

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BOLIVIA

**REFORMULATION OF THE MULTIPHASE PROGRAM FOR THE
URBAN RESTRUCTURING OF LA CEJA – PHASE I**

(BO-L1079; 2908/BL-BO)

REFORMULATION PROPOSAL

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ABBREVIATIONS

AWP	Annual work plan
EETC-MT	Empresa Estatal de Transporte por Cable “Mi Teléferico” [Mi Teléferico Public Aerial Cable Transport Corporation]
ESMP	Environmental and social management plan
ESMR	Environmental and social management report
FPS	Fondo Nacional de Inversión Productiva y Social [National Productive and Social Investment Fund]
FSO	Fund for Special Operations
GAMEA	Gobierno Autónomo Municipal de El Alto [Autonomous Municipal Government of El Alto]
ICB	International competitive bidding
ICAS	Institutional Capacity Assessment System
IRR	Internal rate of return
NCB	National competitive bidding
NPV	Net present value
MEP	Multiyear execution plan
MT	Mi Teléferico
PMR	Progress monitoring report
RIM	Red de Integración Metropolitana [Metropolitan Integration Network]
SCF	Structured and Corporate Financing Department
SICOES	Sistema de Contrataciones Estatales [Government Procurement Information System]
SIGEP	Sistema de Gestión Pública [Public Management Information System]
SSS	Single-source selection
VIPFE	Viceministerio de Inversión Pública y Financiamiento Externo [Office of the Deputy Minister of Public Investment and External Financing]
ZCLPEL	Zona Conurbada de La Paz/El Alto [La Paz/El Alto Urban Conglomerate]

PROJECT SUMMARY

BOLIVIA REFORMULATION OF THE MULTIPHASE PROGRAM FOR THE URBAN RESTRUCTURING OF LA CEJA – PHASE I (BO-L1079; 2908/BL-BO)

Financial Terms and Conditions			
Borrower:	Source	Amount (US\$)	%
Plurinational State of Bolivia	IDB Ordinary Capital:	37,600,000	62.17
	IDB Concessional Ordinary Capital: ^(a)	9,400,000	15.55
	IDB:	47,000,000	77.72
Executing agencies:	Local: ^(b)	13,470,000	22.28
Autonomous Municipal Government of El Alto (GAMEA) and Mi Teléferico Public Aerial Cable Transport Corporation (EETC-MT)	Total:	60,470,000	100.00
	Ordinary Capital	Concessional Ordinary Capital	
Amortization period:	30 years	40 years	
Disbursement period:	5 years		
Grace period:	6 years	40 years	
Interest rate:	SCF-fixed	0.25%	
Credit fee:	^(c)	Not applicable	
Inspection and supervision fee:	^(c)	Not applicable	
Currency of approval:	U.S. dollar		
Program at a Glance			
Program objective/description: The program's original overall objective, to support GAMEA in its efforts to reduce congestion problems in the La Ceja area, remains unchanged. This objective will help to raise urban productivity and reduce environmental pollution. The program's specific objectives also remain unchanged: (i) improvement of GAMEA's urban planning and management capacities; (ii) upgrading of El Alto's road and urban infrastructure; and (iii) improvement and deconcentration of GAMEA's citizen service delivery.			
Special conditions precedent to the first disbursement of the loan: EETC-MT will submit evidence to the effect that: (i) an agreement has been signed between the Ministry of Development Planning and EETC-MT establishing (a) the mechanism for transferring loan proceeds, and (b) EETC-MT's obligation to execute Component 2 in accordance with the loan contract; and (ii) EETC-MT has complied with the following General Conditions of the loan contract (a) presentation of the authorized signatures; and (b) implementation of a suitable financial information system and internal control structure (paragraph 3.2); and (iii) has updated and placed the program Operating Regulations governing the execution of Component 2 in effect, including environmental and social aspects, in accordance with terms agreed upon in advance with the Bank (paragraph 3.3).			
Special execution conditions: The program will be executed in accordance with the contractual conditions related to the environmental, social, health, and occupational safety concerns reflected in Section V of the environmental and social management report (required electronic link 3).			
Exceptions to Bank policies: None.			

Strategic Alignment			
Challenges: ^(d)	SI <input type="checkbox"/>	PI <input checked="" type="checkbox"/>	EI <input type="checkbox"/>
Crosscutting themes: ^(e)	GD <input type="checkbox"/>	CC <input checked="" type="checkbox"/>	IC <input type="checkbox"/>

- ^(a) Under Resolution AG-9/16, approved by the Board of Governors on 1 September 2016, the proceeds of the Fund for Special Operations (FSO) were transferred to the Bank's Ordinary Capital effective 1 January 2017. Accordingly, all amounts pending disbursement from the FSO will be disbursed as of that date from the Bank's Ordinary Capital, without changes to the financial terms and conditions established in loan contract 2908/BL-BO.
- ^(b) The original local counterpart of US\$2 million has been increased to US\$13.47 million, with US\$200,000 maintained as counterpart for Component 1 and the remainder going to complete the financing for the Silver Line.
- ^(c) The credit fee and the inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable policies.
- ^(d) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).
- ^(e) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. PROJECT DESCRIPTION AND RESULTS MONITORING

A. Program reformulation

- 1.1 **Request by the Bolivian government.** This document proposes to reformulate the Multiphase Program for the Urban Restructuring of La Ceja – Phase I (operation BO-L1079; 2908/BL-BO) as requested by the Bolivian government on 11 February 2016 ([optional electronic link 1](#)), to include financing under Component 2 for Mi Teleférico's Silver Line in La Ceja (paragraph 1.29). Operation BO-L1079 (loan 2908/BL-BO) was approved by the Bank's Board of Executive Directors on 13 February 2013 in the amount of US\$47 million plus a local counterpart of US\$2 million. Its three components were designed to support the Autonomous Municipal Government of El Alto (GAMEA) in its efforts to reduce congestion in La Ceja, by: (i) improving mobility; (ii) decentralizing bureaucratic procedures for the public; and (iii) building urban planning and management capacity.
- 1.2 **Description of the proposed change.** The proposed reformulation entails a modification of Component 2 which was intended to address the problem of traffic congestion in La Ceja through a road solution that included: (i) construction of two new subcenters to accommodate commercial, business, social, and recreational activities, and government services, in addition to medium- and long-distance passenger transportation terminals; and (ii) improvement of highway connectivity between El Alto north and El Alto south by building a road through the airport (making it unnecessary to pass through La Ceja). The reformulated Component 2 would help to address the problem by building and commissioning the Silver Line, an aerial urban cable transport line.
- 1.3 **Progress since the operation was approved and current status of the loan.** Since the original operation was approved, the Bolivian government with Bank support studied road infrastructure alternatives to improve mobility in La Ceja,¹ thereby fulfilling the original requirements of Component 2 (paragraph 1.2). The alternatives examined consisted of different road solutions, including interventions in urban corridors or the construction of underground works to decongest the public services system. During this analysis process, changes were made to the mobility plan for the La Paz/El Alto Urban Conglomerate (ZCLPEL). These were mainly attributable to the successful implementation of Mi Teleférico's cable transit system in 2014 (paragraphs 1.11 and 1.13). In this new context, the Bolivian government felt that building the aerial tramway Silver Line would be the best fit for the ZCLPEL's new transit integration system, and would also satisfy the objectives of the original operation. For this reason, it requested that the Bank reformulate Component 2 (paragraph 3.8) to enable it to select a mobility alternative other than a ground transport solution. The Mi Teleférico cable transport system serves as the backbone of mobility in the ZCLPEL and is complemented by the Pumakatari (La Paz) and Waynabus (El Alto) feeder bus systems, which are also recent.

¹ [Propuestas de mejoramiento de la movilidad en La Ceja](#), Tranter Consultores, 2014.

Execution began on Components 1 and 3 of the operation in the second half of 2017,² aligned with the reformulated proposal for Component 2.

- 1.4 Implementation of a new Mi Teleférico line (Silver Line) is an optimum, innovative, and sustainable mobility solution for La Ceja that will help to reduce congestion and improve options for travelling between El Alto north and south and the rest of the ZCLPEL. It is particularly appropriate for areas with very steep slopes and complicated topography. The technology has enabled different cities to access comfortable medium-to-high capacity means of transport that are environmentally sustainable and integrated with other modes, and which improve the quality of life of people who generally live in low-income areas and have limited access to labor and social opportunities. Aerial tramways have reduced congestion, parking problems, noise, and local pollution in Medellín and Caracas.³
- 1.5 The Mi Teleférico system will not only have a beneficial impact on mobility but also on safety and the environment (paragraphs 1.11 and 1.16) throughout the whole La Paz and El Alto metropolitan area. This reformulated component, coupled with Components 1 and 3 (paragraphs 1.28 and 1.30) of the original operation, which have remained unchanged, will help to improve the urban environment and organize transport infrastructure and services, which will make more services and economic opportunities available to the public.

B. Background, problem addressed, and rationale

- 1.6 **Background.** The La Paz and El Alto road network is insufficient for the more than 32,000 vehicles that travel it on a typical week day.⁴ The topography of the two cities allows for few road alternatives and is a huge challenge for mobility. La Ceja is 500 meters higher than La Paz, its complicated urban configuration and rugged terrain, delimited by the edge of the high plateau, with steep slopes and narrow ravines on one side and the El Alto international airport on the other, make travel difficult and exacerbate congestion. Implementation of conventional urban public transport systems, such as buses, streetcars, and subways is very limited or unfeasible.
- 1.7 Commerce in La Ceja is bustling and an essential part of the character of the population, taking place in storefronts and in the public squares, which leads to a high concentration of people and vehicles in the thoroughfares.⁵ La Ceja attracts more than 300,000 people each day from both La Paz and El Alto. A surface road solution that demanded exclusive use of the streets by vehicles could interfere with the socioeconomic dynamics described.

² On 31 October 2017, the first disbursement of US\$400,000 was made to establish and equip the executing unit and to cover the first six months of execution of Components 1 and 3.

³ Carlet, F. (2016) [An overview of aerial ropeway transit and its potential in urban environments. SBE16 Torino, 18-19 February 2016.](#)

⁴ *El conocimiento de la vulnerabilidad de la red vial como herramienta de comprensión y reducción de la vulnerabilidad territorial: el caso de La Paz (Bolivia)* [Understanding the Vulnerability of the Road System as a Tool for Reducing Local Vulnerability], Javier Núñez Villalba and Florent Demoraes 2009.

⁵ Just 68% of sidewalks are estimated to be fully passable (source: [Red Hábitat](#), 2011).

- 1.8 In addition, 456 public transport routes crisscross La Ceja,⁶ mainly operated by small low-capacity units⁷ that are poorly maintained and operated with limited coordination and control,⁸ which promotes congestion and creates safety hazards because they compete to attract passengers. This is compounded by rapid growth in vehicle numbers, which have trebled since 2006, particularly private vehicles. About 3,800 private vehicles an hour cross La Ceja in peak hours, which means they can only travel at average speeds of between 5 and 12 km/hour.⁹ The Metropolitan Integration Network (RIM) was designed as a response to the mobility requirements of La Paz and El Alto and consists of aerial cable transport systems which, when completed, will form the backbone of the urban transport system in the ZCLPEL, permitting the other routes to be reorganized as feeders.
- 1.9 **The problem.** The problem lies in the physical and transit features of La Ceja described above, including (i) the complex topography and urban configuration (paragraph 1.6), (ii) use of public streets for commercial activities (paragraph 1.7), (iii) irregular operation of public transport (paragraph 1.8), and (iv) growth in vehicle traffic contribute to driving speeds of between 5 and 12 kilometers per hour.¹⁰ The Street Design Manual for Bolivian Cities¹¹ establishes 30 kilometers per hour as the maximum desirable speed in urban areas for private vehicles and 18 kilometers per hour for public transport. The situation results in heavy traffic congestion¹² that affects economic productivity (paragraph 1.15) and has a negative environmental impact (paragraph 1.16).
- 1.10 **Solution.** In view of the restrictions on implementing a ground transport solution (paragraphs 1.6 to 1.8), the La Ceja Silver Line and its connection to the Mi Teleférico system is an innovative and efficient mass transit alternative, and also efficient from a cost standpoint (paragraph 1.35). It is adapted to the geography of the zone and occupies little land, which contributes to consolidation of the existing urban transport system into a series of feeder lines which, in combination with GAMEA's improved urban planning capacity, will help to ease traffic congestion (paragraphs 1.29 and 1.30).
- 1.11 The technical¹³ and institutional¹⁴ viability (paragraph 3.7) of this solution has been clear since the construction and commissioning of the Mi Teleférico system, which

⁶ With an estimated population of 2 million, in 2015 the ZCLPEL had about 92,000 public transport units distributed among 540 routes in La Paz and 456 in El Alto. Comparatively, metropolitan Mexico City, with 10 times the population (20 million) has 30,000 units—three times fewer than the ZCLPEL. These figures point to the oversupply of low-capacity units in the ZCLPEL.

⁷ Low-capacity units consist of buses (30 passengers), minibuses (21-40 passengers); minibuses (14-passenger minivans); “carry” (7-passenger vehicles); and “trufi” (fix-route taxi in a compact 4-passenger vehicle).

⁸ Source: [Red Hábitat](#), 2011.

⁹ Source: Red Hábitat, 2011.

¹⁰ Source: Red Hábitat, 2011.

¹¹ [Manual de diseño de calles para las ciudades bolivianas](#), 2015.

¹² According to the Highway Capacity Design Manual, traffic congestion is determined by average speed and the number of vehicles.

¹³ EETC-MT has prepared a technical feasibility study for the Silver Line ([optional electronic link 4](#)).

opened in 2014. It is a public aerial cable transit system built and operated by the state-owned enterprise Mi Teleférico (EETC-MT) (paragraph 3.1) inaugurated in 2014.¹⁵ The system was designed to reduce travel times and costs in the ZCLPEL, improve urban accessibility and the reliability and safety of transport, and reduce CO₂ emissions (paragraphs 1.15 and 1.16). It is the first large-scale cable trunk transport system in Latin America and the Caribbean. The system was not designed as a feeder system like MetroCable¹⁶ in Medellín, Colombia, but as a central system that enables longer trips to be taken through connections with other modes of transport.

- 1.12 According to the 2015-2030 Master Plan, the Metropolitan Integration Network consists of 19 lines. The first phase, which is already in operation, consists of three lines approximately 10.2 kilometers long for an investment of US\$234.6 million, which together with the Blue and Orange Lines (Phase II) (paragraph 1.13), make it the longest cable system in the world (more than 17 km). It carries an average of 150,000 passengers per day.¹⁷ According to a survey conducted by Mi Teleférico,¹⁸ public transport quality and safety in the ZCLPEL have improved significantly.
- 1.13 Phase II plans for eight lines, 23 kilometers long, including the Blue and Orange Lines already in service, and five lines currently under construction (White, Sky Blue, Purple, Brown, and Gold) and the Silver Line, which is the subject of this reformulation. Together, these 11 lines will make up the RIM ([optional electronic link 6](#)), consisting of an integration ring and radial lines. The Silver Line will have capacity for 3,000 passengers per hour each way and attract the largest flow of users in the system.¹⁹ In addition to the aerial cable transport system, the RIM aspires to act the hub for an integrated transportation system for the ZCLPEL.

¹⁴ The ICAS assessment of EETC-MT's institutional capacity and processes ([optional electronic link 2](#)) found that the company has a satisfactory level of institutional development in its planning, organizational, execution, and control systems.

¹⁵ EETC-MT comes under the authority of the Ministry of Public Works, Services, and Housing (MOPSV).

¹⁶ The MetroCable project in Colombia was designed to communicate metro stations in the city of Medellín with neighborhoods located in mountain highlands. It inspired the public aerial cable systems in Caracas, Venezuela, and in cities of Africa and Asia.

¹⁷ The cable system runs regularly, with one car every 12 seconds during operating hours (17 hours per day) and maximum capacity of 18,000 riders in both directions.

¹⁸ Ninety-six percent of users rate the cable system as excellent or very good and only one minor accident has been reported, with no injuries or deaths (MT Survey, 2016).

¹⁹ Maximum daily capacity of 102,000 passengers in 17 hours of operation. When the line opens, it is expected to carry 15.1 million passengers and 19.8 million by 2025 (MT, 2016).

productivity.²⁰ In La Paz alone, 18% of vehicles are public transport units that account for 75% of daily trips, while 82% are private vehicles that account for just 10% of trips. The remaining 15% of trips are made on foot.²¹ Phase I of the cable transport system cut travel times by more than 50%, improving the productivity of users. With the opening of the Silver Line, average savings in total travel time per trip are expected to be 13.25 minutes, equivalent to total savings of 58% (22.8 minutes).²² The MetroCable system in Medellín reduced travel time by up to 66% for users of the K Line, who can travel 2.1 kilometers in 15 minutes, while it takes a person 45 minutes to cover the same distance on foot.²³ Based on a survey conducted in La Paz-EI Alto between June and July 2015, Suárez-Alemán and Serebrisky (2017)²⁴ estimate that travel time is reduced by an average of 22% when trips are by tram car, compared to other modes of transport. This reduction translates in average daily savings of nine minutes.

- 1.16 **Environmental impact.** Traffic congestion in La Ceja increases combustion emissions. Implementation of a system like Mi Teleférico helps to reduce greenhouse gas emissions. The Silver Line will help to reduce about CO₂ emission by about 2,500 tons a year.²⁵ Batto (2014) estimates that per capita CO₂ emissions produced by the transport sector in Bolivia amount to 1.5 tons a year.²⁶ For El Alto, with a population of 901,000, this represents 1.35 million tons of CO₂ emissions produced annually by the sector. It is expected that the Silver Line will cut these emissions by 0.18%.²⁷ Energy efficiency is another of the environmental advantages of tram cars with continuous movement systems such as 3S,²⁸ high wind stability, and large passenger capacity, which optimizes energy consumption, based on demand and allows for the possibility of longer cable runs. The incorporation of new aerial cable technologies, such as photovoltaic panels, has enabled hybrid cable systems to be developed which are capable of providing 24-

²⁰ Ian Thomson and Alberto Bull calculate that the social value of time spent in travel is equivalent to approximately 3% of GDP. In the case of La Paz, where average speeds range from 5 to 12 kilometers per hour and the target speed is 30 kilometers per hour, this means that traffic congestion causes a loss of economic productivity of between 1.8% and 2.5% of GDP (ECLAC, 2002).

²¹ *El Transporte Público en la Ciudad de la Paz* [Public transport in the city of La Paz], Gonzalo Vargas, Municipal Government of La Paz, Bolivia.

²² *Diseño, construcción y puesta en marcha del sistema de transporte por cable (teleférico) en la ciudad de El Alto Línea Plateada* [Design, construction and startup of a cable transport system in the city of El Alto. Silver Line]. MT Report, 2016 and [optional electronic link 1](#).

²³ [Dávila and Daste \(2011\). Pobreza, participación y Metrocable. Estudio del caso de Medellín](#), [Poverty, participation and urban cable. Case study of Medellín], 2011.

²⁴ Suárez-Alemán, A. and Serebrisky, T. (2017). *¿Los teleféricos como alternativa de transporte urbano?* [Tram cars as urban transport alternatives?], Inter-American Development Bank.

²⁵ Annex II.

²⁶ [La problemática de las emisiones de gases de efecto invernadero en Bolivia. Reacción Climática](#), [The greenhouse gas emission problem in Bolivia. Climate reaction], Amos Batto, 2014.

²⁷ Evaluation of technological continuity in cable transport systems in La Paz-EI Alto, ([optional electronic link 4](#)).

²⁸ The 3S system has two fixed, fully locked track ropes on which the carrier travels and a circulating haul rope which is clamped to the 8-wheel carriages. This detachable continuous movement system offers top performance and reliability ([optional electronic link 4](#)).

hour service using only solar energy²⁹ and supplying energy for add-ons such as spotlights and cabin signage.

- 1.17 **EETC-MT's corporate social accountability.** Apart from providing better mobility and economic productivity for the population of the ZCLPEL, since its founding, EETC-MT has been committed to cultural, social, and ecological initiatives that promote citizenship and good use of the public spaces surrounding the stations, which has facilitated its environmental and social sustainability.
- 1.18 The “Do Re Mi Teleférico” program³⁰ is an important part of this initiative and provides an open and free-of-charge scenario for emerging artists to address topics like gender violence, with events such as “*MueveT: contra la violencia a la mujer*” [take action to end violence against women], a mural and graffiti competition that promotes a violence-free society. Encouraging reading is also part of Mi Teleférico's strategy. Through “*Lectura al vuelo*” [reading on the fly], stations and cabins have been fitted with book and magazine dispensers for system users. Mi Teleférico attempts to strengthen social values such as cooperation and community solidarity. The “AbrigaT” program³¹ has held two campaigns to collect overcoats for the needy. Lastly, in coordination with GAMEA, 600 trees have been planted in the upper Pura Pura zone and more than 300 trees were planted between Plaza Triangular and Plaza Villarroel under an erosion mitigation plan.³²
- 1.19 **Reformulation of program BO-L1079; loan 2908/BL-BO.** This proposal will be processed as a reformulation in accordance with the procedures for sovereign-guaranteed operations, since more than 40% of the resources originally approved will be used to finance new activities. The reformulation complies with the procedures since: (i) it was requested by the Bolivian government on 11 February 2016 ([optional electronic link 1](#)); (ii) it is explicitly described in this document; (iii) the status of the original operation in effect since October 2013 is presented (no disbursements have been made); and (iv) the change is justified (paragraphs 1.1 and 1.6-1.16) since it proposes a substantial modification that contributes to the original objective and is better adapted to the real state of mobility in El Alto.
- 1.20 **Bank experience and lessons learned.** The Bank has supported different transportation infrastructure projects in Bolivia, such as highways, airports, railway studies, and urban transport studies.³³ The experience built up in developing the studies and in financing the infrastructure for mass public transport systems will provide value added for the first project to finance and implement an aerial cable transport system.³⁴ Apart from the loan, the Bank will contribute its experience in managing transportation projects in Bolivia. For better project monitoring to attain

²⁹ [Performance of a Hybrid Photovoltaic Diesel System in a Cable Car Resort Facility](#), 2008.

³⁰ Source: [MT](#).

³¹ Source: [MT](#).

³² 2015 Management Report, [MT](#).

³³ Bank transportation projects in Bolivia: operations 3540/BL-BO; 3181/BL-BO; 2233/BL-BO; and 1833/SF-BO.

³⁴ Bank public transportation projects: operations 3708/OC-BR; GRT/FM-14717-BR; 3289/OC-BR; 3373/OCPE; and 2882/OC-EC-1.

the results, the Bank is contributing technical-cooperation funding to develop and conduct an impact evaluation (paragraph 3.11).³⁵ In cooperation with the Strategic Development Division, that financial support has been complemented by specific workshops on impact evaluation.

- 1.21 Although the Bank will finance the Silver Line, it forms part of an integrated cable transport system that will substantially improve mobility in the ZCLPEL. The four lines (out of a total of 11) (paragraphs 1.12 and 1.13) currently in operation have successfully attained the expected results (paragraphs 1.15 and 1.16). The integrated system is the first independent aerial mass transport system in Latin America and the Caribbean, and has been consolidated as a worldwide success story.
- 1.22 Through its experience in developing sustainable mobility projects (paragraph 1.21) and support for implementation of the Silver Line, the Bank can contribute to regional dissemination of innovative public transport systems. It can help to design knowledge products and facilitate dialogue with other countries of the region where cable transport could potentially be a good solution.
- 1.23 **Strategic alignment.** The reformulation is aligned with the Bank's country strategy with Bolivia 2016-2020 (document GN-2843) since it contributes to the priority area of increased economic productivity through the delivery of quality public goods and services. The project is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008) and is strategically aligned with the challenge of productivity and innovation through its contribution to reducing the travel costs and times of Mi Teleférico users (paragraph 1.15) and with the crosscutting theme of climate change and environmental sustainability through its contribution to the reduction of greenhouse gas emissions associated with climate change (paragraph 1.16). The project also contributes to the Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (document GN-2710-5) by supporting the construction and maintenance of environmentally and socially sustainable infrastructure. The program is aligned with the Transportation Sector Framework (document GN-2740-7) through its contribution to: (i) the coverage, capacity, and connectivity of transport systems; and (ii) sustainable and safe urban transport. It is aligned with the Urban Development and Housing Sector Framework (document GN-2732-6) through its contribution to the development of sustainable urban mobility systems, integrated with land-use planning. Lastly, the program contributes to the Corporate Results Framework 2016-2019 (document GN-2727-6) through construction of a mass public transportation system that contributes to the reduction of greenhouse gases. About 92% of the operation's funding is considered to be climate financing. The funds for this operation were reported in the original year of approval (2013) and will not be counted again toward the climate financing target established by the joint methodology of the multilateral development banks for estimating climate finance. Notwithstanding, the exercise was performed to illustrate the operation's contribution to emission reduction and climate change mitigation.

³⁵ Technical-cooperation operation ATN/OC-15966-BO, Support for the Preparation of Urban Transport Studies, which included a US\$100,000 component to strengthen the capacity of EETC-MT.

C. Objectives, components, and costs

- 1.24 The program's original overall objective, to support GAMEA in its efforts to reduce congestion problems in the La Ceja area, remains unchanged. This objective will help to raise urban productivity and reduce environmental pollution.
- 1.25 The program's specific objectives also remain unchanged: (i) improvement of GAMEA's urban planning and management capacities; (ii) upgrading of El Alto's road and urban infrastructure; and (iii) improvement and deconcentration of GAMEA's citizen service delivery.
- 1.26 The original program consisted of three components and the reformulation proposal only affects Component 2.
- 1.27 **Component 1. Support for urban planning and land management capabilities (US\$1.09 million)** which includes: (i) development of a land-use management plan that integrates land-use planning and socioeconomic activity, with the aim of fostering the city's sustainable development; (ii) strengthening of GAMEA's Planning Department; and (iii) development of a georeferenced information technology system to monitor AWP projects.
- 1.28 **Component 2. Upgrading of urban transport infrastructure (US\$56.56 million).** The reformulation of this component is proposed, with the aim of financing the construction of Mi Teleférico's Silver Line (paragraph 1.14). It will span 2.61 kilometers and have three stations (one new and two expansions), including designs, civil works, electromechanical elements, complementary systems, startup, supervision and inspection, and environmental management tools. The loan will finance US\$43.29 million of this component and the remainder will come from the local counterpart (US\$13.27 million).
- 1.29 **Component 3. Improvement of citizen services (US\$2.25 million).** This component includes: (i) the creation of the GAMEA Citizen Service Unit, to coordinate a new revenue collection-service delivery model, to encompass the 14 submayoralities; (ii) the redesign of real property management processes and systems; (iii) the development of 16 citizen service windows with a view to deconcentrating the property regularization procedure, which involves the Revenue and Land-Use Management Departments; (iv) training of staff to provide services in the 14 submayoralities and the new subcenters; and (v) the implementation of education and awareness-raising campaigns to encourage people to complete bureaucratic procedures in the submayoralities.
- 1.30 **Administration, monitoring, and evaluation (US\$570,000).** Funding will be set aside to finance administrative costs, audits, and monitoring and evaluation of program implementation in the amount of US\$570,000 for both executing agencies (paragraph 3.1): GAMEA with a budget of US\$490,000 and EETC-MT with a budget of US\$80,000. The original operation approved in February 2013 assigned US\$2.15 million for administration of Component 2, but the government asked to have this item transferred to the Component itself ([optional electronic link 1](#)).
- 1.31 **Costs and financing sources.** The total estimated cost of the reformulated operation is US\$60.47 million, of which US\$47 million will be financed with loan proceeds (US\$37.60 million from the Regular Ordinary Capital and US\$9.40 million from the Concessional Ordinary Capital, formerly the FSO), and

the government will contribute US\$13.47 million as the local counterpart, which is US\$11.47 million more than allocated to Component 2 in the original operation.

Table 2. Program costs (US\$ million)

Category	Original operation			Proposed reformulation		
	Original	IDB	Counterpart	Reformulated	IDB	Counterpart
Component 1. Support for urban planning and land management capabilities in GAMEA	1.09	0.89	0.20	1.09	0.89	0.20
Component 2. Upgrading of urban transport infrastructure	42.94	41.14	1.80	56.56	43.29	13.27
Component 3. Improvement of citizen services	2.25	2.25	0.00	2.25	2.25	0.00
Administration, monitoring, and evaluation	2.72	2.72	0.00	0.57	0.57	0.00
Administration Components 1 and 3	0.40	0.40	0.00	0.40	0.40	0.00
Administration Component 2	2.15	2.15	0.00	0.00	0.00	0.00
Program audits, monitoring, and evaluation (Components 1 and 3)	0.17	0.17	0.00	0.09	0.09	0.00
Program audits, monitoring, and evaluation (Component 2)				0.08	0.08	0.00
Total	49	47	2	60.47	47	13.47

* The amount allocated under the category "Administration Component 2," in the original contract was for an administration fee paid to the FPS (the executing agency for Component 2). After the reformulation, EETC-MT will be directly responsible for the administration of the new Component 2 under the existing structure. Consequently, the resources were fully reallocated to Component 2 for execution of the Silver Line.

** The amount allocated for audits and evaluation are estimated based on the average market costs in Bolivia.

D. Key results indicators

1.32 **Expected results.** Reformulation of Component 2, through physical infrastructure outputs and aerial cable system equipment, will lead to higher use of quality urban transport systems measured by the increase in cable car ridership, the reduction in travel times, and the reduction in greenhouse gas emissions.³⁶

1.33 The main indicators in the results framework and the targets for reformulated Component 2 are summarized below.

³⁶ Annex II.

Table 3. Results indicators for Component 2.

Result	Unit of measure	Baseline	Final target ³⁷
Expected result 1: Increase in the use of quality urban transport systems			
Silver Line passengers per day	Passengers	0	53,342
Time required to travel by public transport between the 16 de Julio and Mirador stations	Time (minutes)	23.3 ³⁸	9.75

- 1.34 The Bank performed an independent cost/benefit analysis for this line which produced internal rates of return above 12% under different sensitivity scenarios ([optional electronic link 2](#)). The study included construction, operation, and maintenance of the Silver Line over a 40-year horizon. It is based on cost/benefit analysis technique and its objective is to determine, in monetary terms, the change in social well-being that would come about as a result of this project.
- 1.35 The analysis identified the main social groups affected by the project and calculated their net monetary benefits (social benefits less social costs) with and without the project. The main benefits are associated with the monetary value of the savings in time obtained by the users of the new line and the earnings of the cable transport company.
- 1.36 In quantifying the benefits, an econometric model was used by Mi Teleférico to estimate passenger demand, calculated on the basis of existing passenger flows between La Paz and El Alto, number of passengers currently using more than one cable car line, an origin-destination matrix for both cities, and a map of zones and areas of influence around the new terminals and stations. The analysis uses different conservative assumptions such as lower rates for annual growth in demand (1%), transfers (10%), public transport demand (30%) and private transport demand (10%). The information was used to estimate a baseline scenario, i.e. the one with the highest probabilities according to the data available at present. A pessimistic scenario was also calculated, which assumes that the demand estimates will be 25% lower than in the baseline scenario, and an optimistic scenario, which assumes that the Silver Line will operate at 75% maximum capacity at all times.
- 1.37 On the basis of the above-mentioned assumptions and calculations, the socioeconomic analysis gives IRRs of 18%, 22%, and 35%, for the pessimistic, baseline, and optimistic scenarios, respectively, with a social net present value (NPV) ranging from US\$27.9 million to US\$124.7 million; in other words the social benefits outweigh the social costs during the life of the project. Sensitivity tests with three variants were performed to complement the above. The first uses a lower value for the cost of time (US\$1.10 per hour) obtained using official data on the minimum wage. The second considers a six-month delay in completing the works

³⁷ Ibid.

³⁸ Based on an average speed of 13 kilometers per hour over a 5-km public transportation route.

and, therefore, in their startup, and the third combines the first two. In all cases, except one, the social NPV is positive, with an IRR of 12%. The NPV becomes negative when a lower value for the cost of time is used in the pessimistic scenario, combined with a delay in the works, which produces an IRR of 11%. In other words, except in the combined scenario, the project maintains positive values for the social NPV and an IRR of above 12%.

- 1.38 **Direct beneficiaries:** users of public transport in the ZCLPEL and the residents of El Alto who will have quicker, more efficient, safer, and more sustainable public and commercial services in La Ceja. A demand study prepared by Mi Teleférico ([optional electronic link 5](#)) estimates that the Silver Line will have 15.3 million users in its first year of operation and that the figure will grow by more than 1% in the following years.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 The financial terms and conditions of the reformulated loan have not changed. Table 4 presents the estimated schedule of program disbursements.

Table 4. Disbursement schedule

US\$ millions	Year 1	Year 2	Year 3	Year 4	Total
Loan	0.23	28.78	17.24	0.75	47.00
Counterpart	0.05	12.03	1.05	0.34	13.47
Total	0.28	40.81	18.29	1.09	60.47

B. Environmental and social risks

- 2.2 In accordance with the Environment and Safeguards Compliance Policy (Operational Policy OP-703), the program has been classified as a category “B” operation. An environment and social assessment of the Silver Line has been prepared, which identifies the program’s risks and environment and social impacts.
- 2.3 The main negative environmental impacts consist of dust, noise, waste, occupation of a square, and limited removal of vegetation during construction. The main social impacts consist of a limited number of people affected by acquisition of the land needed for the stations and towers, i.e. five complete houses, two house patios, and 63 commercial stalls that can be relocated in the vicinity of their current sites. There is a moderate risk of tension over the impact of the works with local groups, such as transit worker unions that might view the cable line as competition. This risk will be mitigated through outreach campaigns with the affected groups by city hall, and the implementation of a community relations plan and a complaints resolution mechanism to facilitate communications with civil society. The environment and social assessment examined the risk that the project might be affected by landslides and seismic activity and determined that it is low.
- 2.4 The environment and social assessment has an environmental and social management plan (ESMP) that contains adequate measures for avoiding,

mitigating, and compensating for the environmental and social risks identified. A resettlement plan has been prepared, which contains adequate compensation for people affected by the acquisition of land.

- 2.5 The Indigenous Peoples Policy (Operational Policy OP-765) has been activated due to the presence of a significant Aymara population (32.5%) in the program area. The environment and social assessment included an analysis to determine if there were any differentiated impacts on the distinctive sociocultural characteristics of this indigenous group. Since that analysis found no differentiated impacts, no mitigation measures in addition to the general ones established in the ESMP are required.
- 2.6 Consultations have been held with the five neighborhood groups identified in the project area. These were conducted through their general assemblies, in order to respect the local residents' culturally specific forms of decision-making. The consultations focused on the project, the impacts identified, and the mitigation measures. Minutes of the meetings reflect support for the project. Suggestions made during the consultations have been drawn on extensively to identify impacts and determine mitigation measures ([optional electronic link 7](#)). Separate consultations were also held with those impacted by land appropriations and the involuntary resettlement process. These meetings focused on compensation alternatives. Accordingly, the consultation requirements of Operational Policies OP-703, OP-710,³⁹ and OP-765 have been fulfilled.
- 2.7 The environmental and social management report (ESMR) ([required electronic link 3](#)) summarizes the program's main impacts and risks and the associated mitigation and compensation measures. It also summarizes the consultation processes and gives details on compliance with the safeguards policy. The project will be executed in accordance with the environmental, social, health, and occupational safety considerations established in the contract and reflected in section V of the ESMR.⁴⁰

C. Fiduciary risks

- 2.8 The overall fiduciary risk for Component 2 is low.

III. IMPLEMENTATION AND MANAGEMENT PLAN FOR REFORMULATED COMPONENT 2

A. Summary of implementation arrangements for Component 2

- 3.1 EETC-MT was established under Supreme Decree 1980 of 23 April 2014, as a strategic public corporation, in the form of a separate legal entity of indefinite duration, with its own assets, and managerial, financial, commercial, and legal autonomy, subject to the authority of the Ministry of Public Works, Services, and Housing (MOPSV), which is in charge of sector policy. EETC-MT is responsible

³⁹ As established in the ESMR, no previous consent was required for land expropriations, as this activity did not impact communal lands nor did it pose a risk to territorial integrity or territorial management of an indigenous community.

⁴⁰ These conditions are necessary to ensure that the project complies with national environmental regulations, that complaints and disagreements will be properly handled, and that adequate environmental and risk management will be implemented during operation of the Silver Line.

for: (i) administration, management, and development of the business, commercial operations, operation, maintenance, and implementation of the cable transport system and its infrastructure; (ii) direct and indirect marketing; and (iii) carrying out all activities for supervision and implementation of the infrastructure and/or equipment of the cable transport system.

- 3.2 **Executing agency of Component 2.** The executing agency of Component 2 will be EETC-MT, and therefore the FPS will not participate. GAMEA will continue to execute Components 1 and 3. **Special conditions precedent to the first disbursement of Component 2: EETC-MT will submit evidence to the effect that: (i) an agreement⁴¹ has been signed between the Ministry of Development Planning and EETC-MT establishing (a) the mechanism for transferring loan proceeds, and (b) EETC-MT's obligation to execute Component 2 in accordance with the loan contract, which will make for fluid administration and reduce the possibility of delays; and (ii) EETC-MT has complied with the following General Conditions of the loan contract: (a) presentation of the authorized signatures; and (b) implementation of a suitable financial information system and internal control structure. Since a current loan contract is in place and the EETC-MT will be a new executing agency, compliance with these two General Conditions of the loan contract is mandatory, which will ensure effective execution and minimize risk.**
- 3.3 Component 2 will be executed by EETC-MT which will be responsible for its planning, coordination, administration, execution, audit, monitoring, and evaluation, and for implementation of the environmental and social plans associated with the component.⁴² To execute this component, EETC-MT will establish technical teams to work full-time on the program. EETC-MT will also obtain its own advances of funds and justify them directly to the Bank. The semiannual status reports and the environmental and social compliance reports prepared by EETC-MT will be sent directly to the Bank. **The program Operating Regulations will be updated and entered into effect as they relate to execution of Component 2, and will include environmental and social considerations, based on the terms agreed upon in advance with the Bank, as a special condition prior to the first disbursement** to ensure effective execution and minimize the risk of delays.
- 3.4 The executing agency's functions will include: (i) preparing and periodically updating the multiyear execution plan, the annual work plan, and the procurement plan; (ii) conducting selection processes for works, goods, and consulting services; (iii) managing works supervision, execution monitoring, and evaluation; (iv) preparing and updating the risk matrix and related mitigation activities;

⁴¹ The Subsidiary Agreement is the legal instrument whereby the Ministry of Development Planning (MPD) (borrower) grants the executing agency the authority to administer the program's finances so that, in strict compliance with the terms and conditions of the loan contract, it will honor the obligations established therein and execute the program. In this framework and considering that prior to the reformulation, the executing unit of Component 2 was the FPS, the MPD will have to sign a new Subsidiary Agreement with EETC-MT to grant it the authority to act as executing agent for that component.

⁴² These plans consist of the environmental and social management plan, the resettlement plan, and the prevention and mitigation plan/environmental measures application and monitoring plan (PPM/PASA) which will be prepared during execution of Component 2.

- (v) performing financial management and submitting the financial reports required by the Bank; (vi) preparing the semiannual status reports, including progress in the AWP, the results obtained from execution, monitoring of the project's environmental and social aspects, and an action plan for the following six-month period for aspects that require corrective actions to improve project performance; (vii) preparing the midterm and final performance evaluations; and (viii) conducting the ex post impact analysis.
- 3.5 The contractual modality envisaged for the Silver Line includes design, construction, and startup. The firm Doppelmayr will be contracted directly, as provided for in paragraph 3.6(b) and (c) of the Policies for the procurement of works and goods financed by the IDB (document GN-2349-9).⁴³ Direct contracting is justified on grounds of: (i) technological compatibility,⁴⁴ owing to the convenience of having homogeneous technology throughout the system, since the same firm designed, built, and started up the four cable transport lines presently in operation and is building six more; (ii) technical and financial sustainability, because introducing a different technology would entail higher investment, operating, and maintenance costs; (iii) technological standardization, which brings savings in spare parts, use of workshops, and use of the same operating and maintenance staff, including efficiencies in human resource training and availability; and (iv) economic criteria that quantify the economic returns on the intervention ([optional electronic link 5](#)).
- 3.6 Building the line with a technology that is different from the one used in the lines currently in operation and under construction would require separate stocks of spare parts and operating and maintenance staff for each technology, generating additional costs owing to higher inventory requirements and the need to train different groups of personnel to operate and maintain each aerial cable technology. Furthermore, initial investments in software and warehouse construction could be unnecessary if the technology for the new line is the same as the earlier ones. Since a complete aerial cable system has been proposed for implementation in stages, the transfer of knowledge by the supplier of a single technology will be increasingly inexpensive as the system grows, since there will be more trained and specialized personnel with each new line built, able to take part in training new personnel.
- 3.7 **Technical aspects.** EETC-MT has experience and know-how in managing the construction, operation, and maintenance of aerial cable systems, having implemented the existing system (paragraph 1.10). It has prepared the prefeasibility studies for the Metropolitan Integration Network (RIM), which includes

⁴³ The first bidding process in Phase I was carried out under a specific turnkey contract law. The Bolivian government applied the direct contracting method established in Law 261 of 2012. This method was selected after analyzing the technical and economic feasibility of the investment. The government decided to use direct contracting based on the exceptional nature of the project, which the aforementioned law qualifies as being of interest to the central government. This justification is similar to the one established in paragraph 3.6(d) of the Policies for the Procurement of Goods and Works Financed by the IDB, owing to the project's exceptional nature.

⁴⁴ In accordance with paragraph 3.6(c) of the Policies for the Procurement of Goods and Works Financed by the IDB (document GN-2349-9): "The required equipment is proprietary and obtainable only from one source," since the manufacturer of the installed technology is the only one that can provide it.

the Silver Line. EETC-MT has also produced a diagnostic study of the Silver Line's area of influence, different project engineering elements (geological, geotechnical, conceptual design, location of towers and stations, among other aspects), a market study, a demand analysis, and a financial evaluation ([optional electronic link 5](#)). The Bank performed an independent cost/benefit evaluation for the line that yielded internal rates of return above 12% under different sensitivity scenarios ([optional electronic link 2](#)).

- 3.8 **Recognition of expenditures incurred prior to entry into force of the amended contract.** At the request of the borrower, the Bank may recognize as eligible expenditures—up to the equivalent of US\$8,658,000 (20% of the loan amount) against the loan proceeds, and up to the equivalent of US\$2,654,000 (20% of the counterpart) against the counterpart contribution—those incurred by EETC-MT for activities related to Component 2. Such expenditures must have been incurred between 29 July 2016 (date of the Bolivian government's official request for reformulation) and the effective date of this amended contract, but will under no circumstances include expenditures incurred more than 18 months prior to the effective date of said contract. The activities subject to retroactive recognition of expenditures must have followed procedures substantially similar to those established in the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9). Accordingly, the Bank has been working with EETC-MT to define a package of standard procurement documents it will use to verify compliance with the conditions for the retroactive recognition of eligible expenditures.

B. Summary of results monitoring arrangements

- 3.9 **Monitoring and evaluation.** The monitoring and evaluation plan has the purpose of tracking progress in implementing the program's main outputs and evaluating the project's results and impact on the population in the project area ([required electronic link 2](#)). The targets and progress indicators established in the results matrix (Annex II) will be used as the basis for project monitoring and evaluation. The following instruments will be used: (i) the annual work plan, the multiyear execution plan, the procurement plan, the cash flow and disbursement programming; (ii) the semiannual progress monitoring reports; (iii) the final report; (iv) the audited financial statements; and (v) the project completion report, including the ex post economic evaluation.
- 3.10 Environmental and social compliance reports will be submitted to the Bank semiannually. The Bank will carry out missions to supervise compliance with its environmental and social safeguards.
- 3.11 **Impact evaluation.** The operation includes an evaluation plan based on primary data from household surveys and secondary data from administrative sources available to EETC-MT. Under the impact evaluation methodology, questions related to the impact of the cable transport system in general and the Silver Line in particular will be answered. Three evaluation strategies are proposed to answer the different questions posed in the monitoring and evaluation plan ([required electronic link 2](#)). The first strategy seeks to determine the impact of using the cable car system on households, exploring the effects on reduction in travel times and access to jobs and other basic services, perceptions of safety, and other aspects. The instrumental variables and differences-in-differences methodologies

will be used for that purpose. The second method will explore the impact on system demand of opening the Silver Line, using regression discontinuity with data from EETC-MT's ticketing system and tolls on a section of National Route 3. Lastly, the third area for evaluation will shed light on optimum fares to maximize demand at different times of day, under an integrated ticketing system, measured using an experimental method.

IV. RECOMMENDATION

- 4.1 Pursuant to: (i) the provisions set forth in subsection B, paragraph 4 of the Operations Administration Manual (OA-430), entitled "Substantial and Fundamental Changes to Operations;" (ii) the provisions of Annex I of document GN-2601-2; and (iii) the information and analysis provided in this document, Management recommends that the Board of Executive Directors approve, via short procedure, the reformulation of the Multiphase Program for the Urban Restructuring of La Ceja – Phase I (operation 2908/BL-BO), as described in this document (paragraph 1.2). Accordingly, and pursuant to the provisions set forth in paragraph 3.29(c) of the Regulations of the Board of Executive Directors (document DR-398-17) and paragraph 6 of the List of Matters to be Considered by the Board via Short Procedure (document CS-3953-1), the Board of Executive Directors has the authority to approve this proposed reformulation by short procedure.

Development Effectiveness Matrix		
Summary		
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Productivity and Innovation -Climate Change and Environmental Sustainability	
Country Development Results Indicators	-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)* -Urban rail and bus mass transit systems built or upgraded (km)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2843	Improve the provision of quality public goods and services.
Country Program Results Matrix	GN-2884	The intervention is included in the 2017 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		
3. Evidence-based Assessment & Solution	Evaluable	
3.1 Program Diagnosis	9.6	
3.2 Proposed Interventions or Solutions	3.0	
3.3 Results Matrix Quality	3.6	
4. Ex ante Economic Analysis	3.0	
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	10.0	
4.2 Identified and Quantified Benefits	4.0	
4.3 Identified and Quantified Costs	1.5	
4.4 Reasonable Assumptions	1.5	
4.5 Sensitivity Analysis	1.5	
5. Monitoring and Evaluation	9.2	
5.1 Monitoring Mechanisms	2.5	
5.2 Evaluation Plan	6.7	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Medium	
Identified risks have been rated for magnitude and likelihood		
Mitigation measures have been identified for major risks		
Mitigation measures have indicators for tracking their implementation		
Environmental & social risk classification	B	
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting. Procurement: Information System.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Gender Equality		
Labor		
Environment		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	In order to improve monitoring to achieve the results expected from the project, the Bank is contributing resources from a Technical Cooperation (BO-T1262, which includes a support component for capacity building of the company Mi Teleférico for US \$ 100,000), for the development and implementation of an impact evaluation. This financial support has been complemented, in collaboration with the Strategic Development Division.
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan	Yes	Three evaluation strategies are proposed: instrumental variables and differences in differences, regression discontinuity design and randomized assignment.

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

This reformulation of component II of the program aims to support the Municipal Autonomous Government of El Alto in reducing the problems of road congestion in La Ceja; that is, it does not modify the originally proposed objective. With this, it seeks to improve urban productivity and the reduction of environmental pollution. The specific objectives of the original program are not modified: (i) improve the urban planning and management capacities of the GAMEA; (ii) improve the urban transport infrastructure of El Alto; and (iii) improve and decentralize the provision of services to the citizen by the GAMEA.

The project presents a complete diagnosis; describes the interventions with similar characteristics and the corresponding impact evaluations. The results matrix has a clear vertical logic (it does not affect the original vertical logic of the project); the impact, result and product indicators are SMART and contain means of verification.

The economic analysis measures, in monetary terms, the change in social welfare that would take place in Bolivian society as a consequence of undertaking this project. This analysis is complete and the results suggest that the project is economically viable in various sensitivity scenarios.

The monitoring and evaluation plan is solid. Given the characteristics of the proposed transport system, the project presents proposals for impact evaluations (for both, the silver line and the integrated cable car system). These evaluations will contribute to reducing knowledge gaps.

RESULTS FRAMEWORK FOR COMPONENT 2

Program objective:	The program's original overall objective, to support GAMEA in its efforts to reduce congestion problems in the La Ceja area, remains unchanged. This objective will help to raise urban productivity and reduce environmental pollution.
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IMPACTS

Indicator	Unit of measure	Baseline	Baseline year	2017	2018	2019	2020	Final target	Means of verification	Comments
Indicator 1: Increased use of quality urban transportation systems										
Percentage of passengers using the Silver Line of "Mi Teleférico" (MT) compared to those using other modes of public transport in La Paz-El Alto	%	0	2016				4.5	4.5	Source of EETC-MT baseline: EETC-MT report database, based on user surveys disaggregated by line, and the MT Phase II market study.	The projected final target is one year after the Integrated Metropolitan System begins operating.
Indicator 2: Reduction in emissions owing to the change in the public transport mode										
CO ₂ emissions eliminated as a result of using the Silver Line mode of transport	Tons per year	0	2017				2,500	2,500	Source of EETC-MT baseline: EETC-MT technical reports based on demand studies.	The target will be calculated using the same baseline methodology, based on real observed demand. ¹

¹ Formula to be used for the evaluation: *CO₂ emission = Lts Gas * Fact CO₂*.

EXPECTED RESULTS

Indicator	Unit of measure	Baseline	Baseline year	2017	2018	2019	2020	Final target	Means of verification	Comments
Indicator 1: Increased use of quality urban transport systems										
Passengers per day using the Silver Line	Passengers	0	2016				53,342	53,342	Source of EETC-MT baseline: EETC-MT technical reports based on the MT Phase II market study.	The target will be calculated using the same baseline methodology, based on real observed demand.
Travel time in modes of public transport other than the MT on the route between the 16 de Julio and Mirador stations	Minutes per trip	23.3 ²	2016				9.75	9.75	Source of EETC-MT baseline: EETC-MT technical reports.	Program data based on Silver Line estimates. The baseline considers the time it currently takes to travel the route using ground transport. The target refers to average time it takes to travel the entire Silver Line route from station to station.

² Based on an average speed of 13 kilometers per hour over a 5-km public transport route.

OUTPUTS

Output	Unit of measure	Baseline	Baseline year	2017	2018	2019	2020	Final target	Means of verification	Comments
Component 2: Upgrading of urban infrastructure										
Output 1: Civil works completed, including station infrastructure throughout the Silver Line	Unit	0	2017				1	1	EETC-MT technical report. Output reported in the semiannual progress report.	The civil works include the design and construction of 2.5 km of aerial cable line and three stations: 16 de Julio, Faro Murillo, and Mirador.
Output 2: Electromechanical system and equipment installed and in operation	Number of systems	0	2017				1	1	EETC-MT technical report. Output reported in the semiannual progress report.	Includes all electromechanical elements installed, tested, and in operation, as well as aerial trams, ticket booths, access, and auxiliary equipment needed for proper operation of the Silver Line.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country:	Plurinational State of Bolivia
Project name:	Reformulation of the Multiphase Program for the Urban Restructuring of La Ceja – Phase I (BO-L1079)
Executing agency:	Autonomous Municipal Government of El Alto (GAMEA) and Empresa Estatal de Transporte por Cable “Mi Teleférico” (EEMT-MT)
Prepared by:	Carolina Escudero and Diana de León (FMP/CBO)

I. EXECUTIVE SUMMARY

- 1.1 This annex centers on the fiduciary aspects associated with the reformulation of Component 2 of the Multiphase Program for the Urban Restructuring of La Ceja – Phase I, to be executed by GAMEA and by EEMT-MT, as the new executing agency of that component.
- 1.2 This document has been prepared in accordance with the findings of the ICAS assessment of EEMT-MT for program execution.
- 1.3 Financial management will be performed using Bolivia’s Public Management Information System (SIGEP), through the budget, accounting, and cash flow subsystems. Until SIGEP’s integrated project administration system (SIAP) becomes operative, the integrated project administration system provided by the Bank (SIAP-IDB) will be used to issue disbursement requests and other program reports.
- 1.4 For procurement management, the Bank’s standard bidding documents, documents adapted and agreed upon with the Bank, or documents agreed upon with the Office of the Deputy Minister of Public Investment and External Financing (VIPFE), which are available through the Government Procurement Information System (SICOES),¹ will be used.
- 1.5 Procurement notices (bid calls, requests for expressions of interest, clarification circulars, amendment circulars, and results of bidding processes) for international competitive bidding (ICB) and selection of consultants for over US\$200,000 will be published on the United Nations Development Business (UNDB) website. The remaining processes may use the SICOES portal and national media of wide circulation.
- 1.6 At present, the Bolivian government and the Bank are in the process of signing an agreement to adopt the partial use of the basic rules of the goods and services

¹ [SICOES](#). Package of bidding documents authorized by the Bank for use in processes below the thresholds for international competitive bidding (ICB).

administration system (NB-SABS) in Bank-financed operations in Bolivia. This program may apply that agreement once it enters into effect.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 2.1 EEMT-MT was established under Supreme Decree 1980 of 23 April 2014, as a strategic public corporation with legal status of indefinite duration, its own assets, and managerial, financial, commercial, and legal autonomy, subject to the authority of the Ministry of Public Works, Services, and Housing, which is responsible for sector policy.
- 2.2 EEMT-MT is responsible for: (i) administration, management, business development, commercial operation, operation and maintenance, and implementation of the aerial cable transport system and its infrastructure; (ii) its direct and indirect marketing; and (iii) performing all supervisory and implementation activities of the infrastructure and/or equipment of the aerial cable transport system.
- 2.3 As a public corporation, EEMT-MT is governed by Law 1178 on Government Administration and Control of 20 July 1990 (SAFCO), which regulates the management and control systems of government resources and their linkage to national planning and public investment systems.
- 2.4 EEMT-MT's financial transactions are made through the Public Management Information System (SIGEP), which provides secure and reliable budgetary management information. It provides financial information in the official currency, based on accounting classification by expenditure item. The program's accounting records will be kept in accordance with the government accounting system. SIAP-IDB² will be used for the financial reports required by the Bank, until such time as the external funds accounting module developed with Bank support comes into operation.
- 2.5 Pursuant to Article 83 of Supreme Decree 00181, EEMT-MT has developed its own procedures for direct contracting of goods and services and for regulating conditions related to guarantees and percentages payable as advances, among other matters. These procedures and conditions are established in EEMT-MT's Specific Regulations in respect of the Goods and Services Administration System (RE-SABS).
- 2.6 As a public corporation, EEMT-MT is supervised by the Office of the Comptroller General and subject to external audits as provided in Law 466. In addition, annual audits of the program's funds will be performed by an independent firm of auditors acceptable to the Bank.

III. FIDUCIARY RISK EVALUATION AND MITIGATION MEASURES

- 3.1 The fiduciary risk associated with the execution of Component 2 is classified as low, based on the ICAS assessment findings of EEMT-MT.³

² SIAP-IDB; IDB Project Administration System.

³ See [optional electronic link 3](#).

- 3.2 In connection with the findings of the ICAS assessment, the program will support strengthening of EEMT-MT's supervisory capacity. A model contract will also be adapted and agreed upon for contracting the design and construction of the Silver Line of the Mi Teleférico aerial cable transport system in La Paz, Bolivia (including technical specifications), to ensure compliance with the Bank's social, environmental, and procurement policies, as pertinent, in order to trigger retroactive recognition of expenditures under Component 2, as necessary.

IV. CONSIDERATIONS FOR THE SPECIAL CONDITIONS OF THE AMENDED CONTRACT

- 4.1 **Program Operating Regulations.** These will include the execution arrangement, procedures, and information flows agreed upon in advance by the executing agency and the Bank.
- 4.2 **Exchange rate agreed upon with the executing agency for accounting purposes.** The exchange rate in effect in the country on the date funds in foreign currency are converted into local currency in the accounts of the executing agency will be used.
- 4.3 **Financial statements and other audited reports.** During the loan disbursement period, annual financial statements will be submitted to the Bank, as well as interim statements to be presented by 30 September of each year, in accordance with the Bank's standard terms of reference. Financial statements will be audited by an independent firm of auditors acceptable to the Bank. The audit firm will be contracted on a multiyear basis through the end date of the program.
- 4.4 **Procurement.** Procurement processes will be conducted in accordance with the Bank's procurement policies (documents GN-2349-9 and GN-2350-9), and with partial use of NB-SABS, as mentioned in paragraph 1.4.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 5.1 **Procurement execution.** Procurement processes will be detailed in the procurement plan approved by the Bank and conducted in accordance with the Bank's procurement policies (documents GN-2349-9 and GN-2350-9), or with partial use of NB-SABS as mentioned in paragraph 1.4.
- 5.2 **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services subject to ICB will be executed using the Bank's current standard bidding documents; for processes below the ICB threshold, the documents agreed upon with the VIPFE will be used and made available through SICOES. Changes to these documents will require the Bank's prior no objection.
- 5.3 **Direct contracting.** The firm Doppelmayr will be contracted directly to design, build, and commission the Silver Line, as provided in paragraph 3.6(b) and (c) of the Policies for the Procurement of Works and Goods Financed by the Inter-American Development Bank (document GN-2349-9). Direct contracting is justified on the basis of: (i) technological compatibility, owing to the convenience of having homogeneous technology throughout the system ([optional electronic link 4](#)), since the same firm designed, built, and commissioned the four cable car lines presently in operation and is building six more; (ii) technical and financial sustainability, since

- because introducing another technology would entail higher investment, operating, and maintenance costs; (iii) technological standardization, which offers savings with regard to spare parts, use of workshops, and use of the same operations and maintenance staff, including efficiencies in human resource training and availability; and (iv) economic criteria that quantify the program's economic returns.
- 5.4 **Selection and contracting of consultants.** Contracts for consulting services arising under the project will be executed as follows:
- (i) **Selection of consulting firms.** The Bank's current standard request for proposals will be used.
 - (ii) **Shortlist of consulting firms.** The list may be composed entirely of national firms for contracts below the US\$200,000 threshold established by the Bank for Bolivia.
 - (iii) **Selection of individual consultants.** The selection of consultants will take into account their qualifications to perform the work, based on a comparison of the résumés of at least three candidates. Interviews will not normally be held.
- 5.5 **Recognition of expenditures incurred prior to entry into force of the amended contract.** At the request of the borrower, the Bank may recognize as eligible expenditures—up to the equivalent of US\$8,658,000 (20% of the loan amount) against the loan proceeds, and up to the equivalent of US\$2,654,000 (20% of the counterpart) against the counterpart contribution—those incurred by EETC-MT for activities related to Component 2. Such expenditures must have been incurred between 29 July 2016 (date of the Bolivian government's official request for reformulation) and the effective date of this amended contract, but will under no circumstances include expenditures incurred more than 18 months prior to the effective date of said contract. The activities subject to retroactive recognition of expenditures must have followed procedures substantially similar to those established in the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9). Accordingly, the Bank has been working with EETC-MT to define a package of standard procurement documents it will use to verify compliance with the conditions for the retroactive recognition of eligible expenditures.
- 5.6 **Procurement planning.** EEMT-MT will be responsible for preparing the procurement plan for Component 2 using the procurement plan execution system (SEPA) and will comply with the obligations to arrange for its approval by the Bank, its publication, and updating at least once a year or as necessary.
- 5.7 **National preference.** National preference will not be applied in the contracts.
- 5.8 **Terms of reference and technical specifications.** The review of criteria used in the selection of shortlists, terms of reference, and/or technical specifications (including qualification requirements for bidders and consultants) is the responsibility of the sector specialist in her role as Project Team Leader and, in all cases, will be agreed upon in advance with the executing agency.

Table 1. Thresholds (US\$ thousand)

Works			Goods			Consulting firms	
ICB	NCB	Shopping	ICB	NCB	Shopping	International publicity (shortlist, maximum of two firms of the same nationality)	National publicity (shortlist may be 100% national)
> 3,000	≤ 3,000	≤ 250	> 200	≤ 200	≤ 50	> 200	≤ 200

Table 2. Major procurement processes planned for Component 2

Description	Selection method	Estimated date	Estimated amount (US\$ thousand)
Contracting of works			
Design and construction of electromechanical elements, civil works, complementary systems, and other aspects of the Silver Line aerial cable car system.	Single-source selection	1st quarter 2018	54,130

* Click [here](#) to consult the procurement plan for the first 18 months.

- 5.9 **Procurement supervision.** Annual visits will be made to track procurement capacity and the level of fiduciary risk associated with program execution. If warranted, annual ex post review visits will also be made.
- 5.10 The thresholds for ex post review are presented in Table 3 (direct contracts and any procurement operations not mentioned here will be subject to ex ante review). The external audit firm will be responsible for the ex post review of procurement.

Table 3. Thresholds for ex post review of procurement (US\$ thousand)

Works	Goods and nonconsulting services	Consulting services (firms)	Consulting services (individuals)
Contracts ≤ 3,000	Contracts ≤ 200	Contracts ≤ 200	No limit

- 5.11 **Operating/recurrent expenses.**⁴ These will be agreed upon with the Project Team Leader and included in the budget and the procurement plan. They will be contracted using the NB-SABS and/or the executing agency's administrative procedures. The Bank may forego financing these expenditures if it determines that the fundamental principles of competition, efficiency, and economy were violated. The external auditors will be responsible for reviewing the supporting documentation.

⁴ Operating or recurrent costs include: office rental; radio, print, or television notices, announcements, or communications (does not refer to outreach campaigns included in one of the operation's components); translations; bank fees; office supplies; photocopies; postage; fuel; maintenance; short courses; travel for operations staff (driver, secretary); and other items necessary for program execution.

- 5.12 **Records and files.** The executing agency will be responsible for establishing the necessary controls for the safekeeping and integrity of documents created, ex ante or ex post, related to program procurement. The Bank may at any time verify the arrangements used for the organization, control, and security of records.

VI. FINANCIAL MANAGEMENT

- 6.1 The program's financial management will be performed through the SIGEP, which integrates the budgeting, accounting, and cash management subsystems. It is used universally by the nonfinancial public sector.
- 6.2 **Programming and budget.** The country system of the Plurinational State of Bolivia has an extensive regulatory framework that is clearly explained in user manuals. Its programmatic structure facilitates the linkage of expenditures to the objectives and results of the annual work plans and assures integrated, real-time management of transactions.
- 6.3 EEMT-MT's Planning and Management Department, which reports to the Office of the Business Manager, will be responsible for the planning processes, using the instruments agreed upon with the Bank.
- 6.4 **Accounting and information systems.** The accounting and reporting subsystem applies generally-accepted accounting standards, which are described in the Integrated Accounting System Basic Standards (NBSCI). Although these are compatible with the International Public Sector Accounting Standards (IPSAS), they have not been adopted by the Bolivian government. This subsystem integrates the different accounting data into a single report: budget, equity, and cash flow records.
- 6.5 For purposes of program financial management, the preparation of financial statements, and reporting to the Bank, EEMT-MT will use SIAP-IDB (provided by the Bank).
- 6.6 **Disbursements and cash flow.** The cash flow subsystem has a simple and complete regulatory framework. The Unified Treasury Account is national in coverage, includes advanced procedures for control, monitoring, and reporting, and operates with a multi-currency capacity, making it a reliable, effective, and efficient system for managing cash and program funds. Its automated procedures are efficient, cover all the cash management processes that can be automated, and integrate them with the budgeting and accounting systems.
- 6.7 Disbursements will chiefly take the form of advances of funds based on cash programming, although the Bank may use other arrangements to make payments or reimburse expenditures. A minimum of 80% of previous advance will be justified before a new disbursement can be approved, using the method established in Bank policies.
- 6.8 **Administration of the loan proceeds.** The program's funds will be deposited in a special account in the Banco Central de Bolivia and subsequently transferred in the currency of execution into the respective account, following the procedures established by the Office of the Deputy Minister of the Treasury for managing loan proceeds.

- 6.9 **Internal control and internal audit.** The program will be supervised by the Internal Audit Unit and its annual work plan will include coverage of: (i) the program's internal control system; and (ii) steps taken by the executing agency to respond to the findings and recommendations of the external auditors.
- 6.10 **External control and reporting.** The project's annual statements will be audited annually as stipulated in paragraph 4.3 of this document.
- 6.11 **Financial supervision plan.** Expenditures will be reviewed ex post. However, at least the following activities will be included in the annual supervision plan:
- (i) Comprehensive visits and/or meetings (procurement and finance) to verify compliance with the internal control recommendations made by the program's external auditors.
 - (ii) Onsite visits by the external auditor to the investment sites and the technical offices responsible for supervising and monitoring the works.
- 6.12 The supervisory activities may be adjusted based on the annual project risk assessments performed by the Bank's fiduciary team in conjunction with the executing agency and the external auditors' reports.
- 6.13 **Execution arrangements.** EEMT-MT will have a professional fiduciary team to manage the operation. In view of the limited knowledge of Bank processes and policies, training will be provided for that team.
- 6.14 Regarding fiduciary control of the resources for the components, EEMT-MT will be responsible for: (i) implementing and maintaining adequate systems for contract administration, accounting and financial administration, and the program's internal control system, in accordance with Bank requirements; (ii) submitting disbursement requests and justification of eligible expenditures in a timely manner; (iii) preparing and submitting the semiannual financial reports; (iv) maintaining an exclusive bank account separate from other sources of funding for managing the loan proceeds and using SIAP-IDB for accounting records and financial reports and the submission of disbursement requests; (v) maintaining an adequate system for filing supporting documentation for eligible expenditures for verification by the Bank and the external auditors; and (vi) complying with the current Access to Information Policy.