operation costs and passenger time costs, as compared to the without-project case. The analysis took into consideration reduction in congestion in the city center and decrease in traffic due to construction of the new regional bypass road (*Paso Lateral*) in the future.

33. The results of the evaluation confirmed that the Project is economically feasible. The net present value (NPV), at a 12 percent discount rate for an analysis period of 20 years, and the economic internal rate of return (IRR) of the investments are US$29.5 million and 20 percent, respectively, for both the Northern and Southern Segments of the new Ring Boulevard. For the Northern Segment alone, the NPV and IRR are US$80.3 million and 51 percent, respectively. Sensitivity analysis demonstrates that the Project remains economically viable for both cases, even when construction costs increase by 20 percent or benefits decrease by 20 percent.

34. **Rationale for public sector financing.** Within the transport sector, most local roads are considered a public good and as such are operated, managed, and provided by the public sector. National roads, however, may enjoy the option of tolling, where there are high traffic volumes that can be sustained over time, as is the case in many countries, including Ecuador. In the case of urban arterials, such as the proposed Project, public sector financing is an appropriate vehicle for construction. The options to consider tolling or public-private partnerships for long-term operation and maintenance were not considered viable at this time as there are no expected gains that would interest a private entity and Ecuadoran laws still do not provide implementation and regulatory arrangements to establish urban tolls.

35. **Value added of the World Bank's contribution.** The municipality of Ibarra approached the World Bank to finance the Project, given its global knowledge and ability to leverage its convening power to transfer replicable lessons from its vast international experience in the road sector, in general, and specifically in urban mobility, as well as the sound fiduciary, social, and

environmental practices afforded within the framework of its lending policies. In addition, in contrast to private financiers, IBRD lending provides a platform for institutional capacity building and longer-term transformation of road asset management practices, including up-front procedures at the start that ensure the use of reliable procurement processes and payments for the works, and quality control throughout implementation. Given the nature of the Project and its size, the largest road project for the municipality in recent years, the World Bank's global experience and knowledge is certain to help ensure better outcomes, including on citizen engagement aspects.

36. **Greenhouse gas.** The greenhouse gas (GHG) accounting assessment demonstrated that the Project would reduce CO_2 emissions (as a proxy to GHG). The Project's impact on CO_2 emission was estimated as the difference in vehicle emissions between a reference scenario ('without-project' scenario) and the project scenario, both of which are same as those defined in the economic appraisal. The emission factors by vehicle type on each road were calculated based on the Highway Development and Management Model (HDM) and the other parameters, such as traffic volume. The total emissions in the reference scenario for both the Northern and Southern Segments of the Ring Boulevard over 20 years are 1,238,000 tCO_2. In the project scenario, total emissions are 891,000 tCO_2, resulting in an emission decrease of 347,000 tCO_2, or 28 percent, as compared with the reference scenario. For the Northern Segment alone, the emissions in the reference scenario are 1,238,000 tCO_2 and 969,000 tCO_2 in the project scenario, resulting in an emission decrease of 269,000 tCO_2, or 21.7 percent.

37. **Financial assessment of the municipality of Ibarra.** A financial analysis of the municipality of Ibarra was carried out to assess the financial impact of the proposed loan and the additional financing needed (see Annex 7). Based on information from the municipality's fiscal situation, the GoE's debt limits and the Project's estimated costs, the municipality has the capacity to repay the proposed loan with no major strain on its finances. The sensibility of two variables (reduction in income from government transfers and increase in project costs) was also considered, and although a reduction in the transfers from the central Government could have an impact on the financial situation of the municipality, the debt level is not over the limits in any of the scenarios. Furthermore, in order to obtain sovereign guarantee, Ibarra had submitted financial projections to the Ministry of Finance, which had granted the guarantee after analyzing the municipal debt capacity.

B. Technical

38. The proposed Project relies on approaches, methodologies, technical designs, and technologies appropriate for the Ecuadoran context and no significant technical obstacles are expected during implementation. The technical solutions proposed are aligned with the prioritized strategies contained in the 2015 PMS. The Ring Boulevard is designed to reduce congestion in the limited road space of the city center and the transit system will be optimized and reorganized to allow efficient routing of bus through the Ring Boulevard, reducing travel times, congestion, accidents, and pollution in the city center. Road designs are based on sound engineering practices, following national standards (design standards approved by the Ministry of Transport and Public Works), and the recommendations of the American Association of State Highway and Transportation Officials. The detailed engineering design and feasibility study, including the estimation of costs, were carried out by a reputable firm with close supervision by

the client and due diligence reviews and recommendations by the task team, including to enhance safety features. Targeted technical support has enabled analysis of the impacts of works on urban mobility, resulting in enhanced designs integrating cycling infrastructure along project roads, while minimizing environmental and social impacts and maximizing safety benefits for all users. The Project includes technical assistance to strengthen the maintenance practices of the municipality and design public spaces, by adapting best practices from cities which have recovered their historic cores through renovation and rehabilitation of public spaces. Due diligence to assess cost estimates showed that the project budget is reasonable when compared with similar projects in the region.

C. Financial Management

39. In accordance with the proposed institutional arrangements, the Project will be implemented by the municipality of Ibarra through a PMU, and FM activities of the Project will be carried out by the Finance Directorate of the Municipality in coordination with the PMU's FM specialist, who will be fully dedicated to the Project.

40. A Financial Management Assessment (FMA) of the municipality of Ibarra was conducted to evaluate the adequacy of the Project's FM arrangements. The municipality of Ibarra has developed expertise in managing locally financed projects and established some processes and procedures to control and monitor civil works' execution. However, given that the Project will increase the municipality's volume of operations, the Project will require important local counterpart funding, and implementation will demand close interaction between the PMU and some municipality directorates, it will be necessary to strengthen the municipality's current capacity, enhance current process and procedures, and define clear roles and responsibilities of all parties involved in project implementation. The FMA has identified project-specific actions to ensure adequate implementation capacity and mitigate risks. On this basis, the proposed FM arrangements are acceptable to the World Bank, subject to completion of the actions described in Annex 3.

D. Procurement

41. The GAD (Municipality of Ibarra) will perform the procurement activities through the Department of Procurement and through a specialist who will be member of the PMU and will serve as the link between the PMU, the World Bank, and the Department of Procurement. The GAD will be responsible for the Project's procurement processes. Procurement risks are related to the procurement capacity of the municipality and lack of previous experience and knowledge of World Bank procurement procedures and contract monitoring. Additional risks include the poor quality of works and delays in completion of works due to (a) contractors winning bids at significantly lower prices than engineer's estimates; (b) inadequate management of large contracts due to lack of proper experience from the municipal side; and (c) lack of previous experience of national companies (contractors) with World Bank procurement procedures.

42. Two International Competitive Bidding (ICB) processes (one for the northern bypass and another one for the southern bypass) will be used and one National Competitive Bidding (NCB) process will be used for the civil works for the Yahuarcocha Lagoon, as well as the

corresponding contracts of supervision of the works. International contracts for individual consultants may be required to provide specific additional technical capacity as needed.

E. Social (including Safeguards)

43. The Project is expected to have positive social impacts by enhancing urban mobility and accessibility. The planned investments will be especially beneficial to disadvantaged groups who rely on public transport services and spend longer times commuting to places of employment and services. The Project will also have a number of social impacts that will need to be mitigated. One such impact is land acquisition and resettlement, with the Project requiring the acquisition of 43 hectares of land from 641 owners, the displacement of 25 residential structures housing 115 people, and the removal of 10 commercial structures, thus triggering OP 4.12 on Involuntary Resettlement. As a result, a RAP was prepared by the Government detailing the impacts, compensation and resettlement measures, grievance redress mechanisms, and implementation arrangements. The RAP was consulted with the affected people and disclosed in-country on October 28, 2015 (see www.ibarraecuador.gob.ec), and on June 30, 2015 and December 26, 2015 on Infoshop.

44. Because Ibarra is a multicultural canton with indigenous and Afro-descendant people accounting for a large proportion of the population, OP 4.10 on Indigenous Peoples is also triggered. No direct negative impacts are expected on indigenous lands or communities, and the Indigenous Peoples Plan (IPP) focuses primarily on culturally appropriate communication mechanisms during implementation. This IPP received broad community support through free, prior, and informed consultation meetings with representatives of Afro-descendant and indigenous communities in the city of Ibarra and was disclosed at the InfoShop on March 26, 2015 and December 29, 2015 and in-country on September 24, 2015 (see www.ibarraecuador.gob.ec).

45. The municipality has also worked with its extensive network of community councils to engage in an intensive campaign of citizen engagement on the design of the Project. This campaign will continue during implementation and will be bolstered by a dedicated grievance redress mechanism outlined in the EMP. The citizen engagement campaign prioritized (and will continue to prioritize) the voice of female beneficiaries, who have had a strong presence throughout the consultation process. Where appropriate, results indicators are disaggregated by gender, and activities planned under component 3, such as the non-motorized transport and traffic safety plan, will be designed in a gender-informed manner (through placement, content, and timing).

F. Environment (including Safeguards)

46. The Project is classified as environmental Category B according to OP/BP 4.01 as the components involve standard works with potential environmental or social negative impacts that are short term, most of them not significant, and that can be easily prevented or mitigated using standard measures. The majority of the works involve the construction of the Ring Boulevard, along the existing right-of-way. As the bypass includes upgrading and expansion of existing roads and in some sections, new construction of a four-lane road, there will be site-specific

environmental impacts, including earthworks, which may also require setting up an important work camp. These impacts will be mitigated through the implementation of the EMP.

47. Each component has been developed and will be implemented in accordance with Ecuadoran environmental laws and the relevant environmental licenses have been obtained for component 2. Appropriate information, disclosure, and consultation was provided. The Ring Boulevard Environmental Impact Assessment (EIA) and the Ring Boulevard EMP were submitted for approval by the Ministry of Environment (MAE), consulted, and disclosed to the public (October 1, 2015 on InfoShop and October 12, 2015, locally on www.ibarraecuador.gob.ec). Other actions will be implemented as appropriate (for example, environmental clauses for construction contracts, supervision by municipality, and so on). The content and scope of the EIAs and EMPs are acceptable to the World Bank

48. The restoration and improvement of the Yahuarcocha Boulevard (component 2) has already obtained environmental authorization from the Ecuadoran authorities. An additional supplementary EIA was prepared and disclosed (October 8, 2015 on InfoShop and October 12, 2015, locally on www.ibarraecuador.gob.ec), focused on indirect and cumulative impacts on the natural and cultural heritage in the Yahuarcocha Lagoon and its watershed. The new EMP includes the appropriate measures to mitigate these impacts and will also include long-term impacts due to the increased activity in this area and was also disclosed to the public (October 8, 2015 at the InfoShop and October 12,2015, locally on www.ibarraecuador.gob.ec).

49. As a result of the Project, there are significant interactions between the national level (MAE) and municipal agencies (Planning, Public Works, Tourism, and so on.). The municipality of Ibarra currently has an Environmental Management Department consisting of a technical team trained in the application of local environmental policies. Technical assistance will be important to supervise the implementation of safeguards requirements. In this regard, a POM including environmental and social aspects of the Project, has been approved. The client has also committed to securing additional environmental expertise for the implementation given the additional workload demand expected to satisfy the safeguards policies.

G. Other Safeguards Policies Triggered

50. *Physical Cultural Resources.* Component 2 will support the construction of infrastructure for community use in the area of the Yahuarcocha Lagoon. The National Institute of Cultural Heritage declared this lagoon as the third ‘sacred lagoon’ of the country and both the lagoon and its surrounding area have become a major attraction for tourism, sports, and recreation with more than 20,000 visitors per month, and being used for residential and agricultural purposes. However, no significant long-term negative impacts are expected from the cultural heritage side of the Project and the National Institute of Cultural Heritage has no objection to both components. Regardless, this policy will be triggered for precautionary measures and as required, applicable measures will be included in the EIAs and EMPs.

51. *Natural Habitats.* There are no environmental protected spaces in the direct interventions area of the proposed Project and the Project is not expected to result in any direct significant conversion or degradation of critical natural habitats. Both components a certificate of ‘no intersection’ with the national system of protected areas, forests, protecting vegetation, and forest

heritage of the state from the MAE. However, part of the component 1 and 2 activities will be implemented close to the Yahuarcocha Lagoon, which has a sensitive ecosystem. Therefore, OP/BP 4.04 on Natural Habitats has been triggered. As required, applicable measures have been included in the EIA, with specific screening provisions for evaluating potential impacts on natural resources (water quality, eutrophication, water input to the lagoon, integrated watershed management, etc). Measures to prevent these types of impacts were initially developed in "Updating the Integrated Management Plan of the Hydrographic Micro-Yahuarcocha" prepared in 2012 by the GAD Ibarra and the Technical University of Northern Ecuador. Many of these prevention measures developed in 2012 have been revised and incorporated into the new EMP for Yahuarcocha.

H. World Bank Grievance Redress

52. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

ANNEX 1: RESULTS FRAMEWORK AND MONITORING

Country: Ecuador

Project Name: Ibarra Transport Infrastructure Improvement Project (P147280)

Results Framework

Project Development Objectives

The proposed PDO is to improve mobility in Ibarra and the use of recreational spaces in the Yahuarcocha Lagoon area.

These results are at	Project Level

Project Development Objective Indicators

	Unit	Baseline	Cumulative Target Values					End Target
			YR1	YR2	YR3	YR4	YR5	
Change in travel time of routes across the city connecting primary services with low income neighborhoods Phase 1	%	0	–	–	10	10	10	10.00
Whole Ring Boulevard		0	–	–	–	–	10	10.00
Share of project beneficiaries expressing satisfaction with the Ring Boulevard infrastructure and mobility options (disaggregated by gender) Phase 1	%	–	–	–	–	–	–	75.00
Whole Ring Boulevard		–	–	–	–	–	–	75.00
Change in the percentage of visitors cycling and walking in Yahuarcocha (disaggregated by gender)	%	18.00	18	18	20	22	24	24.00

Intermediate Results Indicators

	Unit	Baseline	Cumulative Target Values					End Target
			YR1	YR2	YR3	YR4	YR5	
Number of road km constructed (Ring Boulevard) Phase 1	km	0	1	5	8.5	9.5	9.5	9.5

Whole Ring Boulevard		0	1	5	10	15	20	21.5
Progress of construction and restoration of tourist spaces works on Yahuarcocha Boulevard	%	0	0	0	30	65	100	100
Proposed organization chart adopted	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Yes
Direct project beneficiaries	Number	0	–	–	–	–	–	131,856
Female beneficiaries	Number	0	–	–	–	–	–	65,928
Road asset management plan prepared	Yes/No	No	–	–	–	–	–	Yes
Sustainable transport plan prepared	Yes/No	No	–	–	–	–	–	Yes
Preparation of multiyear maintenance plan	Yes/No	No	–	–	–	–	–	Yes
Number of yearly visitors to Yahuarcocha	Number	150,000	–	–	–	–	–	200,000
Restructure bus route network implemented Phase 1	Yes/No	No	–	–	–	Yes	Yes	Yes
Whole Ring Boulevard		–	–	–	–	–	Yes	Yes

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition and so on.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Change in travel time of routes across the city connecting primary services with low income neighborhoods	This indicator measures the reduction of travel time of specific strategic routes across the city. Baseline data will be collected for strategic routes connecting primary services (hospitals, universities) with low-income neighborhoods and measured manually during peak hours. A 10 percent reduction overall is expected.	Project end	*Movidelnor EP*	*Movidelnor EP*

Share of project beneficiaries expressing satisfaction with the Ring Boulevard infrastructure and mobility options (disaggregated by gender)	This indicator measures the level of satisfaction of the beneficiaries, both local and tourists, with the construction of the Ring Boulevard infrastructure and the new mobility options provided once the Project is implemented. It will be measured based on surveys and it will be disaggregated by gender.	Project end	Department of Citizen Participation	Department of Citizen Participation
Change in the number of visitors cycling and walking in Yahuarcocha (disaggregated by gender)	This increase will be measured through studies currently carried out by the municipality about transportation modes used in Yahuarcocha.	Every two years	Department of Tourism	Department of Tourism

Intermediate Results Indicators

Indicator Name	Description (indicator definition and so on.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Number of road km constructed (Ring Boulevard)	Number of kilometres of civil works completed on the Ring Boulevard.	Annual	Works progress reports	DPW
Progress of construction and restoration of tourist spaces works on Yahuarcocha Boulevard	Percentage of the works on the Yahuarcocha Boulevard completed as percentage of total works projected in Component 2.	Annual	Works progress reports	DPW
Proposed organizational chart adopted	Organizational chart as defined in implementation arrangements (see Annex 3, organizational chart for PMU) adopted by implementing entity.	Annual	DPW	DPW
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (such as children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female.	Annual	Department of Citizen Participation	Department of Citizen Participation
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.	Annual	Department of Citizen Participation	Department of Citizen Participation

Road asset management tools implemented	This indicator gives information on whether or not the municipality has implemented road asset management tools financed by the Project, which will enable the development and implementation of an annual strategy for road network maintenance.	Annual	DPW	DPW
Nonmotorized and road safety plan adopted	This indicator gives information on whether the municipality has adopted a non-motorized and road safety plan created under the Project.	Annual	Department of Traffic and Safety	Department of Traffic and Safety
Preparation of multiyear maintenance plan	This indicator provides information on whether the municipality has prepared a multiyear maintenance plan.	Annual	Department of Citizen Participation/ Department of Tourism	Department of Citizen Participation/ Department of Tourism
Number of visitors to Yahuarcocha	This indicator measures the number of visitors to Yahuarcocha per year.	Annual	Department of Tourism	Department of Tourism
Optimized bus route network implemented	An optimized bus route network has been implemented, as described and accorded with municipality, thus enhancing accessibility to public services.	Annual	DPW	DPW

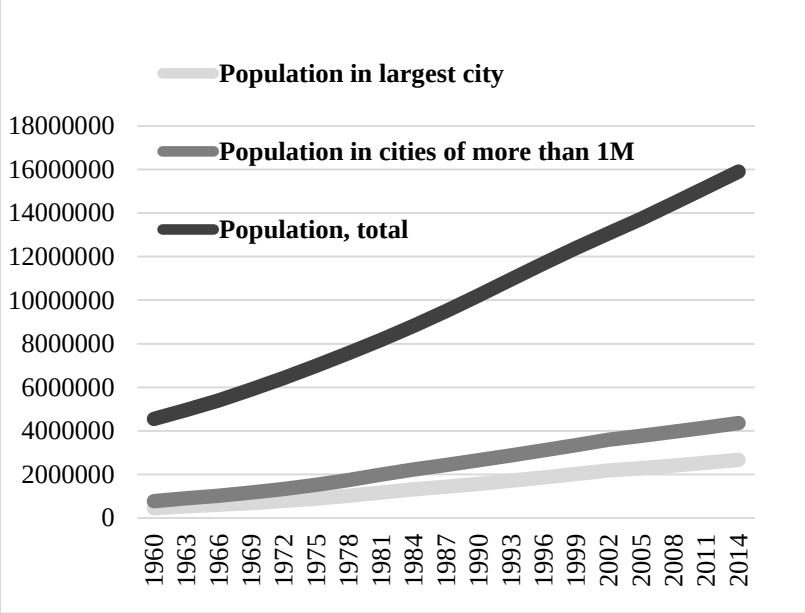
ANNEX 2: DETAILED PROJECT DESCRIPTION

ECUADOR: Ibarra Transport Infrastructure Improvement Project

Sector Background

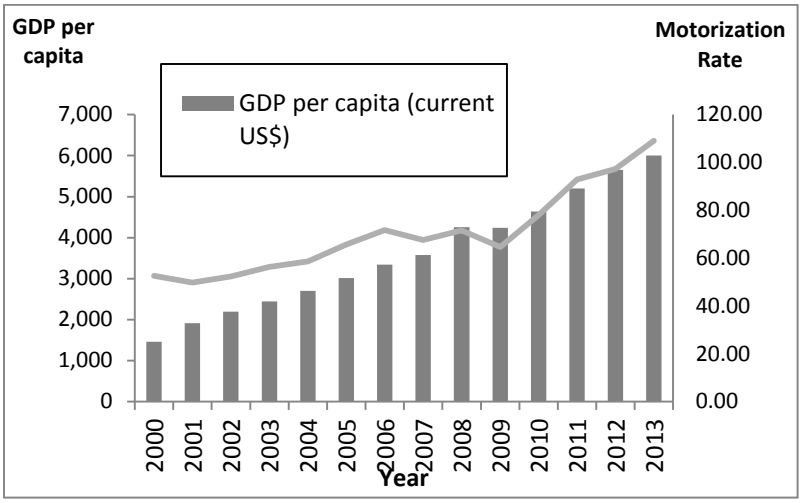
1. Urban development in Ecuador has been increasing rapidly, along with population growth that occurred at a much rapid pace in medium-size cities. Figure 2.1 shows this phenomenon. Many cities in Ecuador may struggle to adequately address mobility issues in the future, due to the growth they are experiencing today, if there is no active planning taking place currently. Population in medium-size cities is expected to continue to grow faster than in large cities, and at the same time, these cities are expected to enjoy continued economic growth. In this sense, it could be considered a valid assumption that these cities will have an increased motorization rate in the future. A proactive approach to sustainable urban mobility planning is therefore necessary. Inclusive urban transport planning which enhances public transport and sustainable mobility, together with the provision of adequate infrastructure, may help address travel needs and meet travel demands due to growing population and economy, while at the same time, including considerations to mitigate the impacts and negative externalities, including health, environmental, and safety concerns.

Figure 2.1. Population Growth in Ecuador



Source: World Databank, World Development Indicators Database, http://databank.worldbank.org.

Figure 2.2. GDP and Motorization Rate Growth in Ecuador



Data Source: World Databank, World Development Indicators Database, http://databank.worldbank.org.

2. Ibarra is a medium-size city located in a strategic geographical location given its proximity to Quito as well as to the border with Colombia, and also providing easy access to seaports (San Lorenzo). The road network under the Municipality of Ibarra management plays a key role in the transport system and encompasses 430 km. The majority of the network is brick stone paved (383 km) and is located in the main commercial and business center (including the historic center). The 22 km of cobblestone-paved roads are mainly located in residential parochial areas such as Alpachaca, La Dolorosa del Priorato, Caranqui, and El Sagrario, most of which are considered to be in poor condition. The remainder consists of asphalt roads along the major arterials in Ibarra.

3. The city of Ibarra was founded in 1606 and the development of the city included the construction of several public buildings and spaces, especially churches and parks. Although most of them were destroyed by an earthquake in 1868, the city was resettled and some of the buildings were totally or partially reconstructed. Due to the traditional white houses, part of the colonial architecture, the city has earned the nickname of White City.

4. The Ibarra PMS[11] provided updated information on the public transport supply. Currently, the public transport network comprises 23 routes with an ageing and poorly operated fleet of nearly 250 buses. Public transport service is provided by two cooperatives that are overseen by the recently established regional transport authority, *Movidelnor EP*. The PMS also reports that Ibarra has significant oversupply of taxi cabs, currently approximately 1,000.

5. Regarding vehicular flows, the west access to Ibarra through the *Panamericana* route has a high volume of traffic arriving at an annual daily average of approximately 30,000 vehicles, of which 76 percent are light-duty vehicles, 10 percent bus, and 14 percent trucks. In contrast, the traffic is substantially lower in the *Panamericana* on the east access, which consists mainly of

[11] Ibarra update to the urban mobility plan, May 2015 "*Actualización del Plan Movilidad Sustentable"*

light vehicles, heavy buses, and trucks with more than three axles. The number of two and three axle vehicles are very similar in the east and west accesses to the city.

6. In this context, the Municipality of Ibarra intends to build the 21.5 km Ring Boulevard as a beltway that surrounds the city of Ibarra, allowing through traffic to bypass the city, greater connectivity among peripheral communities, and integration with other roads and cantons. The Ring Boulevard will also improve access to the city as well as to the important tourist destination of Yahuarcocha as it links to the Tahuando Bridge, which is the main access from the city to Yahuarcocha, via the *Panamericana* Road.

Components

7. **Component 1: Improve mobility in the city (US$85.86 million total; US$47.88 million IBRD).** This component will improve traffic flows by providing better access to the city center and mobility for through traffic and relieve congestion within the city center (including the historic core) by providing an alternate path for through traffic. It also seeks to improve public transport services and road safety conditions by introducing traffic-calming actions. This component will finance support for infrastructure investments in the City of Ibarra, including (i) the construction of a four lane Ring Boulevard, divided into two phases and comprising of: (a) Phase 1, the Northern Segment (approximately 9.5 km), for US$32.55 million total, of which IBRD will finance US$22.63 million, and (b) Phase 2, the Southern Segment (approximately 12 km), for US$53.31 million total, of which IBRD will finance US$25.25 million; and (ii) the supervision of any associated work. The urban ring road will feature two vehicular lanes and non-motorized infrastructure for walking and biking in each direction. Most segments of this boulevard will be upgraded through improvements to existing roads. The Project will finance construction supervision activities in both phases, starting with the Northern Segment, with an expected completion by 2018. Results indicators will be measured separately for each of the two phases. The Ring Boulevard will cross some of the poorest neighborhoods in Ibarra (Azaya, Alpachaca, Pugacho, and El Milagro). The Ring Boulevard will also be a barrier to curb further urban expansion, which has sprawled unplanned in the last decades.

8. The entire Ring Boulevard is 21.5 km and consists of a two-lane, two-way divided road, including a bicycle lane, median and sidewalks. The works will include improvements to curbs and sidewalks, and signaling and infrastructure for bicycle lanes. The construction phase includes earthworks, and use of locally sourced materials. Expropriations are minimized due to the availability of land reserved for a previous project. The Ring Boulevard will have several roundabouts or intersections with traffic lights designed to reduce speeds and improve safety. There are seven bridges along the Ring Boulevard, designed to withstand a 100-year precipitation return period as well as seismic activity. The Ring Boulevard works include drainage structures, horizontal and vertical signaling, and traffic signs. Drainage elements have been designed with a 25-year return period. The pavement design is based on a 10-year life cycle, requiring annual routine maintenance interventions. The pavement structure consists of hot-mix asphalt wearing course, an asphalt-treated base and compacted natural material sub-base. The subgrade material was tested and found adequate with little to no expected risk of swelling, given the climatic conditions and observed precipitation levels. From a geo-technical perspective, the proposed pavement structure is expected to be resilient and perform well, provided there is adequate maintenance during its life to ensure structural integrity. The detailed

engineering design and feasibility study were carried out by a reputable firm with close supervision by the client and due-diligence reviews and recommendations by the World Bank's task team. The Project includes technical assistance to strengthen the maintenance practices of the municipality.

9. **Component 2: Improve public and tourist spaces (US$2.51 million total; US$2.24 million IBRD).** This component will improve the quality and quantity of public space, including outdoor, recreational, and tourist-friendly public space. In the highly touristic and recreational area of Yahuarcocha Lagoon, the component will finance (i) the construction and rehabilitation of infrastructure to support sustainable tourism, including sidewalks, footpaths, and cycle infrastructure; (ii) the improvement of streetscapes, urban environment, and green spaces; (iii) the installation of urban community equipment to promote social interactions and potentially increase economic activities, such as fountains, playgrounds, picnic areas, or benches; and (iv) the supervision of any associated work. Project interventions around Yahuarcocha are designed to improve mobility, access, and recreational use, including sports, entertainment, and gastronomic activities carried out around the Yahuarcocha Lagoon. In Yahuarcocha, the Project also includes activities to strengthen preservation as well as cultural and environmental protection of the lagoon. This will contribute to sustainability in Yahuarcocha despite the anticipated growth in the number of tourists and visitors. Finally, the Project includes the construction of a pedestrian footpath and a bicycle lane around the lagoon as well as the restoration and improvement of the Yahuarcocha Boulevard, the main commercial and gastronomic strip located approximately 600m from the lagoon. The component will include (a) civil works and (b) works supervision.

10. **Component 3: Technical assistance (US$1.57 million total; US$1.40 million IBRD).** This component will provide technical assistance to support units in the municipality of Ibarra that are responsible for mobility, public works, traffic, urban transport, and urban planning. Specifically, this will include: (a) strengthening institutional capacity for road asset management; (b) supporting the reorganization of public transport and the creation of a non-motorized transport and road safety plan; and (c) carrying out an integration, urban planning, densification, and mobility study aimed at promoting urban development. During implementation, the municipality will work on a reorganization of public transport routes through the Ring Boulevard and define a legal framework for land use in the terrains adjacent to the Ring Boulevard, to ensure proper use and avoid speculation and uncontrolled expansion of the city.

11. **Component 4: Project management (US$1.08 million total; US$0.98 million IBRD).** This component will finance targeted incremental costs associated with overall project management, including project-related audits, monitoring and evaluation (M&E) to track progress on project indicators, environmental and social management, beneficiary assessments, feedback mechanisms, procurement, training and staffing, including a project coordinator.

ANNEX 3: IMPLEMENTATION ARRANGEMENTS

ECUADOR: Ibarra Transport Infrastructure Improvement Project

Project Institutional and Implementation Arrangements

1. Project implementation is the responsibility of the Municipality of Ibarra, which will execute all components and activities directly. Project implementation will be coordinated by the Department of Public Works (DPW), which provides oversight and coordination for the entire Project, including fiduciary and safeguards aspects. The DPW reports directly to the Mayor's Office, which will establish, through an administrative resolution, a Project Management Unit (PMU) for the duration of the Project, headed by a project coordinator and staffed full-time with a contracts administrator, an environmental specialist, a social specialist, and a financial management (FM) specialist. The PMU will draw upon technical and administrative support from several departments: Administrative Directorate, Finance, Urban Development, Public Works, Environmental, Citizen Participation, Procurement, and Tourism. The borrower shall establish and thereafter maintain, throughout the implementation of the Project, a PMU with functions, staffing, and responsibilities as provided in the POM and in a manner satisfactory to the World Bank.

Project administration mechanisms

2. The DPW will provide overall oversight and coordination and consolidate formal requests and correspondence for the Project. The participating departments will have the following roles:

(a) The Director of Public Works, through the PMU, will be responsible for coordination and organization of the different administrative units or departments, as well as of the relevant information and documents related to the management of the Project. In addition, in coordination with others, the project coordinator will be responsible for the preparation of all reports, bidding documents, Procurement Plan and related documents.

(b) Through a full-time project coordinator, the PMU will provide assistance to the Director of Public Works in the coordination of the different departments responsible for various project activities.

(c) Other members of the PMU will also be working full time on issues related to the Project: a procurement management specialist, a financial management (FM) specialist, and an environmental and social specialist.

(d) The PMU will also include designated persons for collaborating with Culture and Tourism; Urban Planning; Grievance Management; and Valuation and Cadaster. The staff members of the municipality working for those departments will be designated as responsible for those areas.

(e) The Department of Finance will be responsible for all FM activities, including cashiers, accounting, and financial reporting.

(f) The Department of Urban Development, with inputs from *Movildelnor EP*, will be responsible for the review of studies related to integration of mobility planning of the overall urban development strategy, non-motorized transport, and road safety. The Department of Urban Development will also be responsible for the M&E coordination.

(g) The DPW will be responsible for overall quality, review of designs, and final cost estimations, as well as for the oversight of construction and technical aspects during works implementation. In addition, DPW is the recipient of institutional strengthening activities to enhance road maintenance.

(h) The Environmental Department will manage the necessary licenses for environmental impact of the different components of the Project and will be responsible, if needed, for the procurement of consulting firms for this purpose.

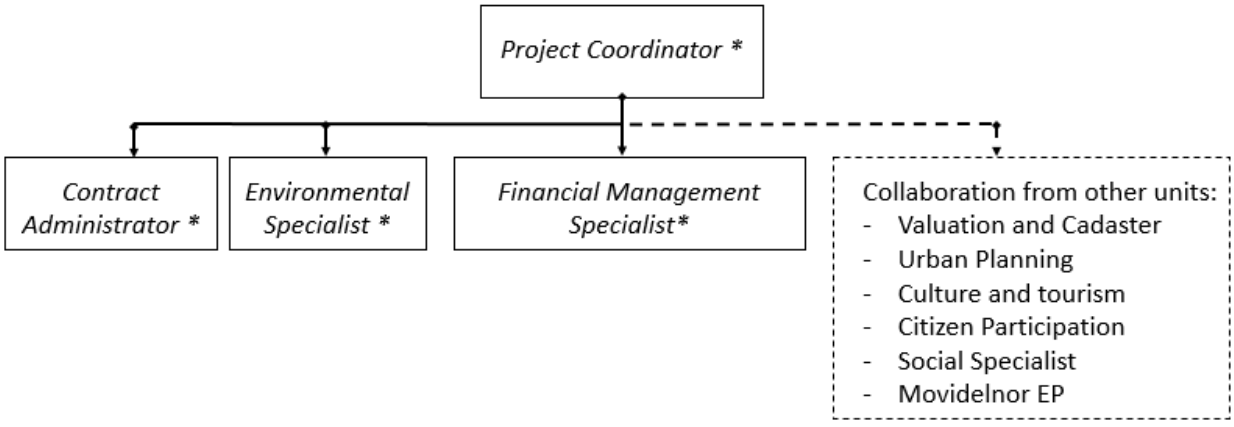
(i) The Department of Valuation and Cadaster Participation will support resettlement and citizen engagement related to the Project, and will provide support on social aspects.

(j) The Procurement Department, in coordination with others, will be responsible for the preparation of all bidding documents, procurement plan, procurement process, and related aspects.

(k) The Department of Tourism will coordinate efforts to ensure the Project contributes to increase walking, cycling, and touristic visits to Yahuarcocha.

3. Figure 3.1 depicts the institutional and operational relationships between the above-mentioned participating entities. The Project maximizes the use of existing capacity within the Municipality of Ibarra. The director of each department is the designated liaison with the Director of Public Works and the PMU, all supported by technical specialists in all the departments.

Figure 3.1. Organizational Chart of the Project Management Unit



Note: * A project coordinator, a contract administrator, an FM specialist, and an environmental specialist will be recruited for the Project, as part of Component 4 and will form the core of the PMU. Other units will designate a specialist as the focal point for collaboration with the PMU.

4. **POM and Procurement Plan status.** The borrower shall carry out the Project in accordance with the POM, which shall include the rules, methods, guidelines, standard documents, and procedures for the carrying out the Project, including, among others, measures to ensure proper land use in the terrains adjacent to the Ring Boulevard and measures to ensure the inclusion of new bus routes through the Ring Boulevard. Detailed processes and implementation arrangements for FM, procurement and contract management, safeguards, project monitoring, communications, reporting, and other implementation aspects are defined in the POM. A draft POM is available and the adoption by the borrower of a POM that is acceptable to the World Bank is an effectiveness condition. The Procurement Plan for the first 18 months is also ready and has been reviewed by the World Bank specialist.

Financial Management

5. In accordance with the proposed institutional arrangements, the Project will be implemented by the GAD of the Municipality of Ibarra through a PMU[12] to be established under the DPW with the support of strategic directorates of the municipality. The FM activities of the Project will be carried out by the FM Department of the Municipality of Ibarra, supported by the PMU's FM specialist fully dedicated to the Project.

6. A Financial Management Assessment (FMA) of the municipality of Ibarra was conducted to evaluate the adequacy of the Project's FM arrangements. The Municipality of Ibarra has developed expertise in managing locally financed projects; however, it lacks the experience in implementing World Bank-financed projects. The Project will increase the municipality's volume of operations, thus making it necessary to strengthen its current capacity. The municipality has established some processes and procedures to control and monitor civil works execution in locally financed projects, which have been strengthened and adapted for the implementation of this Project. Although project activities are expected to be straightforward, interaction between the PMU and Directorates is essential along with establishment of clear roles and responsibilities to avoid implementation delays. Local counterpart funding is expected and it will be important that it is ready and available when project execution commences.

7. Considering the challenges mentioned above, the FM risk rating is considered Substantial. The FMA has identified project-specific actions to ensure adequate implementation capacity and mitigate risks. For instance, a PMU will be established and staffed with an experienced FM specialist fully dedicated to the Project. Current process and procedures to monitor and carry out payments under civil works have been adapted to this Project and reflected in the POM, which has been prepared in form and content satisfactory to the World Bank. Procedures will include specific controls for ensuring that the Project's funds will be managed using sound FM practices. It will include definition of roles and responsibilities between the

[12] The PMU does not have administrative or financial autonomy. It is expected that it will be staffed with a project coordinator, a FM specialist, a procurement specialist, a technical specialist, and others.

PMU staff and the Municipality Directorates, and the maintenance of auxiliary financial reporting on contract execution. Effective operation of the agreed arrangements will depend on the establishment and timely staffing of the PMU with qualified and experienced professionals. Once mitigating measures are implemented, the FM risk rating will be downgraded to Moderate.

8. On the basis of the review, mitigating actions taken by the Municipality of Ibarra, the proposed FM arrangements are acceptable to the World Bank, subject to completion of the following pending mitigation actions:

- **By effectiveness.** (a) Establishment of a PMU, with functions, staffing and responsibilities as provided in the Project Operational Manual and in a manner satisfactory to the World Bank; and (b) the POM is adopted by the Municipality of Ibarra.

- **Dated covenants.** (a) Not later than that 60 days after the Effective Date, the Municipality of Ibarra will contract a FM specialist fully dedicated to the Project; (b) submit audit terms of reference for the World Bank's 'no objection' four months after effectiveness; (c) select and contract, by no later than one (1) month before the first audit period or year-end (as applicable), and thereafter maintain, throughout the implementation of the Project, the services of a qualified and experienced auditor, acceptable to the World Bank to serve as independent external auditor for a period of at least three (3) consecutive years.

Summary of FM Arrangements

9. **Organization and staffing.** The FM Department of the Municipality of Ibarra comprises qualified professionals with experience in the implementation of locally financed projects. The Transport Infrastructure Improvement Project will increase the municipality's volume of operations; thus, it is necessary to strengthen it with an FM specialist—located at the PMU—financed with loan proceeds under terms of reference (ToR) agreed with the World Bank. The FM specialist will be responsible for (a) preparation of the annual project budget; (b) recording accounting transactions in the system, Olympo (*accrual*); (c) reviewing supporting documentation for payment processing *(ex ante control)*; (d) preparing project financial reporting; (e) keeping track of the timely disbursement of approved loan proceeds; (f) maintaining files with supporting documentation of the Project; (g) coordinating audits; and (h) maintaining close coordination with FM Department. The FM Department will be responsible for budgeting, treasury, and overall execution of the Project. The FM specialist would be contracted within *two months after effectiveness or earlier*. Detailed roles and responsibilities are reflected in the POM.

10. **Programming and budgeting.** As in other projects at the subnational level, the Municipality of Ibarra will prepare, formulate, and execute the Project's annual budget following local procedures regulated by the Organic Code of Planning and Public Finance (COPLAFIP);[13] Budgeting Technical Norms, Budgetary classification for the Public Sector; and Decentralized

[13] *Código Orgánico de Planificación y Finanzas Públicas*

and Territorial Autonomy Organization Organic Code.[14] The PMU will prepare the annual project program, procurement plan, and project budget, and the FM Department will incorporate the Project's budget in the municipality's institutional budget subject to the Municipality Council's approval. Project budget execution will be processed through the municipality's integrated FM system, Olympo. The programmatic structure will be classified by financing source, component, and type of expenditure to allow for the recording of project transactions. Specific budgeting reports (*cédulas presupuestarias*)—on project execution—will be issued from the information system and it will be used for budget monitoring purposes and to prepare financial reports. A matrix with the budgeting structure to be used under the Project and linked to project components has been prepared for project purposes and will be included in the POM.

11. **Accounting and information system.** The Municipality of Ibarra has to follow the local FM regulatory framework for subnational governments in Ecuador, including the use of governmental accounting standards, the use of accrual accounting basis, and the chart of accounts applicable for the public sector.

12. Project transactions will be recorded and processed in the FM integrated system called Olympo (developed on the basis of e-Sigef), which is able to produce detailed budgeting reports (*cédulas presupuestarias*) clearly identifying project transactions, reporting them by type of expenditure, component, and financing source. The chart of accounts will be customized to maintain the accounting records of the Project. The PMU's FM specialist will access Olympo to record project transactions (at accrual stage) and extract project information (budgeting reports, accounting auxiliaries, and so on.) to prepare regular project financial reports. The POM will include detailed information on these accounting arrangements.

13. **Internal control.** At the subnational level, the local internal control framework is based on the internal control standards issued by the *Contraloría General del Estado*. The Municipality of Ibarra has adequate segregation of functions to authorize payments, record information, and carry out payments. In particular, execution of civil works have specific internal process and procedures for review, approval, and payment of progress certificates, where the Public Works Department through its Supervision unit is responsible for authorizing progress certificates and the FM Department is responsible for payment processing. For project purposes, these procedures will be used and customized to the Project's organizational structure under the PMU.

14. These procedures mainly include the following: (a) the PMU's technical team will appoint/hire a contract administrator to review civil works progress certificates and external supervisor report; (b) the PMU's FM specialist will review payments (ex- ante control) and ensure that they are adequately supported with documentation and will define the corresponding budgeting account and financing percentage before requesting payment processing to the FM Department; (c) the FM Department will record project transactions in the FM integrated system Olympo (commitment stage); (d) the PMU's FM specialist will record project transactions in Olympo (accrual stage); and (e) the FM Department will finally process the payment. The Municipality of Ibarra will use the system called Quipus to establish the flow of the payment process, responsible unit (for review/approval), and date of receipt of documentation and

[14] *Código Orgánico de Organización Territorial Autonomía y Descentralización*

approval. All original supporting documentation will remain at the municipality, while copies of the payment will remain at the PMU.

15. **Internal audit.** The internal audit unit of the Municipality of Ibarra depends on the *Contraloría General del Estado*. This unit carries out special examinations on the municipality operations during each year based on annual planning of activities. The Project will be subject to internal reviews as required by this unit. The external auditor will also coordinate with internal audit and take into account their observations during the audit work. On the basis of the process and procedures mentioned above, the internal control environment for the Project is reliable and provides an adequate control framework for processing project transactions. There are good systems in place for timely follow-up to internal audit observations and implementation of recommendations. Detailed processes and procedures designed for the Project are being reflected in the POM.

16. **Financial reporting.** The PMU's FM specialist in coordination with the FM Department will be responsible for the preparation of project financial statements acceptable to the World Bank. Project financial reports will be prepared using the cash accounting basis, according to information provided by the Olympo information system (budgeting report) and will include (a) interim financial reports and (b) annual financial statements.

(a) **Project interim financial reports** will include loan proceeds and local counterpart funds and information by disbursement categories. They will be prepared in U.S. dollars and submitted to the World Bank on a semiannual basis, but no later than 45 days after the end of each calendar semester. These reports will include (i) a statement of sources (all financing sources) and uses of funds (expenditures classified by component and financing source); (ii) statement of cumulative investments; (iii) reconciliation of advance to the Designated Account (DA); (iv) budgeting reports; (v) report on payments made by each contract; and (vi) explanatory notes to the financial statements.

(b) **Project annual financial statements** will include the content and format described above, under (i), (ii), and (vi), and will be prepared by Municipality of Ibarra to be audited.

17. **Audit arrangements.** Following the Memorandum of Understanding,[15] the *Contraloría General del Estado* is responsible for the selection and appointment of an independent private auditor for the Project, acceptable to the World Bank, under the ToR prepared by the Project and agreed with the World Bank. Annual project financial statements will require (a) an opinion on the Project's annual financial statements and (b) an internal control management letter, to be submitted for the World Bank's review, before six months after the end of each borrower's fiscal year or any other period agreed with the World Bank. Audit of annual project financial statements will be conducted in accordance with International Standards on Auditing issued by the International Federation of Accountants. Audit costs will be financed out of the loan proceeds. The audit ToR will be subject to World Bank's no objection not later than *four months*

[15] Memorandum of Understanding, signed in 2007 between the *Contraloría General del Estado* and the World Bank.

after effectiveness. The Municipality of Ibarra will confirm the appointment of the auditor for the first three years of project implementation not later than *one month before the first audit period/year ends.* In accordance with the World Bank's Access to Information Policy, the audited financial statements of the Project will be made publicly available.

Funds Flow and Disbursement Arrangements

18. **Funds flow.** In accordance with local regulations, the Municipality of Ibarra will open a segregated bank DA in U.S. dollars in the Central Bank of Ecuador to receive loan proceeds under the Transport Infrastructure Improvement Project. Local counterpart financing of the Municipality of Ibarra will be used to cover Value Added Tax (VAT) and other costs associated with the Project. For payments processing, funds deposited in the DA will be withdrawn to make payments using the agreed World Bank financing percentage. Counterpart financing will be processed from the Municipality of Ibarra general bank account. The payments will be processed through the Interbank Payment System of the Central Bank of Ecuador, which allows for electronic cash transfers from the bank accounts of public entities to those of the beneficiaries. All payments will have two expense vouchers, one for each financing portion. Detailed funds flow arrangements are outlined in the POM.

19. **Disbursements.** The World Bank will disburse loan proceeds using the methods of advance, reimbursement, and direct payments. Funds deposited into the DA as advances will follow World Bank's disbursement policies and procedures as described in the Disbursement Letter and Disbursement Guidelines. The Project will have joint co-financing with the municipality (local counterpart funding will cover VAT and a part of the cost). Under Component 1 (the largest activity), the cost of the northern part of the Ring Boulevard will be fully financed by the loan, excluding VAT. For the southern part of the Ring Boulevard, 60 percent out of the total cost, excluding VAT, will be financed.

20. Advances to the DA may be made as long as the aggregate amount advanced does not exceed the ceiling of US$4,000,000. The amount of the initial advance to the DA will be based on the forecast of expenditures planned for the first six months of project implementation. The Municipality of Ibarra may request the total amount of the ceiling at once or request partial advances until it reaches the total ceiling. Preparation of withdrawal applications will be the responsibility of the PMU's FM specialist in coordination with the FM Department. The budget execution report issued from the Olympo system (*cédula presupuestaria*) and auxiliary reports (contracts status) will be used as the basis to prepare Statement of Expenditure reports. The frequency of reporting eligible expenditures paid from the DA is expected to be at least on a quarterly basis. Supporting documentation for justifying project expenditures under advances and reimbursement methods would be records evidencing eligible expenditures (for example, copies of receipts or invoices) and will remain at the municipality. All Statement of Expenditure supporting documentation will be available for review by the external auditors and World Bank staff at all times during project implementation, until at least the later of (a) one year after the World Bank has received the audited financial statements covering the period during which the last withdrawal from the Loan Account was made or (b) two years after the closing date. The borrower shall enable the World Bank's representatives to examine such records. Copies of the payment will remain at the PMU for ex post reviews from the World Bank and external auditors.

21. Retroactive financing in the amount of $10.5 million will be available for eligible payments agreed with the World Bank. Eligible payments must meet the following conditions:

- Made by the borrower one year before the date of the Loan Agreement
- Do not exceed 20 percent of the loan amount
- Subject to the same systems, controls, and eligibility as expenditures made during the loan period

22. Table 3.1 details the loan proceeds with the categories and thresholds.

Table 3.1. Table of Loan Proceeds

Category	**Amount of the Loan Allocated (US$, millions)**	**Percentage of Expenditures to be Financed (excluding VAT)**
1. Civil works and consulting services under Part 1 of the Project (Ring Boulevard - North Section).	19.33	100
2. Civil works and consulting services under Part 1 of the Project (Ring Boulevard - South Section).	28.54	60
3. Civil works and consulting services under Part 2 of the Project.	2.24	100
4. Consulting services, goods, and operational costs under Parts 3 and 4 of the Project.	2.38	100
Total	**52.50**	–

23. **Supervision.** FM supervision would include on-site and off-site supervisions. On-site supervision missions will be carried out twice a year to the extent possible during the first year and later frequency will be calibrated on the basis of project performance and risk assessment. Off-site supervisions will comprise desk reviews of interim financial reports and audited financial statements.

Procurement

24. The procurement activities will be carried out by GAD of the Municipality of Ibarra (GAD) through a PMU supported by the GAD's Procurement Department. Procurement risks are related to the procurement capacity of the municipality, lack of previous experience in World Bank procurement procedures, as the technical and fiduciary teams do not have adequate knowledge of World Bank procurement procedures and contract monitoring, and a lack of previous experience of national companies (contractors) with World Bank procurement procedures. The overall project risk for procurement is rated as Substantial.

(a) The GAD will be responsible for the procurement processes for the Project. It has a dedicated procurement specialist who is working correctly with the National Law procedures, and its information system is well-designed and provides the needed information related to monitoring, reporting, and record keeping of all contracts. Procurement risks are related to the weakness of the procurement capacity of the

institution, due to the lack of technical and an adequate knowledge of World Bank's procurement procedures, and contract monitoring.

(b) Accordingly, the procurement assessment recommends the following preliminary mitigation measures: (i) preparation of a POM, describing, among others, the relation and the responsibilities within the GAD; (ii) describing, among others, procurement and contracting procedures, the bid and standard request for proposals, bid evaluations reports, and so on, to be adopted prior to any contracting process; (iii) inclusion of the Special Procurement Provisions in the Legal Agreement, (iv) training of fiduciary staff in procurement and contract administration at the GAD, and (v) close monitoring by the World Bank.

25. Additional risks include poor quality and delays in completion of works due to (a) contractors winning bids at significantly lower prices than engineers' estimates and (b) smaller contractors entering in joint ventures with other smaller contractors that become sleeping partners and failing to deliver.

26. Mitigating measures include the following:

(a) Besides the qualifications criteria to be included in the bid documents and quality assurance standards provisioned in the technical specifications, mandatory quality tests are defined in the bid documents as required. Frequent monitoring (at least three times a year for each contract) on quality assurance and physical progress.

(b) All the interim bills of the contractor to be substantiated with test results conforming to the Quality Assurance Plan and the Request for Inspection form acceptance of the work signed by the client's technical representative as required. In addition, independent outsourced inspectors (*Supervision/Fiscalización*) are to be deputed to verify the quality of the work and compliance with the Quality Assurance Plan and their report has to be included in the bills before payment.

(c) Contract provisions liquidated damages to the contractor if physical progress is less than 15 percent within one-third of the contract period or less than 40 percent within two-thirds of the contract period or less than 75 percent within 100 percent of contract period due to poor delivery by the contractor or if physical progress is less than the 70 percent of the approved works schedule measured monthly. The contract shall be terminated if the work progress is less than 50 percent by the work completion due date.

27. Procurement for the proposed Project will be carried out in accordance with the World Bank's 'Guidelines: Procurement under IBRD Loans, IDA Credits and Grants by World Bank Borrowers' and 'Guidelines: Selection and Employment of Consultants under IBRD Loans, IDA Credits and Grants by World Bank Borrowers', both dated January 2011 and revised July 2014 and the provisions stipulated in the Legal Agreement. For each contract to be financed by the Loan, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame, are agreed between the borrower and the World Bank in the Procurement Plan. The Procurement Plan will be updated at

least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

28. **Procurement of works**. Works procured under this Project may include the construction of urban roads infrastructure. Packages of ICB are foreseen. Also packages amounting to under US$8,000,000 in the aggregate may be procured using NCB processes. Shopping procedures may be used for contracts of up to US$200,000 (only in emergency cases). Procurement of works for NCB or Shopping methods would be based on bidding documents satisfactory to the World Bank.

29. **Procurement of goods and non-consultant services.** Goods procured under this Project would include civil construction goods necessary to carry out project activities and goods (equipment, furniture, materials, and so on.) purchased for the Project's implementation of each component. Procurement of goods will be done using the World Bank's standard bidding documents for all ICB, and bidding documents satisfactory to the World Bank for NCB or Shopping methods.

30. All procurement notices shall be advertised on the Project's website, the GAD's website, and at least one local newspaper of wide national circulation. ICB notices and contract award information shall be advertised in United Nations Development Business online (UNDB online) in accordance with provisions of paragraph 2.60 of the Procurement Guidelines.

31. **Selection of consultants.** Consulting firm services may be contracted for training and capacity-building activities, technical studies, supervision, audits, and evaluations. The procurement of consulting firms will be carried out using the World Bank's standard Request for Proposals (RFP). International firms should have the opportunity to participate in all solicitations above US$200,000. Short lists of consultants for services estimated to cost less than US$200,000 equivalent per contract may be composed entirely of national consultants (firms registered or incorporated in the country) in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Consulting firms will be selected following Quality and Cost-based Selection (QCBS) for all contracts in the estimated amount of more than US$200,000.

32. **Selection of individual consultant services.** Individual consultant services will be contracted mostly for project management (if deemed necessary) and for technical advice, mainly in the substantive matters of the Project, but also for design, supervision, and technical assistance. The ToR, job descriptions, minimum qualifications, terms of employment, selection procedures, and documents shall be described in the POM and the contract shall be included in the Procurement Plan.

33. A project website, the GAD website, and a national newspaper shall be used to advertise expressions of interest as the basis for developing short lists of consulting firms and individual consultants and to publish information on awarded contracts in accordance with the provisions of paragraph 2.31 of the Consultants' Guidelines and as mandated by local legislation. Contracts expected to cost more than US$200,000 shall be advertised in United Nations Development Business online. Shortlists of consultants for services estimated to cost less than US$200,000 equivalent per contract may be composed entirely of national consultants, in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

34. **Training.** Training would include expenditures (other than those for consultants' services) incurred by the borrower to finance logistics for workshops, meetings, and seminars, and reasonable transportation costs and per diem of trainees and trainers (if applicable), training registration fees, and rental of training facilities and equipment. The procurement would be done using NCB and shopping procedures as discussed below. Direct Contracting (paragraph 3.8 of the Procurement Guidelines) may be used for the payment of registration fees, up to a ceiling amount to be established annually in the Procurement Plan.

35. **Operating Costs.** The municipality will finance incremental operational cost of implementing departments, including salaries, travel cost, and subsistence for missions of project staff establishment and operation of the monitoring and supervision, technical and financial audits; operation and maintenance of project offices, including utilities and telecommunication; and acquisition, operation and maintenance of office and field equipment, including vehicles, needed for project activities and to be established in the Procurement Plan.

36. **POM.** The POM includes all procedures, rules, and standards for the implementation of all aspects of the Project including, but not limited to, institutional arrangements; operation of the PMU; project planning, M&E; social and environmental review of the Project, reporting, communication, human resources; procurement; administrative and FM; and procedure for amending the POM.[16].

37. **Procurement Plan.** A Procurement Plan covering the first 18 months was discussed and agreed to between the borrower and the task team. The procurement plan is available in the Project's database and on the World Bank's external website. The Procurement Plan will be updated semiannually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The Procurement Plan shall set forth those contracts which shall be subject to the World Bank's prior review. All other contracts shall be subject to post review by the Association, except for those contracts terminated by the recipient's agency for which the borrower shall seek the Association's no objection prior to the proposed termination.

38. **Frequency of procurement supervision.** In addition to the prior review supervision to be carried out by the World Bank, the capacity assessment has recommended semiannual supervision missions, including field visits, and post reviews of procurement actions. Details of the procurement arrangements involving international competition are as follows:

(a) Goods, works, and non-consulting services: List of contract packages to be procured following ICB and direct contracting

Table 3.2. ICB contracts

1	2	3	4

[16] Amendments to the POM would need to be acceptable to the World Bank.

Ref. No.	Contract (Description)	Construction of Northern Section	Construction of Southern Section
1	Estimated Cost (US$, millions)	18.6	21.5
2	Procurement Method	ICB	ICB
3	P-Q	No	No
4	Domestic Preference (Yes/No)	No	No
5	Review by Bank	Prior	Prior
6	Expected Bid Opening Date	Mar-16	Mar-17
7	Comments		

(b) Consulting Services: List of consulting assignments with short list of international firms

Table 3.3. Short list consulting contracts

1	2	3	4	6	7
Ref. No.	Contract (Description)	Estimated Cost (US$, millions)	Selection Method	Review by Bank (Prior / Post)	Expected Proposal Submission Date
1	Supervision of Construction of Northern Bypass	0.7	QCBS	Prior	March 2016
2	Supervision of Construction of Northern Bypass	0.9	QCBS	Prior	March 2017

39. Thresholds for procurement methods and prior review are as follows:

Table 3.4. Thresholds of Procurement Methods and Prior Review

Expenditure Category	Contract Value (Threshold) (US$, thousands)	Procurement Method	Bank Prior Review
1. Works	**>8,000**	**ICB**	**All**
	200–8,000	NCB	First two of each year
	<200	Shopping (Price Comparison) (only in case of emergency)	First two of each year
	Regardless of value	DC	All
2. Goods	>500	ICB	All
	100–500	NCB	First two of each year
	<100	Shopping	First two of each year
	Regardless of value	DC	All
3. Consultant Services	>200	QCBS	All
	<200	QCBS, QBS, CQS, FBS, LCS (as per Procurement Plan)	All ToRs Selection process reviewed twice yearly (ex post)
	Regardless of value	SSS	All
4. Individual Consultants	>100	IC	All
	<100	IC	All ToRs. Selection process reviewed twice yearly (ex post). All contracts awarded under SSS and key personnel
	Regardless of value	SSS	All
Total value of contracts subject to prior review: US$ To be determined			

Note: DC: Direct Contracting; QCBS: Quality- and Cost-Based Selection; QBS: Quality Based Selection; FBS: Fixed Budget Selection: LCS: Least-Cost Selection; CQS: Consultant Qualification Based Selection; SSS: Sole Source Selection; IC: Individual Consultants Selection.

Environmental and Social (including safeguards)

Environmental

40. Around the urban area of Ibarra (2,250 m above sea level), which occupies a large Andean valley, a mosaic of agricultural uses (the most important), urban and wildlife is presented. On the lower-anthropic impact, a variety of ecosystems (montane dry forest, scrub, montane cloud forest, and others) is evident. Most of the ecosystems of the metropolitan area of Ibarra have been modified by human activities, especially agricultural and livestock activities and urban development.

41. Component 1 (the Ring Boulevard with a bypass function around the city) will result in positive social impacts with some minor negative ones, especially during construction (for

example, earthworks impacts). Most sections of this corridor will be built upon existing roads. Those areas, where the Project will be developed, have low-density residential and agricultural uses. Sites of ecological value, wilderness or natural protected areas, have not been identified in the area of influence of the Project. The sensitivity of this natural environment is estimated as low. It is categorized as B because it will not have significant impacts on the natural environment and only a few impacts will be moderate (mostly associated with earthworks) that can be mitigated by conventional measures.

42. The majority of the works of the Ring Boulevard involve the construction along existing right of way. It will improve mobility and quality of life for the local population, reduce traffic congestion, and considerably reduce the fuel consumption, carbon emissions, noise, and vibrations in the town. As the bypass includes upgrading and road widening, and new road for some sections, there will be site-specific environmental impacts, including earthworks, which may also require setting up a sizeable work camp. These impacts will be mitigated through the implementation of the EMP. Some moderate impacts associated with earthworks can be mitigated with standard measures. Stony materials and soils used for the construction of the road will be extracted from existing quarries and authorized by the municipality, which complies with current environmental regulations.

43. A detailed analysis of different sectors of the Ring Boulevard (land use and zoning legally valid) shows that most of the road development is on agricultural and residential (low density) sectors, with a potential urban zoning. The types of work identified are new road with land acquisition, new road on the existing platform or right of way¸ and widening of current road adding new lanes (land acquisition is needed in some cases). The total length of the Ring Boulevard is 21.5 km (according to the version used for reference) and corresponds to (a) 33 percent to widening of current road adding new lanes; (b) 20 percent to new road on the existing platform or right of way; and (c) 47 percent new road with land acquisition. Based on the analysis of the works typology and adjacent land uses, the following situations have been identified as more sensitive: (a) 5,100 m, which will be a widening of the current road, adjacent to a non-dense residential use and (b) 5,800 m in which there will be a new road with land acquisition with mixed use (residential and agricultural uses).

44. To strengthen the sustainability of the Ring Boulevard, the World Bank has proposed a set of new requirements to the EIA process, focusing mainly on the following topics: indirect impacts in the long term, cumulative impact, improvement in the quality of life, densification and urban expansion, changes in land use, demand for resources and services, and generation of waste. A draft version of this new expanded EIA, was already delivered by the municipality and reviewed by the World Bank. Its contents are considered acceptable by the World Bank, and it is only needed to receive an adjustment of the economic cost for implementing the EMP.

45. Regarding the interaction of the bypass with areas of importance for the conservation of nature, the MAE has issued a certificate that the ring road does not intersect with the national system of protected areas, forest national heritage, and protected forests. The Ring Boulevard had the approval of the ToR for the EIA by the MAE, in December 2014.

46. Component 2 (that will finance the construction and restoration of infrastructure to support sustainable tourism) will have social and environmental positive impacts, improving the

boulevard management and control its activities (including waste management). The area of influence of the Project includes a landscape of high tourist and cultural heritage value. It is estimated that this natural environment is highly sensitive but with low intensity of environmental impacts, so the Project is categorized as B.

47. Component 2 in Yahuarcocha obtained the environmental license of the MAE in December of 2014. The Municipality of Ibarra has started the process to obtain this license for the entire Ring Boulevard and started the process of socialization of their environmental impacts. The local government started socializing and informing the citizens about environmental and social impact in each of their districts.

48. The legislation of Ecuador has a lot of regulations related to the safety of workers: (a) Decisión No. 584 y Resolución No. 957, 'Regulation of the Andean Instrument on Safety and Health at Work'; Health at Work and the Andean security instrument are adopted to reduce or eliminate damage to the health of the worker, through the application of control measures and activities for the prevention of risks the work produces; (b) Decreto No. 2393 about regulation of safety and health of workers and improvement of the working environment; (c) Suplemento No. 00174 about safety and health regulations for construction and public works; and (d) Conventions of the International Organization of Labor related to safety and health at work, ratified by the Republic of Ecuador.

49. In addition, the EIA of the Ring Boulevard has a specific Safety and Health at Work Plan, which includes different programs detailing all the precautions and care to be applied on all work fronts, with the intention of providing timely medical care in case of emergency personnel accidents and incidents (first aid and medical care, personal protective equipment

50. It should be mentioned that persons with disabilities will be taken into account from the design stage of the Ring Boulevard and Yahuarcocha projects. Currently the responsibles for the Project are consulting the specific actions to put in practice.

Physical Cultural Resources

51. The National Institute of Cultural Heritage of Ecuador (INPC) has notified that any intervention in the area located in the vicinity of the Yahuarcocha Lagoon does not affect heritage assets. The INPC certifies that in the sector where the work will be carried out, there are only modern architectural structures intended for trade, with no apparent vestiges of archaeological interest.

52. The Ring Boulevard component provides an important mass movement of soil, including cuts and fills. Regarding this issue, it should be emphasized that the INPC recognized the high archaeological potential of the canton and suggested that the local archaeologists should make constant visits during soil removal to register, recover, or prevent any possible property damage. Related to this, the Cultural Heritage Act says that when excavations occur and there are objects of archaeological or paleontological interest, the INPC has to be immediately notified.

53. Consequently, this policy has been triggered for precautionary measures and as required by applicable measures included in the EIA and EMP.

Natural Habitats

54. There are no environmental protected spaces in the direct area of influence of the proposed Project. Both components (Ring Boulevard and Yahuarcocha) received from the MAE, the certificate of 'no intersection' with the national system of protected areas. In other words, the Project will not result in any direct significant conversion or degradation of critical natural habitats. However, part of the activities included in Component 1 and Component 2 will take place in the proximities of the Yahuarcocha Lagoon, which is a sensitive ecosystem. This policy has been triggered as a precautionary measure, and as required by applicable measures included in the EIA, which will include specific screening provisions for evaluating potential impacts on natural resources (water quality, eutrophication, water input to the lagoon, integrated watershed management). Detection of these potential impacts they are based on current uses of the watershed of Laguna Yahuarcocha and eventual future scenarios. The main measures of prevention of these impacts have been initially developed in the document "Updating the Integrated Management Plan of the Hydrographic Micro-Yahuarcocha" prepared in 2012 by the GAD Ibarra and the Technical University of Northern Ecuador. Many of these prevention measures developed in 2012 have been revised and incorporated into the new EMP of Yahuarcocha.

Social

55. With regard to social safeguards, both the involuntary resettlement and indigenous peoples' policies apply. The World Bank policy on Involuntary Resettlement (OP 4.12) applies as the Project will require the acquisition of 43 hectares from 641 private property owners (average of 0.07 hectare per affected person). There are no squatters, renters, absentee landlords, or informal users among the affected people. Close to one-third (31 percent) of this land is classed as residential, but only 25 houses will be displaced, resulting in the resettlement of 115 people. Most of the remaining land to be acquired is agricultural (35 percent) and public land (28 percent), with small amounts of commercial land also being acquired (4.5 percent). The Project will also result in the displacement of ten commercial structures within the commercial land identified above. These impacts, along with the compensation measures to be applied are fully described in a detailed resettlement plan prepared by the client, which was disclosed and discussed with people affected by the Project.

56. The municipality has agreed to pay full replacement cost for affected land and buildings using market comparators. The valuation of land to be acquired is based on a comparison with local real estate sales and is up-to-date as of December 31, 2014 (and will be subsequently updated prior to implementation). Also, the municipality is using current prices for the replacement costs of crops and productive trees affected by the Project using market data provided by the Ministry of Agriculture. They have also agreed to budget for additional costs resulting from the application of the World Bank's policy on involuntary resettlement (for business loss, moving expenses, severe impacts).

57. A dedicated multi-stage grievance redress system is outlined in the RAP, which requires the use of independent valuation experts when prices offered for land, buildings, or other assets

are disputed by the owner. The supervision to ensure proper application of the approved RAP, in accordance with OP 4.12, will be carried out with support from the task team during implementation. Furthermore, the client will hire a consultancy firm to implement the resettlement plan. Given these client commitments and the measures outlined in the resettlement plan, it can be concluded that the client will conform to the requirements of the World Bank's resettlement policy. Further, it is worth noting that the client has significant technical capacity to carry out consultation and expropriation, with a team of professional valuation and cadaster specialists having successfully conducted expropriation in the past, with the support of the legal, public works, and citizen participation teams. In particular, it is important to note that the valuation and cadaster team have already established a tailored geographic information system to identify land acquisition and resettlement impacts, and to monitor the land acquisition process.

58. Ibarra is a multicultural canton with indigenous and Afro-descendant people accounting for 18 percent of the population. According to the 2001 Census, 9 percent of the population is indigenous. The four major indigenous groups in Ibarra include the Karanki, Imbaya, and Natabuela, who mostly speak Kichwa, and the Awá, whose language is Awapít. Therefore an Indigenous Peoples and Afro-descendant Plan has been prepared and disclosed locally. This plan describes the Project, the main stakeholders involved, the socioeconomic characteristics of indigenous people and Afro-descendant people in Ibarra, potential project impacts and mitigation measures. Ultimately, because the Project will be focused on investments in the urban part of the canton, there will be no direct negative impacts on indigenous lands or communities which are located in the rural parishes of the canton. Negative impacts which are likely to occur during construction relate to the disruption of traffic and public infrastructure (such as drainage canals), and will principally impact urban residents of Ibarra. Specific actions recommended under the IPP to ensure the Project is culturally appropriate include bilingual signage (Kichwa and Spanish), an ongoing socialization campaign targeted to indigenous residents of the canton, and a dedicated grievance redress mechanism and focal person within the citizen participation team. The IPP has been disclosed, and received broad community support through free, prior and informed consultation meetings with representatives of Afro-descendant and indigenous communities close to the city of Ibarra (two meetings in Caranqui Parish and one meeting in Ambuquí Parish). These meetings were conducted in March and May 2015 and were attended by the leaders of these communities (Parochial Board members). During the meetings, these representatives confirmed their support for the Project and the actions outlined in the plan. The overall project socialization process also accommodated different sub-populations within the urban contexts, being sensitive to the needs of women, Afro-descendants, and indigenous communities in those areas.

59. In addition to consulting with indigenous and Afro-descendant communities, the municipality engaged in an intensive campaign of citizen engagement**,** using its network of *barrio* community councils to discuss the proposed with residents. The client has committed to continue socializing the Project through this network during implementation, and to put in place and publicize a dedicated multi-stage grievance redress mechanisms. This mechanism would include a first stage of facilitation/negotiation by the citizen participation team, which if not successful would lead to the grievance being escalated to the mayor's office. Failing this, there is a commitment to engage with independent mediators to help resolve complaints that may arise (such as disruption of traffic or basic services, noise, dust, etc.). Responsibility for the implementation of the IPP lies with the GAD-Ibarra citizen participation team, which includes a

dedicated specialist responsible for indigenous affairs, who will also serve as the focal point for execution of the IPP (e.g. For handling IP grievances, managing consultation, reviewing culturally appropriate communication etc)

60. Throughout the citizen engagement process, the client was particularly sensitive to gender inclusion, and the need to ensure the voices of women were heard throughout the process. This included organizing break-out groups in consultation meetings with men and women. The client is committed to continuing gender-inclusive consultation during implementation, and will conduct annual review meetings within the community along the project alignment, which will include break-out meetings with women and men to discuss their differing perspectives on project progress. In addition, results indicators related to project beneficiaries and beneficiary feedback will be disaggregated by gender. Furthermore, there is significant scope under Component 3 to design gender-inclusion activities, particularly communication campaigns promoting traffic safety and cycling which could be targeted to female beneficiaries through their content, placement and timing.

Project Monitoring and Evaluation

61. Overall responsibility for M&E of the Project is with the DPW of the GAD of Ibarra, through the PMU, which will consolidate all reports and provide timely information about the progress and project execution. The DPW will also be supported by the Department of Planning, which is responsible for coordinating the data collection for the different indicators, particularly those requiring surveys. The GAD will be assisted in the overall M&E process by other internal institutions involved in the execution of the Project, including Tourism, *Movidelnor EP*, and Citizen Participation Department (some of them are already collecting information relevant to the Project, which can be shared to evaluate the results of the Project) and specialized consultants, as required. Monitoring and Evaluation include (a) monitoring of project physical progress (length of road constructed), (b) evaluation of reduction in travel time, and (c) carrying out surveys to asses user satisfaction with the infrastructure. The Department of Planning will provide support for the survey. The task team will monitor implementation, including compliance with safeguards and fiduciary policies, during regular implementation support missions approximately every six months.

ANNEX 4: IMPLEMENTATION SUPPORT PLAN

ECUADOR: Ibarra Transport Infrastructure Improvement Project

Strategy and Approach for Implementation Support

1. The strategy for Bank project implementation support reflects the nature of the Project and its risk profile and aims to enhance the quality of the client's delivery of proposed Project interventions. As such, the implementation support focuses on risk mitigation measures identified in the SORT matrix and standard Bank supervision (including technical, institutional, environmental, and social safeguards) and fiduciary aspects (FM and procurement).

2. This project builds on recent experience at the subnational level in Ecuador. This project will be the first Bank-financed project implemented by the Municipality of Ibarra.

Implementation Support Plan

3. The task team has evaluated the implementation support necessary to support the Municipality of Ibarra in achieving the intended objective. To the extent possible, joint missions with implementation support for other activities in Ecuador will be carried out.

4. During preparation, it was evident that the function of a project coordinator is essential to ensure smooth implementation of the Project. A strong project coordinator, working full-time on the Project and with adequate support as well as active participation from partner units within the municipality, is critical during implementation. In addition, regular support and active monitoring from the task team is required, particularly during the first twelve months, when first contracts are expected to be launched.

5. Given the learning curve expected, strong support will be needed to ensure compliance with Bank safeguards policies and proper application of the RAP. In addition, a specific covenant has been considered to ensure fully staffed environmental and social units throughout project implementation to ensure adherence to the EMP and RAP documents that have been prepared. Additional supervision resources are required to provide necessary support during the implementation of the parallel project, the southern bypass.

Table 4.1. Summary of Implementation Support Focus during the Life of the Project

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	Resettlement	Social specialist	6	–
	Environmental	Environmental specialist	5	–
	Procurement training	Procurement specialist	4	–
	FM training	FM specialist	3	–
	Project management	Task team leader	8	–
	Technical support	Technical experts	6	–
After first year	Social aspects, grievance redress	Social specialist	4	–

	mechanism, and so on.			
	Environmental	Environmental specialist	3	–
	Procurement	Procurement specialist	3	–
	FM aspects	FM specialist	3	–
	Project management	Task team leader	8	–
	Technical support	Technical experts	6	–

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task team leader	6	3	HQ/different country based
Transport specialist	4	3	Country based
Social specialist	4	3	HQ/different country based
Environmental specialist	4	3	HQ/different country based
FM specialist	3	3	Country based
Procurement specialist	3	3	HQ/different country based
Technical experts	4	3	HQ/different country based
Legal counsel	3	1	Country based

Partners

Name	Institution/Country	Role
Project Coordinator	Municipality of Ibarra	Provide overall project oversight
Client	Mayor of Ibarra, GAD Ibarra	Borrower
Guarantor	Ministry of Finance	Guarantor

ANNEX 5: PROJECT CONTRIBUTION TO SHARED PROSPERITY

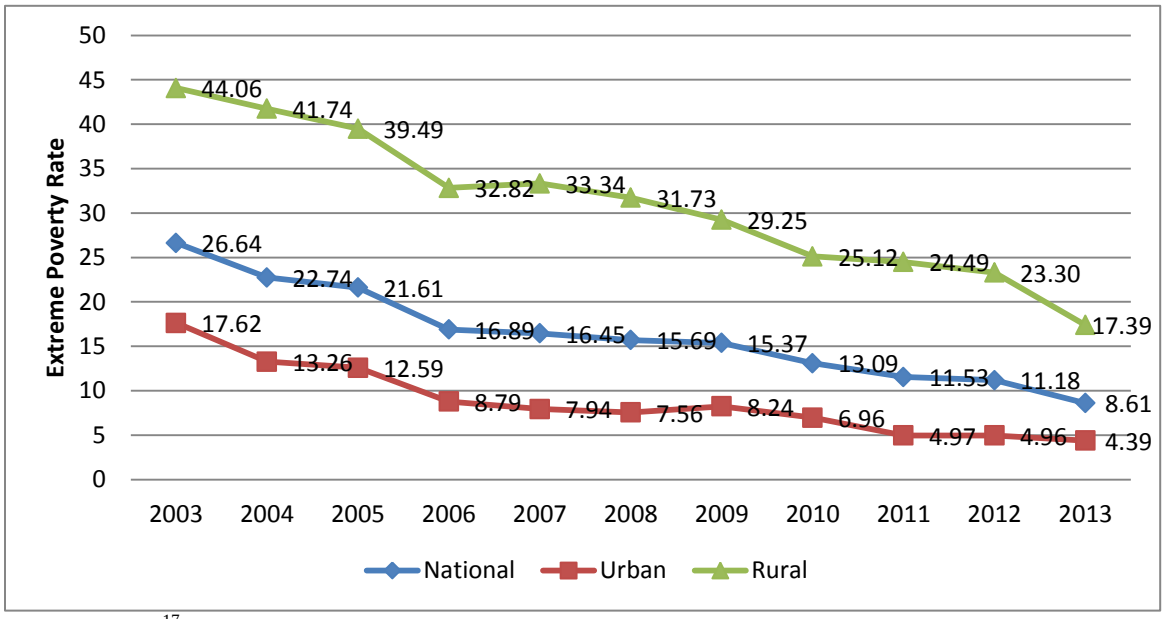
ECUADOR: Ibarra Transport Infrastructure Improvement Project

1. The Project will contribute to the World Bank's goals of reducing poverty and boosting shared prosperity of the bottom 40 percent through its direct impact on access to markets, jobs, and other basic services such as health care and education within the urban areas. Evidence on the likely distributive impacts of urban transport infrastructure projects on the poor and the bottom 40 percent of the income distribution is particularly scarce. Extensive consultations took place during project preparation in an effort to understand the critical mobility and accessibility needs of inhabitants in Ibarra, which shed some light on the constraints facing the disadvantaged.

Poverty in Ecuador

2. Ecuador has made considerable strides in the fight against poverty and inequality. Macroeconomic stability, job creation, and an unprecedented expansion in the social safety net have had a positive impact on several socioeconomic variables. These factors helped reduce total poverty from 49 percent to 22.1 percent between 1999 and March 2015 and extreme poverty from 26 percent to 9 percent in the same period. Furthermore, inequality—as measured by the Gini coefficient—fell from 0.60 to 0.45. The economic and poverty reduction gains are a countrywide phenomenon, benefitting both rural and urban populations.

Figure 5.1. Extreme Poverty Evolution: National, Rural and Urban Trends

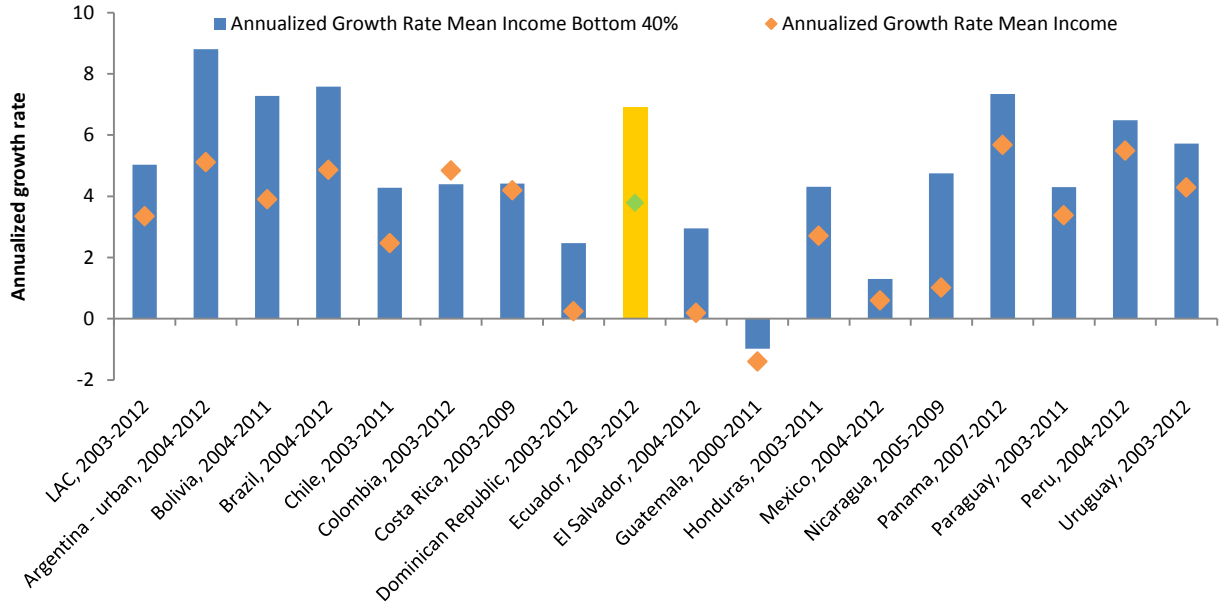


Source: ENEMDU[17], World Bank Poverty Global Practice.

[17] ENEMDU: Encuesta Nacional de Empleo, Desempleo y Subempleo (Employment and Unemployment National Survey)

3. Viewed through the lens of shared prosperity, the country stands out as one of the best performing countries in the region. Indeed, Ecuador has excelled in the context of its Latin American peers. The growth rate of the income of the bottom 40 percent has attained roughly 7 percent per year against 4 percent for the average population, a performance that places the country among the top five performers in the continent, just behind Argentina, Brazil, Bolivia and Panama (see figure 5.2).

Figure 5.2. Annualized growth rate per country



Source: ENEMDU, World Bank Poverty Global Practice.

4. Within an overall positive picture, there are recent signs of concern that cast uncertainty on whether the gains of the decade are sustainable. In 2013, inequality had risen and poverty reduction in urban areas had stagnated. In line with other Ecuadoran cities, the number of people living below the poverty line in Ibarra has been decreasing in the last decade. According to the 2010 Population and Housing Survey, the Ibarra Canton had a total population of 181,175 people, up from 87,834 in 1995 (of which 21 percent were indigenous or Afro-descendant), which corresponds to 45.49 percent of the total Imbabura Province, which itself is home to 898,244 inhabitants. When examining poverty data at the parish level, the disparities in household welfare become more evident; while the urban parishes of Ibarra exhibit poverty rates of 20.6 percent on average and about 44.6 percent of the population living with at least one unsatisfied basic need,[18] the rural parish of San Antonio, which will be served by the future Ring Boulevard had a moderate poverty rate of 27.2 percent, extreme poverty rate of 16.33 percent, and up to 56.6 percent of households living with at least one unsatisfied basic need (see table 5.1).

[18] The UBI differs from the monetary/income-based definition of poverty as it considers other variables which are highly correlated to income and consumption such as housing, access to water, and basic education. In Ibarra, this figure corresponded to 21.2 percent, according to the 2010 Census data.

Table 5.1. Poverty Indexes in Ibarra Canton

Parish	Population with at least One Unmet Basic Need (%)	Incidence of Extreme Poverty (%)
Total Canton	**44.6**	**20.6**
Ibarra	35.4	12.1
Urban	**31.4**	**7.9**
Peripheral area	90.5	69.0
Rural	**73.8**	–
Ambuquí	78.3	43.1
Angochagua	96.4	86.1
Carolina	91.1	63.3
La Esperanza	84.7	68.3
Lita	84.6	55.9
Salinas	63.3	26.2
San Antonio	56.6	27.2

Source: Statistics National Institute of Ecuador, Census 2010, Territorial profile of the city of Ibarra.

5. Unrestrained population growth coupled with the predominance of informal residential settlements have led to a significant spatial expansion of the Ibarra Canton. As a consequence, low-income segments either spend more time commuting, often under precarious conditions and unreliable transport, or are forced to work in low–paying, often precarious, jobs closer to their home. The travel patterns of the poor vary significantly from those of other income groups; the poor have low mobility, travel longer distances, and spend a higher proportion of their income on public transport and taxis, where buses are unavailable. The limited transportation services in these remote areas tends to be expensive, unreliable, and even dangerous. Results from a household survey[19] carried out throughout the bypass road area of influence demonstrated that dwellers face significant accessibility and mobility constraints. Over 60 percent of surveyed households do not own a vehicle and are thus captive users of public transport. Because of the city's relatively compact size, over two-thirds of trips are short, lasting less than 35 minutes. However, for some commuters whose trips originate outside the urban perimeter, the journey may take between 35 and 60 minutes. Similarly, in some of the more peripheral low-income communities, citizens must walk over 15 minutes to reach public transport, sometimes facing injury or being exposed to traffic accidents because of poor sidewalk conditions. Indeed, results from the survey show that access to infrastructure and public transport seem to be the biggest problems identified by low-income dwellers in the project intervention area and over two-thirds rate the quality of transport infrastructure as deficient or bad. Similarly, close to 15 percent of public transport users in the area do not consider services to be unreliable. Better road-based transport networks such as the proposed bypass Ring Boulevard will address some of these connectivity constraints enabling low-income groups to gain faster and more reliable access to job opportunities and services.

[19] The survey was carried out in May 2015 and included responses from 350 households located in several parishes contained in the bypass Ring Boulevard project area of influence. While the universe included a diverse sample of households, whose incomes, employment patterns, and educational attainment varied considerably, it is important to acknowledge that the sample is not representative of the Ibarra Canton.

Potential Benefits of Project on Low Income and Other Vulnerable Groups

6. Through the planned construction of the bypass road and complementary interventions, the Ibarra Transport Infrastructure Improvement Project seeks to stimulate intra-metropolitan trips and improve connectivity, reliability, and affordability of transport options with both central and peripheral areas benefiting from the intervention. In this respect, the Project is closely aligned with the World Bank's twin goals of ending extreme poverty and boosting shared prosperity in as much as it will enhance urban mobility and accessibility for citizens in the all five parishes located in the consolidated urban area of Ibarra which in total are home to 131,856 inhabitants. In addition, the Project provides mobility to some of the most disadvantaged residents, those in the peripheral parishes of San Antonio and Alpachaca.

7. Similarly, Component 2 will bring about important habitat improvements in the surroundings of the Yahuarcocha Lagoon benefiting the entirety of Ibarra Canton's population as it is one of the city's main recreational sites. The envisaged works will promote tourism in the area, benefiting a total of 140 establishments (88 formal vendor families and 50 informal vendor families) and significantly improving recreation, leisure and environmental conditions around the lagoon, thereby enabling improvement to the livelihoods of the population subgroups in the immediate area of influence.

8. To measure project outcomes, the Project has included satisfaction indicators as part of the results framework and those will be monitored during implementation, including disaggregation by gender.

ANNEX 6: PROJECT FINANCING BY COMPONENT (US$, MILLIONS)

	IBRD	GAD Ibarra	Total cost	VAT	Total
1. Improve mobility in the city	47.88	31.38	79.26	6.60	85.86
Civil works - Section 1	18.52	–	18.52	2.23	20.75
Civil works - Section 2	20.33	13.28	33.61	4.01	37.62
Works supervision - Section 1	0.74	–	0.74	0.09	0.83
Works supervision - Section 2	0.81	0.53	1.34	0.16	1.50
Resettlement plan consulting	–	0.78	0.78	0.09	0.87
Land acquisition	–	9.50	9.50		9.50
Resettlement	–	0.20	0.20		0.20
Contingencies (increased costs, physical contingencies)	7.48	7.09	14.57		14.57
2. Improve public and tourist spaces	2.24	–	2.24	0.27	2.51
Civil works	1.95	–	1.95	0.23	2.18
Works supervision	0.08	–	0.08	0.01	0.09
Studies	0.08		0.08	0.01	0.09
Contingencies	0.14	–	0.14	0.02	0.15
3. Technical assistance	1.40	–	1.40	0.17	1.57
Road asset management	0.45	–	0.45	0.05	0.50
Nonmotorized transport and road safety plan	0.45	–	0.45	0.06	0.51
Integration, urban planning, densification, and mobility studio	0.50	–	0.50	0.06	0.56
4. Project management	0.98	–	0.98	0.10	1.08
Project coordinator	0.20	–	0.20	0.02	0.22
Contract administrator	0.20	–	0.20	0.02	0.22
Environmental management	0.20	–	0.20	0.02	0.22
Financial audit	0.13	–	0.13	0.02	0.15
M&E framework	0.10	–	0.10	0.01	0.11
FM	0.10	–	0.10	0.01	0.11
Publication (bids)	0.02	–	0.02	0.00	0.02
Equipment	0.03	–	0.03	0.00	0.03
TOTAL	**52.50**	**31.38**	**83.88**	**7.14**	**91.02**

ANNEX 7: ECONOMIC EVALUATION AND FISCAL ANALYSIS

Economic Evaluation

Summary

1. This Annex summarizes the ex post economic evaluation of Component 1: Improve mobility in the city, which accounts for 92 percent of the Project's investment. The evaluation followed the traditional approach of the economic analysis for urban road projects, that is, estimating road users' surplus generated from the increase in travel speeds after the Project. Concretely, the evaluation calculated benefits to road users (as compared to a without-project scenario) and costs of the investments in road works, and assessed streams of a net economic benefit to a society.

2. The result demonstrated that the Project is economically feasible. The net present value (NPV), at a 12 percent discount rate for an analysis period of 20 years and the economic internal rate of return (IRR) of the investments are US$29.5 million and 20 percent, respectively, for both the Northern and Southern Segments of the new Ring Boulevard. Specifically, NPV is estimated at US$80.3 million and IRR at 51 percent for the North Ring Boulevard. Sensitivity analysis demonstrates that the Project remains economically viable for both cases, even when construction costs increase by 20 percent or benefits decrease by 20 percent.

Methodology

3. The evaluation followed the traditional methodology assessing road users' benefits and costs of the investments. The main benefits stemming from the investments on the construction of the Ring Boulevard are the savings for road users on vehicle operating costs and passenger/freight time. Additional benefits, which have not been quantified, include the reduction of accidents (which will lead to the reduction of economic loss of deaths and injuries, and the improvement of driving and riding comfort. While the reduction of vehicle emissions such as greenhouse gases (GHG) was calculated, the economic evaluation did not incorporate its benefit in monetary terms. The costs to the road agency are the works costs of both construction and maintenance/rehabilitation. The traffic volumes on the Ring Boulevard are calculated based on the traffic count and Origin-Destination (OD) surveys. The vehicle operating costs of the works are estimated using the Highway Development and Management Model Version 4 (HDM-4).

Project Scope and Traffic Volume

4. The evaluation analyzed the following two cases: (a) the whole Ring Boulevard, including construction of both Northern and Southern Segments of the Ring Boulevard with the extensions of 9.5 km and 12.1 km, respectively and (b) North Ring Boulevard, with construction of only Northern Ring Boulevard. The existing urban trunk road connecting north and south of the city, which will have the most impact of the Project in terms of traffic volume, is included in the analysis. Furthermore, the analysis assumes that the regional bypass road (*Paso Lateral*) is constructed. Accordingly, the traffic which is supposed to travel through the bypass road is excluded from the analysis, which will make the result more conservative.

5. The estimated traffic volumes (Average Annual Daily Traffic) and traffic growth for each case are exhibited in table 7.1 and 7.2. The traffic volumes are estimated based on the traffic counting surveys at four locations of the city for 10 days as well as the OD surveys at the same four locations, both of which were conducted in October 2014.

Table 7.1. Traffic Volumes in 2014

North Ring Boulevard	**Without-project Scenario**	**With-project Scenario**		
	Existing Urban Road	Existing Urban Road	North Ring Boulevard	South Ring Boulevard
Light vehicle	19,874	15,269	4,605	0
Buses	2,281	1,686	595	0
Trucks with 2 or 3 axles	2,199	794	1,404	0
Trucks with more than 3 axles	653	381	272	0
Total	25,007	18,129	6,877	0
North and South Ring Boulevard	**Without-project Scenario**	**With-project Scenario**		
	Existing Urban Road	Existing Urban Road	North Ring Boulevard	South Ring Boulevard
Light vehicle	25,007	18,129	5,502	1,375
Buses	19,874	11,380	3,397	5,096
Trucks with 2 or 3 axles	2,281	1,493	315	473
Trucks with more than 3 axles	2,199	556	657	986
Total	653	340	125	188

Table 7.2. Traffic Growth Rate

Year	**Light (%)**	**Bus (%)**	**Light Heavy (%)**	**Heavy (%)**
2014	5.27	1.01	4.76	4.76
2015	5.27	1.01	4.76	4.76
2016	5.27	1.01	4.76	4.76
2017	5.27	1.01	4.76	4.76
2018	5.27	1.01	4.76	4.76
2019	5.27	1.01	4.76	4.76
2020	5.27	1.01	4.76	4.76
2021	4.95	0.91	4.54	4.54
2022	4.95	0.91	4.54	4.54
2023	4.95	0.91	4.54	4.54
2024	4.95	0.91	4.54	4.54
2025	4.95	0.91	4.54	4.54
2026	4.62	0.82	4.32	4.32
2027	4.62	0.82	4.32	4.32
2028	4.62	0.82	4.32	4.32
2029	4.62	0.82	4.32	4.32
2030	4.62	0.82	4.32	4.32
2031	4.26	0.73	4.10	4.10
2032	4.26	0.73	4.10	4.10
2033	4.26	0.73	4.10	4.10
2034	4.26	0.73	4.10	4.10

2035	4.26	0.73	4.10	4.10

Methodology on Estimating Economic Benefits

6. The economic benefits of the Ring Boulevard project are twofold: (a) reduction in vehicle operating costs and (b) saving in travel time. The Project contributes to increase traffic speed as well as to improve riding comfort. Accordingly, the economic benefits from the works are induced from the reduction of the following transport costs: (a) vehicle operating costs, mainly reduction in consumption of fuels and reduction of damage to vehicles' bodies and parts due to vibration during drive and (b) reduction in travel time of passengers and freights, which is converted into monetary terms and added as economic benefits.

7. In the evaluation, these benefits are calculated as the difference in transport costs between a with-project scenario (alternative case) and a without-project scenario (base case). The following assumption on travel speeds on each road section in the two scenarios are used for estimating the vehicle operation costs and reduction in travel time. The unit costs of the vehicle operation and travel time for the four types of vehicles were estimated using the HDM-4 model.

Table 7.3. Average Travel Speed

	Without-project Scenario	**With-project Scenario**		
	Existing Urban Road (km/h)	Existing Urban Road (km/h)	North Ring Boulevard (km/h)	South Ring Boulevard (km/h)
North Ring Boulevard Case	20	30	50	–
North and South Ring Boulevard Case	20	40	50	50

Road Work Costs

8. The economic costs of construction works were US$30.23 million excluding taxes for the North Ring Boulevard and US$79.26 million for the North and South Ring Boulevard. The annual costs of the routine maintenance works are assumed as 1 percent of the construction costs and the costs of the periodic rehabilitation 10 years after the construction is 10 percent of the construction costs.

Results

9. The results of the evaluation confirmed that the Project is economically feasible. The NPV, at a 12 percent discount rate for an analysis period of 20 years and the IRR of the investments are US$29.5 million and 20 percent, respectively, for both the Northern and Southern Segments of the new Ring Boulevard. For the Northern Segment alone, the NPV and IRR are US$80.3 million and 51 percent, respectively. Sensitivity analysis demonstrates that the Project remains economically viable for both cases, even when construction costs increase by 20 percent or benefits decrease by 20 percent.

10. Furthermore, the GHG accounting assessment was conducted using the parameters of the economic evaluation. The Project's impact on CO_2 was estimated as the difference in vehicle emissions between a reference scenario (without-project scenario) and the project scenario, both of which are the same as defined in the economic appraisal. The emission factors by each vehicle

type on each road were calculated based on the HDM model and the other parameters, such as traffic volume, are the same as in the economic evaluation.

11. The assessment demonstrated that the Project would reduce the CO_2 emission (as a proxy to GHG). The total emissions in the reference scenario for both the Northern and Southern Segments of the Ring Boulevard over 20 years are 1,238,000 tCO_2; and in the project scenario are 891,000 tCO_2, resulting in an emission decrease of 347,000 tCO_2, or 28.0 percent, as compared with the reference scenario. Only for the Northern Segment, the emissions in the reference scenario are 1,238,000 tCO_2 and 969,000 tCO_2 in the project scenario are, resulting in an emission decrease of 269,000 tCO_2, or 21.7 percent.

Fiscal Analysis

Economic and Legal Context: Ibarra

12. The new Constitution of Ecuador (*Constitución de la República del Ecuador*, CoE, September 28, 2008) and other decentralization policies have had a major impact in subnational finances and have reaffirmed the authority of autonomous metropolitan districts such as the GAD of Ibarra. The Constitution grants autonomous regional governments the exclusive responsibility for planning, regulating, and controlling urban transport (Article 262.3 CoE).

13. Organic Code of Territorial Organization and Decentralization Autonomy - Decentralized and Territorial Autonomy Organization Organic Code, published in 2010, established the fundamental pillars for a progressive and compulsory decentralization in Ecuador by clarifying roles and allocating responsibilities among the different levels of government. It allows the city to provide services or execute civil works within its responsibility.

14. COPLAFIP aims to regulate the Decentralized National System of Participative Planning and the National System for Public Finance and their correlation; articulate and coordinate the national planning with that of the different levels of government; and regulate the integrated management of public finance for these levels of government. Following the principle of fiscal sustainability, it establishes legal indebtedness limits to decentralized autonomous governments (Article 125). Those limits are the following: (a) the percentage ratio calculated each year dividing the total balance of public debt and its total annual revenue (excluding debt) must not exceed 200 percent and (b) the total amount of annual debt service, including amortization and interests, shall not exceed 25 percent of its total annual revenue (excluding debt).

Financial Analysis

15. **Recent evolution.** The municipality provided financial information for 2013, 2014, and the budget for 2015. They also prepared projections for each category for 2016–2019. In 2013, the municipality deficit was larger than US$7 million, but in 2014 they reached a small surplus. The budget for 2015 presents another small surplus.

16. For the next years, the GAD of Ibarra is considering two main projects, strongly supported by the authorities: the Ring Boulevard and a new market. Works for both are expected to start during 2015 or 2016. They will finance them with their own resources and loans from the central Government and the World Bank.

17. Income and expenditure description are given in table 7.4.

Table 7.4. Income and Expenditure Projection (in US$, millions)

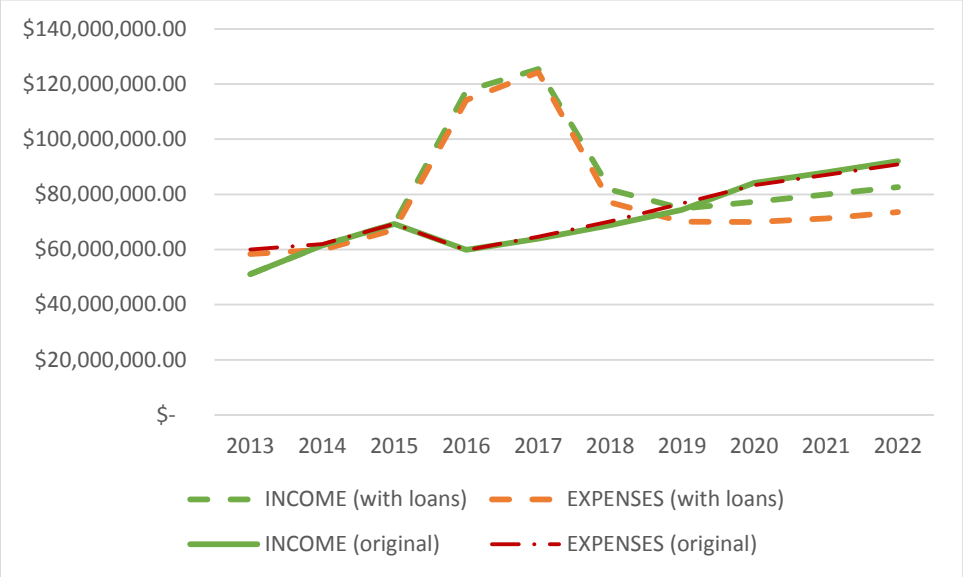
INCOME/EXPENDITURE PROJECTION	Budgeted	Projected	Projected	Projected	Projected	Projected
YEARS	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Income (total)	**69.2**	**117.5**	**125.5**	**81.8**	**74.8**	**77.3**
Current income	20.9	22.8	23.9	25.1	26.4	27.7
Taxes	8.9	9.8	10.3	10.8	11.3	11.9
Fees and levies	5.9	6.2	6.5	6.8	7.2	7.5
Investment income and penalties	0.9	1.0	1.0	1.1	1.1	1.2
Public transfers	4.4	5.0	5.3	5.5	5.8	6.1
Other income	0.8	0.8	0.9	0.9	1.0	1.0
Capital income	23.2	27.0	21.2	22.3	23.4	24.6
Sale of long-term assets	0.1	0.1	0.1	0.1	0.1	0.1
Other capital transfers	23.1	26.9	21.1	22.2	23.3	24.5
Financial income	25.1	67.8	80.3	34.3	25.0	25.0
Internal debt	3.3	46.8	55.3	9.3	0.0	0.0
Others	21.8	21.0	25.0	25.0	25.0	25.0
EXPENSES (TOTAL includes debt)	**67.2**	**114.2**	**124.3**	**77.0**	**70.1**	**70.0**
Current expenses	17.6	19.8	20.7	21.7	22.7	23.8
Personnel expenses	12.3	12.9	13.5	14.2	14.9	15.7
Consumer goods and services	2.9	3.1	3.2	3.4	3.5	3.7
Financial expenses	1.6	1.6	1.7	1.8	1.9	2.0
Other current expenses	0.5	1.9	1.9	1.9	1.9	2.0
Current transfers and donations	0.3	0.3	0.4	0.4	0.4	0.4
Financial expenses	47.7	92.4	101.5	53.2	45.2	46.2
Investment personnel expenses	4.6	2.0	2.0	2.0	2.0	2.0
Investment goods and services	11.1	11.1	11.1	11.1	11.1	11.1
Public works	32.0	79.3	88.4	40.1	32.1	33.1
Capital expenses	1.9	2.0	2.1	2.2	2.3	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.1
Debt amortization	2.0	1.2	1.2	3.8	3.8	3.8
Balance	**2.1**	**3.3**	**1.2**	**4.7**	**4.7**	**7.3**

(a) **Income categories.** The largest income categories for the 2015 budget are capital transfers from the Government, accounting for 33.4 percent of the total income, and taxes, 12.8 percent. Income has been increasing significantly in recent years (18.4 percent in 2014 and 7.4 percent in the budget for 2015).

(b) **Expenditure categories.** The main category is public works and represents more than 40 percent of the total expenditure, followed by personnel expenses, 17.7 percent. The budget for public works will be used almost exclusively to fund the two main projects of the municipality: the Ring Boulevard and the market.

(c) **Projections.** The municipality has collaborated with the World Bank in the creation of a model to evaluate its fiscal situation during the coming years. Considering the income and expenses needed for the two projects mentioned, the income will reach a peak of US$125 million for 2017, close to the expenses of US$124 million for that year. This means an increase of more than 96 percent of the original amount budgeted by the municipality.

Figure 7.1. Income and Expense Evolution



Debt Profile and Project Funding

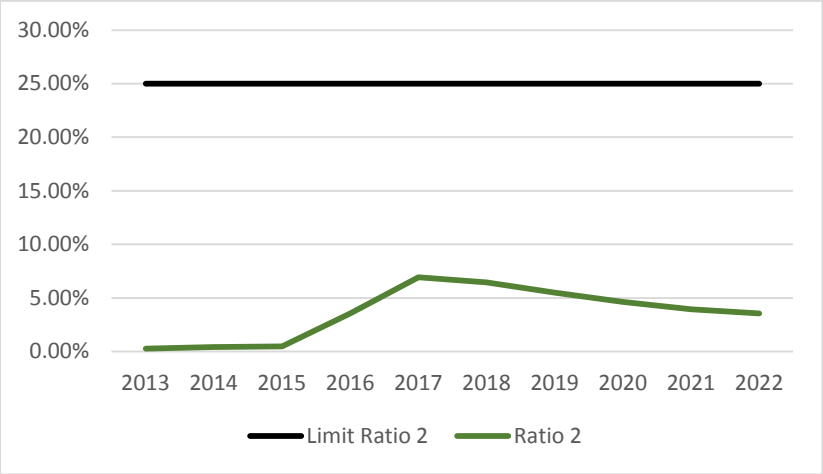
18. **Debt outstanding.** The municipality has kept a low debt level, but now the GAD has greater capacity due to the new constitution and legislation. The total debt amount is slightly higher than US$4 million, less than 10 percent of the annual nonfinancial income. The debt-service coverage ratio for the current debts (Debt-service coverage ratio = Net Operating Income / Total Debt Service) has been consistently much larger than 10 due to the small amount of interests paid.

19. Based on the projections made, the municipality will use loans to finance the Project. The debt will reach a peak of US$110 million during 2019. The World Bank Loan accounts for US$52.5 million of this amount. *Banco Central de Ecuador* (Central Bank of Ecuador) and Latin American Development Bank will finance the remaining debt. For our models we have used an interest rate of 1.75 percent for Bank loans and 5 percent for the rest of the loans.

Results and Conclusions

20. Studying the ratios limited by COPLAFIP, we found that the debt stock reaches 154 percent of the income for 2018, the closest point to the limit of 200 percent. The debt service to income ratio does not reach those high levels because the use of public and multilateral financing sources means lower interest rates for the outstanding debt, and reaches a maximum of 7 percent for 2017.

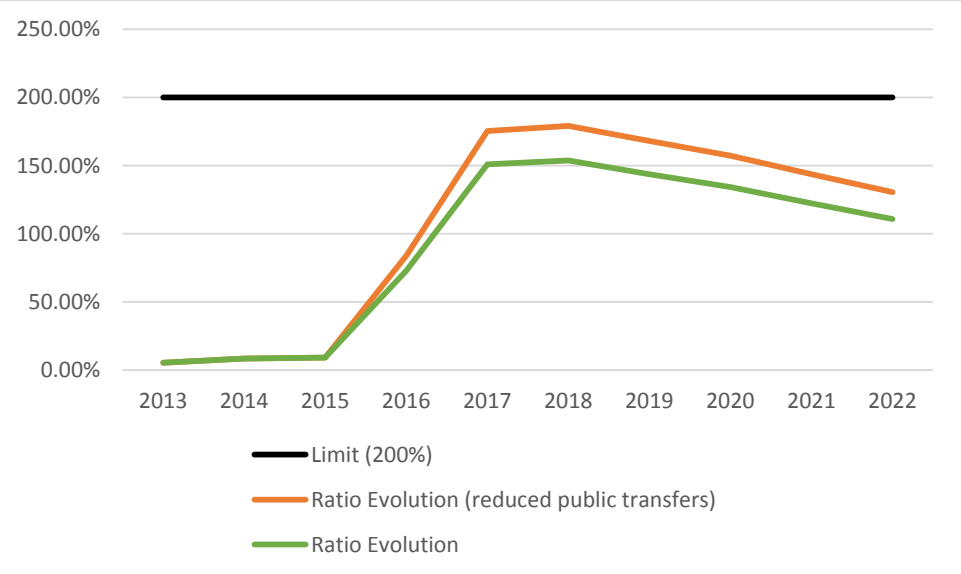
Figure 7.2. Debt Service/Income Ratio



21. The commitment of all the municipality members to the Project and the political relevance for the authorities confirm that the Project is a priority investment, so availability of funds shall not be a problem as long as they are budgeted or unexpected expenses do not occur.

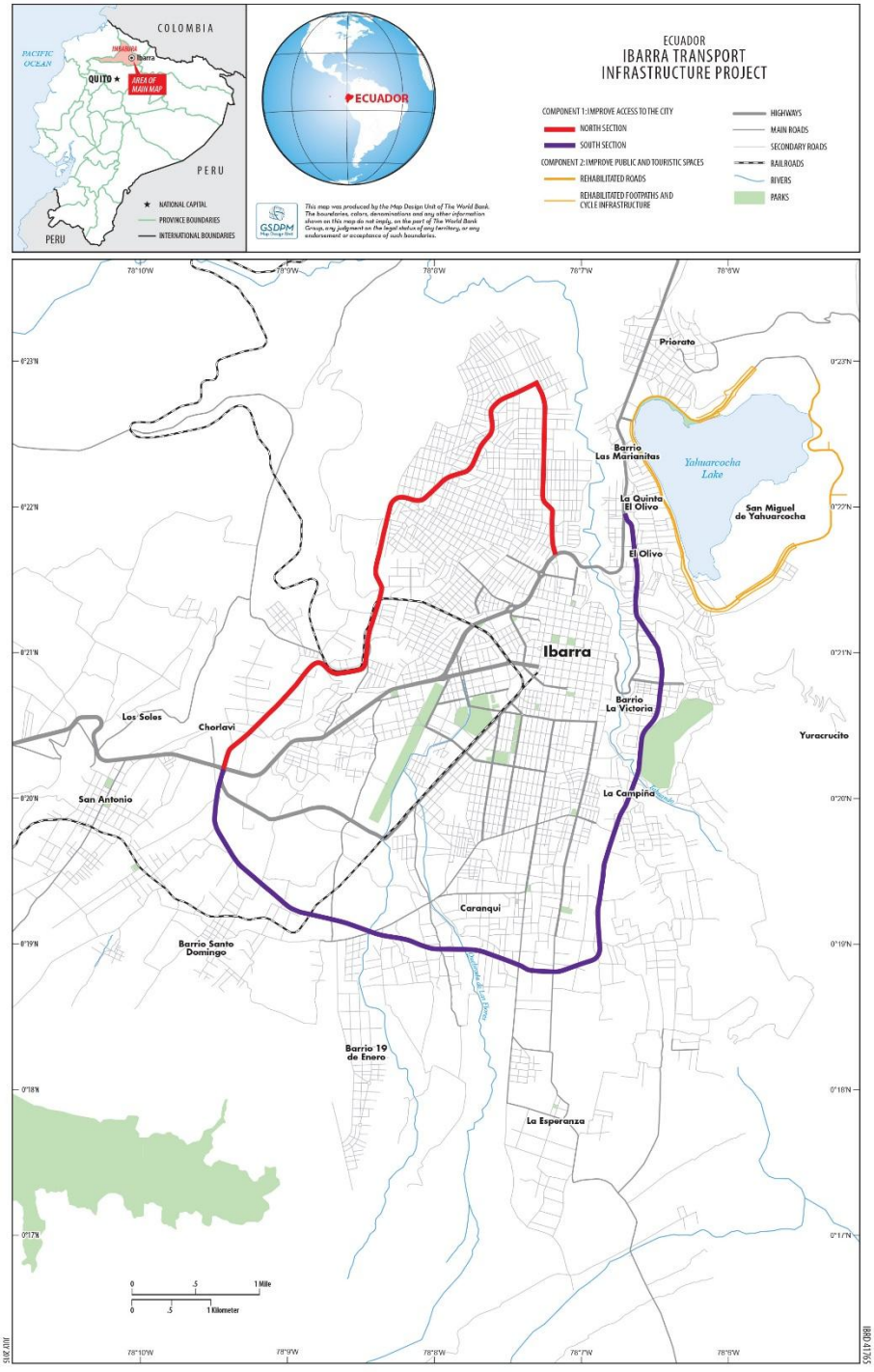
22. **Sensitivity analysis.** When performing a sensitivity analysis of the municipal finance, we find that the variable that most affects finance is the amount of annual public transfers from the GoE. Studying a new scenario where GoE transfers are reduced by half during project implementation years, we still find that the limits are not reached.

Figure 7.3. Debt Stock/Income Ratio



23. Ibarra has the capacity to repay the proposed Bank loan and undertake the Project, and even keeping capacity to incur additional loans, especially taking into account the financing sources. However, given the size of the loan and depending on the evolution of government transfers, it will take an important portion of its debt capacity for more than a decade. Therefore, it is important to assure that the Project is economically well justified and sustainable.

Annex 8: Map


COLOMBIA
PACIFIC OCEAN
IMBABURA
Ibarra
QUITO
AREA OF MAIN MAP
PERU
NATIONAL CAPITAL
PROVINCE BOUNDARIES
INTERNATIONAL BOUNDARIES
ECUADOR
ECUADOR
IBARRA TRANSPORT INFRASTRUCTURE PROJECT
COMPONENT 1: IMPROVE ACCESS TO THE CITY
NORTH SECTION
SOUTH SECTION
COMPONENT 2: IMPROVE PUBLIC AND TOURISTIC SPACES
REHABILITATED ROADS
REHABILITATED FOOTPATHS AND CYCLE INFRASTRUCTURE
HIGHWAYS
MAIN ROADS
SECONDARY ROADS
RAILROADS
RIVERS
PARKS
GSDPM
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Priorato
Barrio Las Marianitas
Yahuarcocha Lake
La Quinta El Olivo
San Miguel de Yahuarcocha
El Olivo
Ibarra
Barrio La Victoria
Yuracrucito
Los Soles
Chorlavi
San Antonio
La Campiña
Caranqui
Barrio Santo Domingo
Barrio 19 de Enero
La Esperanza
0 .5 1 Mile
0 .5 1 Kilometer
78°10'W
78°9'W
78°8'W
78°7'W
78°6'W
0°23'N
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JULY 2015
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