

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BOLIVIA

AIR INFRASTRUCTURE PROGRAM – STAGE II

(BO-L1209)

LOAN PROPOSAL

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ABBREVIATIONS

AASANA	Airports and Ancillary Air Traffic Services Administration
ANPE	Apoyo Nacional a la Producción y Empleo [National Production and Employment Support]
BOA	Boliviana de Aviación
DGAC	Dirección General de Aeronáutica Civil [Bureau of Civil Aeronautics]
ESAP	Environmental and Social Action Plan
ESMP	Environmental and Social Management Plan
ESPF	Environmental and Social Policy Framework
ESPS	Environmental and Social Performance Standard
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
INE	Instituto Nacional de Estadística [National Statistics Institute]
IRR	Internal rate of return
LAC	Latin America and the Caribbean
MOPSV	Ministry of Public Works, Services, and Housing
NAABOL	Navegación Aérea y Aeropuertos Bolivianos [Bolivian Air Traffic and Airports]
NPV	Net present value
PARECO ₂	Plan de Acción para la Reducción de Emisiones de CO ₂ [Action plan to reduce CO ₂ emissions]
PEU	Project execution unit
RUPE	Registro Único de Proveedores del Estado [Single Registry of State Providers]
SAF	Sustainable aviation fuels
SDGs	Sustainable Development Goals
SICOES	Sistema de Contrataciones Estatales [State Procurement System]
TGN	Tesoro General de la Nación [National Treasury]
TIOC	Territorio Indígena Originario Campesino [Indigenous native campesino territories]
VMT	Office of the Deputy Minister of Transportation
WEF	World Economic Forum

PROJECT SUMMARY

BOLIVIA AIR INFRASTRUCTURE PROGRAM – STAGE II (BO-L1209)

Financial Terms and Conditions					
Borrower: Plurinational State of Bolivia			Flexible Financing Facility ^(a)		
Executing agency: Ministry of Public Works, Services, and Housing (MOPSV), acting through the Office of the Deputy Minister of Transportation (VMT)			Amortization period:		24 years
			Disbursement period:		5 years
Loan modality: Specific investment operation			Grace period:		10.6 years ^(b)
Source	Amount (US\$)	%	Interest rate:		SOFR-based
IDB (Ordinary Capital): ^(g)	60,200,000	100	Credit fee:		(c)
			Inspection and supervision fee:		(c)
Total:	60,200,000	100	Average weighted life:		15.25 years
			Approval currency:		United States dollars
Project at a Glance					
Objective: The general objective of the program is to help develop regional integration, connectivity, and tourism in the Tarija and Uyuni regions. The specific objective is to provide safe airport infrastructure with sufficient operating capacity in the targeted terminals to satisfy the projected demand.					
Special contractual conditions precedent to the first disbursement of the loan: (i) approval and entry into effect of the program Operating Regulations (link 9), under terms and conditions previously agreed upon with the Bank, including social and environmental requirements and incorporating, as annexes, the Environmental and Social Management System (ESMS) and the Environmental and Social Action Plan (ESAP); (ii) approval of a code of ethics for the project execution unit (PEU) to promote integrity and transparency (paragraph 1.37) in the program's precontractual processes; and (iii) appointment of the key PEU staff, in accordance with the profiles and terms agreed upon with the Bank, including (a) a project manager; (b) a technical coordinator; (c) a planning specialist; (d) a procurement specialist; (e) a financial specialist; and (f) an environmental specialist (paragraph 3.4).					
Special contractual conditions for execution: (i) prior to tendering the first works at each airport, 100% of any property involved will be made free and clear of all encumbrances, as necessary, in accordance with the environmental and social impact assessment; (ii) prior to awarding the contract corresponding to the first program works, a social sector specialist will be hired for the program; and (iii) prior to executing the activities under Component 3, interagency agreements will be signed and in force between the Office of the Deputy Minister of Transportation (VMT) and the Bureau of Civil Aeronautics (DGAC), Bolivian Air Traffic and Airports (NAABOL), and Boliviana de Aviación (BOA), and the scope of the contracts will be defined by the Ministry of Public Works, Services, and Housing (MOPSV), acting through the VMT, in accordance with the competencies of the participating entities, given that these institutions are the technical beneficiaries of the studies for the entire air transportation sector. For other environmental and social conditions, see Annex B to the Environmental and Social Review Summary (paragraph 3.5) (link 2).					
Exceptions to Bank policies: None.					
Strategic Alignment					
Challenges: ^(d)	SI <input checked="" type="checkbox"/> PI <input checked="" type="checkbox"/> EI <input checked="" type="checkbox"/>				
Crosscutting themes: ^(e)	GE <input checked="" type="checkbox"/> y DI <input checked="" type="checkbox"/>		CC <input checked="" type="checkbox"/> y ES <input checked="" type="checkbox"/>		IC <input checked="" type="checkbox"/>
Sustainable Development Goals: ^(f)	ODS1 <input type="checkbox"/> ODS2 <input type="checkbox"/> ODS3 <input type="checkbox"/> ODS4 <input type="checkbox"/> ODS5 <input checked="" type="checkbox"/> ODS6 <input type="checkbox"/> ODS7 <input type="checkbox"/>				
	ODS8 <input checked="" type="checkbox"/> ODS9 <input checked="" type="checkbox"/> ODS10 <input checked="" type="checkbox"/> ODS11 <input type="checkbox"/> ODS12 <input type="checkbox"/> ODS13 <input checked="" type="checkbox"/> ODS14 <input type="checkbox"/>				
	ODS15 <input type="checkbox"/> ODS16 <input checked="" type="checkbox"/> ODS17 <input type="checkbox"/>				

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- (a) Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, and commodity conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.
 - (b) Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.
 - (c) The credit fee and 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 applicable policies.
 - (d) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).
 - (e) GE (Gender Equality) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).
 - (f) SDGs (Sustainable Development Goals). For more information on SDGs, follow [this link](#), and to consult the IDB Group SDG Classification Methodology, follow [this link](#).
 - (g) In accordance with document AB-2990, since Bolivia does not currently have an Independent Assessment of Macroeconomic Conditions (IAMC) in effect, disbursement of the loan proceeds will be subject to the following maximum limits: (i) up to 15% during the first 12 months; (ii) up to 30% during the first 24 months; and (iii) up to 50% during the first 36 months, in all cases counting from the date of approval of the loan by the Bank's Board of Executive Directors (paragraph 2.2).

I. PROJECT DESCRIPTION AND RESULTS

A. Background, problem to be addressed, and rationale

- 1.1 **Macroeconomic context.** In 2021, Bolivia had 12,006,031 inhabitants¹ and a gross domestic product (GDP) of US\$40.118 billion.² Between 2011 and 2018, its GDP grew at an annual average rate of 5.0%,³ and in 2019 it grew by 2.8%.⁴ In 2020, as a result of the COVID-19 pandemic, the country's GDP contracted by 8.7%⁵ and unemployment rose by 11.6%.⁶ The pandemic led to a decline in the socioeconomic conditions and welfare of the population, bringing about an increase in informality and poverty, particularly in strategic sectors such as tourism and transportation.⁷ The economy recovered in 2021, expanding by 6.1%.⁸ Keeping up this trend will require investments in infrastructure, due to their countercyclical effect⁹ and capacity to foster a growth of tourism.
- 1.2 **Regional integration and importance of the transportation sector.** Bolivia covers an area of 1,098,581 km² marked by low population density,¹⁰ making transportation infrastructure a significant component of the country's socioeconomic structure. Because of its strategic location¹¹ within the region, Bolivia plays an important role in South American integration, forming part of five of the nine integration corridors, which strategically link the country's territory to nine South American countries ([link 14](#)). The great distances separating Bolivia's urban and production centers from the neighboring countries give air transportation an important role in regional connectivity. In 2019, 26.95% of exports and 7.86% of imports (in terms of value) were transported by air ([link 14](#)).
- 1.3 **Regional integration and air transportation.** The United Nations highlights the contribution of air transport to the Sustainable Development Goals (SDGs), recognizing that boosting investments in transportation infrastructure will be essential for integrating the world's economies in the long term.¹² With regard to airspace integration, there are various agreements on freedoms¹³ of the air among countries.¹⁴ The multilateral open skies agreement signed by nine countries in 2010 (Brazil,¹⁵ Colombia, Chile, Honduras, Uruguay, Dominican

¹ [INE](#).

² [Idem](#).

³ [World Bank, 2018](#).

⁴ [Idem](#).

⁵ International Monetary Fund, 2021, and [IDB, 2018](#).

⁶ [INE, 2021](#).

⁷ [IDB, 2021](#).

⁸ [INE, 2022](#).

⁹ For every dollar invested in infrastructure in Latin America and the Caribbean, GDP is expected to grow by approximately US\$1.50 over a period of five years ([IDB, 2020](#)).

¹⁰ [World Bank, 2022](#).

¹¹ [COSIPLAN](#).

¹² [ICAO, 2018](#).

¹³ [IDB, 2018](#).

¹⁴ [ECLAC, 2015](#).

¹⁵ [IDB, 2017](#).

Republic,¹⁶ Panama, Paraguay, and Guatemala) was aimed at establishing a common policy, as was done by Europe through its integration reform. This liberalization favors the States (by boosting connectivity), industry (by increasing routes), and consumers (by improving fee competitiveness). Bolivia's Air Liberalization Index is 8.69,¹⁷ putting it in 86th place out of 184 countries. At present, the Government of Bolivia encourages regional integration under goal 3.3 of its 2021-2025 Economic and Social Development Plan: "foster national and international integration in the aviation sector, among others" (paragraph 1.39) by creating new domestic and international air routes.

- 1.4 **Tourism as an engine of development for Bolivia.** Air transportation is essential for the prosperity of countries with economies that also depend on tourism. Although it has been argued that tourism acts as a catalyst for air transportation and not the other way around, the two activities depend on each other.¹⁸ Furthermore, between 10% and 50% of savings on air travel could translate into additional spending at the destination,¹⁹ and a better transportation system promotes tourism.²⁰ Tourism contributed 2% of GDP in 2019,²¹ underscoring its importance for the national economy. The country had more than 1.2 million visitors (8.55% more than in 2018).²² COVID-19 reduced the flow of foreign visitors arriving by land (74.8%) and by air (71.9%) to 323,272 (73.9% of the total), leading to a 77.2% decline in tourist spending, which declined by US\$646 million with respect to 2021.²³
- 1.5 Between 2014 and 2019, spending by foreign tourists grew an average of 6% to reach US\$837.29 million, broken down as follows: 62.8% in services, 21% in purchases of goods, and 16.2% in lodging.²⁴ In terms of hotel demand, La Paz, Santa Cruz, and Sucre accounted for 79.7% of the total, while Cochabamba, Tarija, Potosí, Oruro, Cobija, and Trinidad accounted for 20.3%.
- 1.6 The [National Tourism Plan \(2015-2020\)](#) lists Salar de Uyuni (Potosí) and the Wine and Singani Route (Tarija) as priority destinations for tourism development. A study identified potential demand for Salar de Uyuni and the city of Tarija (390,000 and 280,000 visitors, respectively), ranking them among the most sought-after national destinations.²⁵ Both locations have a high potential due to their tourism offerings: (i) covering an area of 12,000 km² and with impressive natural vistas, Salar de Uyuni is the world's largest salt flat and is considered the country's top tourist draw. In 2019, it received 89,000 visitors (52% from Europe

¹⁶ IDB/ICAO, 2019.

¹⁷ [IDB, 2016.](#)

¹⁸ See, for example, Button and Taylor (2000), or, more recently, Munkala and Tervo (2013).

¹⁹ "Low-cost travel and tourism expenditures," Eugenio-Martin, Juan L., and F. Ichausti-Sintes. *Annals of Tourism Research*. 57 (2016), 140-159.

²⁰ [The effect of transportation on tourism promotion, Department of Tourism Science, Tokyo Metropolitan University, 2016.](#)

²¹ [ECLAC, 2017.](#)

²² [INE, 2019.](#)

²³ [INE.](#)

²⁴ [INE, 2008-2020.](#)

²⁵ [UNIFRANZ and CIINTUR, 2021.](#)

and 21% from South America) arriving by air ([link 7](#)); and (ii) Tarija offers a wide range of historical, religious, paleontological, and gastronomic attractions. In addition, wine tourism has led this region's wines to be recognized as among the best in the world.²⁶ In Tarija, 27% of visitors are Argentinian, followed by domestic visitors.²⁷

- 1.7 **Bolivian aviation market and tourism.** The Bolivian aviation market comprises 5.5 million passengers per year (8.5% of whom are international passengers), with 0.41 flights per capita²⁸ in 2019. Between 2010 and the onset of the pandemic, the sector grew by 9.2% ([link 7](#)). In 2020, the passenger market contracted²⁹ by 49.4%, reducing the Overall Economic Activity Index³⁰ for the transportation sector by 9%. In 2021, the market recovered, but not enough to regain the 2019 figures (9.12% lower). Despite the positive growth in passengers and cargo prior to the pandemic, Bolivia continues to have air connectivity problems (paragraph 1.8) and limitations in attracting tourists. Thus, it is ranked in 90th place out of 140 countries in the Travel and Tourism Competitiveness Index (2019), with a score of 3.5 out of a possible 7,³¹ due to a deficient transportation infrastructure and poor accessibility, primarily in terms of air transport.
- 1.8 **Air connectivity in Bolivia.** The country's mountainous terrain and low population density (paragraph 1.2) make for long travel times by land between the major cities. For example, reaching Tarija from the cities in the central axis takes 7 to 15 hours. Travel difficulty and lack of transportation limit tourist demand. According to the World Economic Forum (WEF), Bolivia is ranked in 105th place out of 147 countries in air connectivity, below the average for Latin America and the Caribbean ([link 8](#)). In addition, the country is in 116th place in efficiency of air transport services (2019), ranking below the average for Latin America and the Caribbean. Poor connectivity and service quality is a result of Bolivia's poorly developed airport infrastructure. Under such circumstances, air transportation and infrastructure help to improve a country's connectivity, particularly in the case of landlocked countries.³²
- 1.9 **Institutional structure of the aviation sector.** The Ministry of Public Works, Services, and Housing (MOPVS) is responsible for policymaking in the sector, promoting infrastructure plans, policies, and rules to control the national and international airspace and air traffic.³³ The sector is regulated by the Bureau of Civil Aeronautics (DGAC), which applies the International Civil Aviation Organization (ICAO) procedures and recommendations. Recently, the country

²⁶ [Ahora El Pueblo, 2020.](#)

²⁷ [Municipal Government of Tarija, 2019.](#)

²⁸ Latin American and Caribbean average: 0.72; Brazil: 0.46; Colombia: 0.58; Chile: 0.93. Source: [Global Market Forecast \(2018-2019\).](#)

²⁹ [INE.](#)

³⁰ Idem.

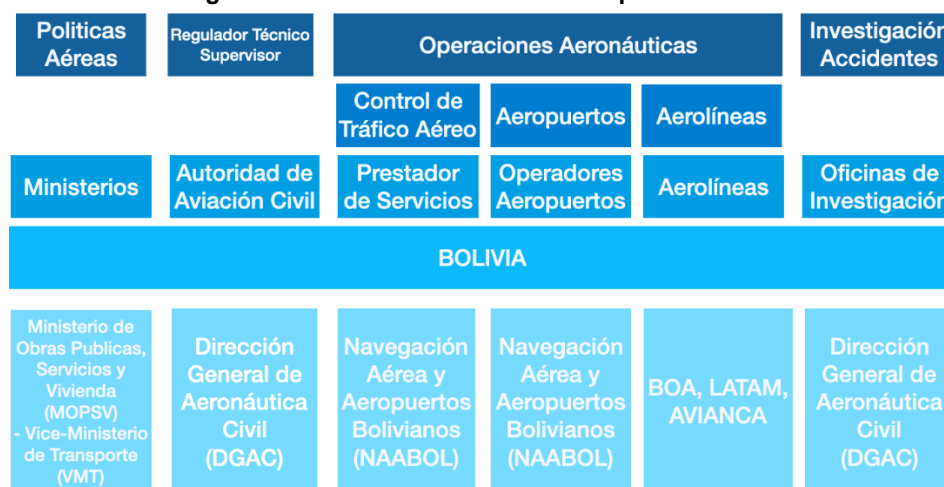
³¹ [WEF, 2019.](#)

³² [Mejora de la conectividad del transporte para países en desarrollo sin litoral, United Nations.](#)

³³ [D.S. No. 29.894/2009.](#)

has rehabilitated and expanded several airports,³⁴ including airworthiness improvements in operational safety. This is reflected in the ICAO indicators³⁵ for the three certified international aerodromes,³⁶ which is required to operate internationally.³⁷

Figure 1. Institutional ICAO model adapted to Bolivia



Source: Prepared by the authors.

- 1.10 **Status of the country's airport operator.** Until December 2021, Bolivian airports not under concession were managed by the Airports and Ancillary Air Traffic Services Administration (AASANA). This agency had a significant financial monthly deficit (US\$188.8 million in cumulative debt)³⁸ arising from demands made by the Federación Nacional de Trabajadores [National Workers' Federation]. This lack of viability led to AASANA's closure and liquidation followed by the creation of Bolivian Air Traffic and Airports (NAABOL),³⁹ which absorbed a large percentage of former AASANA staff. NAABOL was given management resources from the National Treasury (TGN), thus ensuring their availability for operations and preventing administrative cost overruns, for the purpose of operating and maintaining 42 public airports and air traffic services.
- 1.11 **Infrastructure to ensure air operations.** Runway, apron, and terminal reconstruction, expansion, and rehabilitation projects boost operational safety, emergency response, and passenger and aircraft capacity,⁴⁰ improving connectivity.⁴¹ This capacity should cover the growth in demand, which, according to the International Air Transport Association (IATA), is expected to

³⁴ [INE](#).

³⁵ [ICAO 2021](#).

³⁶ La Paz, Cochabamba, and Santa Cruz.

³⁷ [Obligaciones de certificación y habilitación de aeródromos, DGAC](#).

³⁸ [MOPSV, 2021](#).

³⁹ [Gaceta Oficial de Bolivia, 2021](#).

⁴⁰ [ECLAC, 2019](#).

⁴¹ [NU-OHRLLS](#).

double by 2034,⁴² while Bolivia will grow at an annual rate of 14.6% ([link 7](#)). The lack of investments in airport infrastructure creates programs with operational safety, limiting the aerodrome certification process as well as passenger growth.⁴³

- 1.12 **State of airport infrastructure in Bolivia.** All told, 78% of Bolivian airports have a deteriorated infrastructure⁴⁴ (positioning the country 96th of 140 countries in terms of the quality of airport infrastructure), one of the lowest in Latin America and the Caribbean.⁴⁵ This limits air accessibility, adversely affecting the growth of tourism (paragraph 1.4). The airport network is divided into three types: core, primary, and secondary. The latter two do not include any certified aerodromes.

Figure 2. Airport network in Bolivia



Source: Prepared by the authors based on INE data.

- 1.13 **The Tarija (Capitán Oriel Lea Plaza) airport.** This airport, which has been assigned ICAO aerodrome reference code 4C⁴⁶ and is located at 1,858 meters above sea level, has a flexible pavement length of 3,050 meters, a constant width of 45 meters, taxiways 23 meters wide, and an apron measuring 198 meters by 90 meters. The airport has all facilities required to operate (firefighting services, control tower, terminal entryways, etc.).
- 1.14 **State of the infrastructure.** With regard to the runway, its deteriorated state means that only 87% of it (2,680 meters) is operable. A deflectometry diagnostic assessment⁴⁷ sectorized the runway: (i) 430 meters show settlement and erosion; (ii) 400 meters have gullies and canals; and (iii) 2,220 meters have fissures and cracks. In addition, the fence and perimeter road are deteriorated and discontinuous, allowing animals and people to penetrate the premises and

⁴² [IATA, 2017](#).

⁴³ [Idem](#).

⁴⁴ DGAC.

⁴⁵ [WEF, 2016](#). The indicator for Bolivia has not been disaggregated by mode since 2018.

⁴⁶ [ICAO](#).

⁴⁷ Nondestructive test to simulate pavement behavior under loads.

making it impossible to exercise control for the aerodrome's security. Furthermore, the control tower does not meet visibility standards.

- 1.15 **The terminal's operating capacity.** In 2019, the airport served approximately 376,500 passengers, after having experienced an annual growth of 6.6%. At present, the terminal has a capacity of 480,000 passengers per year and, by 2026, demand is expected to exceed this limit ([link 7](#)).
- 1.16 **Uyuni (La Joya Andina) airport.** This airport, which has been assigned aerodrome reference code 3C and is located in the department of Potosí at 3,665 meters above sea level, has an operable runway 4,000 meters long and 45 meters wide, and 2 aprons measuring 160 meters by 90 meters.
- 1.17 **State of the infrastructure.** The access roads and vehicle parking areas are built of granular material and are exposed to floods. The airport has neither a firefighting station nor a perimeter road. The control tower does not meet visibility standards. The runway safety area has subsidence due to a lack of loadbearing capacity. At present, there is no drainage system in the airport.
- 1.18 **The terminal's operating capacity.** In 2019, the airport transported 182,000 passengers, exceeding its capacity (140,000 passengers per year) by 30% ([link 7](#)). The terminal covers an area of 1,000 m², housing facilities for narcotics control, customs, security screening, preboarding and boarding operations, baggage claim, etc.

Figure 3. Airport locations



Source: Prepared by the authors.

- 1.19 **Deficient infrastructure as a barrier to regional integration.** The state of the airport infrastructure in Tarija and Uyuni has a direct effect on regional integration (paragraph 1.2) and tourism development (paragraph 1.3). Promoting

- international tourist circuits would have a significant impact on the development of the regions, creating a multiplier effect on their economy⁴⁸ (paragraph 1.4).
- 1.20 Between November 2014 and April 2016, the Tarija airport operated international flights to Salta, Argentina, serving 2,211 visitors, 62% of whom were foreign nationals. During that period, the number of international visitors went from 33,391 to 52,074, without significant changes until 2019.⁴⁹
 - 1.21 Until 2011, the Uyuni airport operated small charter flights. That year, the runway was expanded to 4,000 meters, enabling larger aircraft to use it, but the interventions did not expand the capacity of the terminal. Prior to the pandemic, there were 17 weekly arrivals and departures⁵⁰ (currently, there are 6).⁵¹ In addition, the operator reports charter flights from Lima and Cuzco, adapting the customs and immigration services. The growth in passenger volume in Tarija and Uyuni is limited by the lack of adequate infrastructure (paragraph 1.11) and terminal capacity.
 - 1.22 **Gender and diversity gaps.** Transport-related activities account for 6.7%⁵² of the Bolivian labor market, and women's share in these activities is 4.7% (4.1% in the aviation sector). Bolivia has one of the largest salary gaps in the region, with women earning on average 82% of men's average salary (compared with 92% in Latin America and the Caribbean and 90% in Andean countries). In addition, 60% of women earn less than the minimum wage, compared with 43% of men⁵³ ([link 11](#)). For the air transport subsector, no diagnostic assessment has been conducted yet to show the gender gaps.
 - 1.23 **Gender-based violence.** A survey on the prevalence and characteristics of violence against women (2016)⁵⁴ showed that 43.6% of women above the age of 15 have been victims of sexual violence. In intimate partnerships, the types of reported violence included psychological (60.3%), physical (50.3%), sexual (34%), and financial (31.3%) violence. In the workplace, 2.8 million women workers have suffered some form of psychological, physical, and/or sexual violence.
 - 1.24 **Inclusion of persons with disabilities.** In all, 15% of the world's population⁵⁵ has some type of disability. Persons with disabilities encounter more socioeconomic, educational, health, and employment barriers and have higher poverty rates. In the transportation sector, persons with disabilities and restricted mobility face daily barriers in services provided by infrastructure, impairing their access to education, healthcare, housing, etc. In Bolivia, there are 398,284

⁴⁸ Néida Chan, 2005.

⁴⁹ [INE, 2020.](#)

⁵⁰ [Reducción de frecuencias en BOA a Uyuni.](#)

⁵¹ [OB303 and OB307 \(BOA and Flight Radar 24\).](#)

⁵² [INE, 2019.](#)

⁵³ This gap is on average only four percentage points in Latin America and the Caribbean and nine percentage points in the Andean Community (CAN) countries for individuals between 15 and 64 years of age (SIMS, 2019).

⁵⁴ [INE, 2017.](#)

⁵⁵ [World Bank, 2021.](#)

- persons with disabilities,⁵⁶ 44% of whom are women. Of this total, 51% have a serious disability, 28% a moderate disability, 15% a very serious disability, and 6% a slight disability ([link 12](#)).
- 1.25 Accessible transportation systems⁵⁷ should: (i) improve infrastructure accessibility; (ii) establish special transportation services; and (iii) create educational campaigns and programs to improve policies and use of services.
- 1.26 ICAO⁵⁸ promotes access to air transportation services for persons with disabilities. These services should cover the necessary passenger itinerary procedures (including reservation, check-in, customs, security control, boarding, and deplaning) and be adapted to ensure the effective and full participation and inclusion of persons with disabilities.
- 1.27 **Climate change consequences for infrastructure.** In 2019, the Global Climate Risk Index⁵⁹ ranked Bolivia in 10th place on its list of countries most affected by the impacts of climate change, due to the country's exposure to recurrent floods and landslides.⁶⁰ Thus, in April 2019, 79 of its municipios were in a state of disaster and 25 municipios were in a state of emergency, with more than 23,000 families losing their homes ([link 10](#)). The rising climate threat will lead to an increase in infrastructure damage and require greater resources to address the impact on economic development.⁶¹ The international experience indicates that investments in resilient infrastructure, including mitigation and adaptation activities, generate benefits that are between four and seven times greater than the costs, in terms of losses prevented and reduced.⁶²
- 1.28 Since 2013, the effects of climate change on the Tarija airport have led to the cancelation of at least 62 operations due to adverse climate events ([link 10](#)). In addition, there are vulnerabilities (paragraphs 1.17 and 1.18) in the runway drainage infrastructure at both airports which could jeopardize operational safety, raising the number of canceled operations and the risk of runway accidents.
- 1.29 **Aviation sector commitments regarding climate change.** The sector faces significant decarbonization challenges, with three major actions being identified under ICAO Annex 16: (i) improvements in aircraft technology; (ii) operational improvements; and (iii) use of sustainable aviation fuels (SAF).⁶³

⁵⁶ [INE, 2012.](#)

⁵⁷ [WHO, 2011.](#)

⁵⁸ [ICAO, 2013.](#)

⁵⁹ [Germanwatch, 2021.](#)

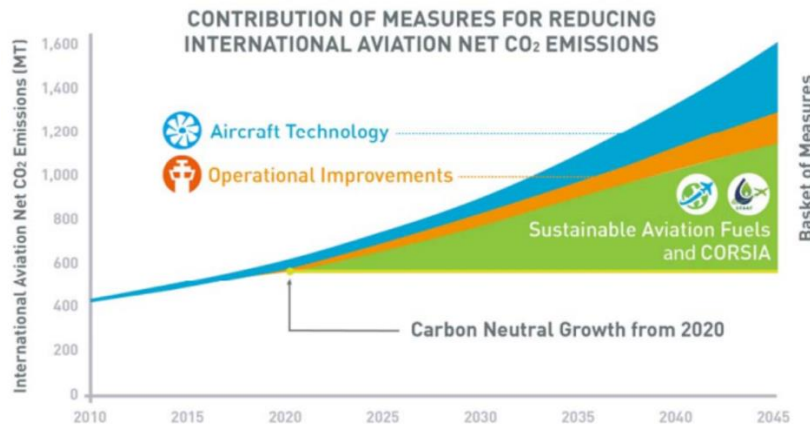
⁶⁰ [IDB, 2003.](#)

⁶¹ [IDB, 2014.](#)

⁶² [UNDRR, 2022.](#)

⁶³ [ICAO, 2016.](#)

Figure 4. Contribution of measures for reducing international aviation net CO₂ emissions



Source: [ICAO](#).

- 1.30 The DGAC and other actors in the air sector prepared an action plan to reduce CO₂ emissions (PARECO₂),⁶⁴ with four main pillars: (i) emission reduction technologies and standards, notably including: (a) implementation of the electronic flight bag, a device for performing flight management tasks; (b) new aircraft procurement for the airlines Amazonas, Boliviana de Aviación (BOA), and Transportes Aéreos Bolivianos; and (c) inclusion of the first edition of Annex 16 – Carbon offsetting and reduction mechanisms as part of the Bolivian Aeronautical Regulations; (ii) operational improvements for emissions reduction, highlighting: (a) measures to optimize air traffic management and operational procedures; (b) measures by the operators toward: reducing weight to a minimum, the use of flaps and reserve policies, and fuel monitoring and control; and (c) engine maintenance; (iii) incentives for the use of SAF; and (iv) market-based measures, including aerodrome improvements, reduction in energy demand, use of renewable energy sources, conversion of equipment to enable the use of clean fuels, and improvements in transportation to and from the airports.
- 1.31 The Government of Bolivia estimates that application of these measures will lead to an 8.04% reduction in emissions by 2025, working in the short term on: (i) improving the quality of information on emissions; (ii) improving the capacity of operators to account for and reassess emission reduction actions; (iii) training staff on ISO standards related to greenhouse gases; (iv) processes for consultation and communication between institutions; and (v) coordination with the regulators, aviation fuel providers, and research centers toward developing SAF production.
- 1.32 **Digital threats in the aviation sector.** Cybersecurity plays an essential role in operational and functional safety in the aviation sector. The European Union Aviation Safety Agency has estimated that 1,000 cyberattacks occur per month on aviation systems worldwide.⁶⁵ Between 2001 and 2021, at least 26 documented critical cyberattacks on the world's civil aviation industry were

⁶⁴ [DGAC, 2022](#).

⁶⁵ [Overcome the Silent Threat, 2018](#).

analyzed.⁶⁶ The evidence shows that most cyberattacks on the aviation industry have taken place in North America and Europe (48% and 44%, respectively), and incidents in other regions have gone unidentified for lack of detection systems. It is estimated that cybercriminals are responsible for US\$450 billion in annual losses to the global economy⁶⁷ ([link 13](#)).

- 1.33 In 2021, the DGAC approved the Civil Aviation Security Regulations,⁶⁸ with cyberterrorism-related measures such as: (i) implementation of security measures for computer networks; (ii) identification of information and communications systems; (iii) implementation of physical and virtual security measures; (iv) protection of the confidentiality, integrity, and availability of services; and (v) physical and logical protection of sensitive information.
- 1.34 **The importance of small and medium-sized enterprises in the tourism sector.** According to the Bolivian Commercial Registry, there are a total of 337,979 businesses in the country⁶⁹ (79.8% of which are sole proprietorships). In 2021, in the wake of the restrictions imposed by the pandemic, the number of Bolivian businesses grew by 2.7%. According to the National Statistics Institute (INE),⁷⁰ 312,250 businesses are listed as small and medium-sized enterprises (SMEs), generating US\$5.088 billion per year in gross output.⁷¹ SMEs employ⁷² 640,265 people, of whom 45.1% are men and 54.9% are women. In Uyuni, there are 279 registered SMEs (85 of which are tour operators, far more than the 8 tour operators registered in the city of Tarija) ([link 16](#)).
- 1.35 **Program strategy.** To contribute to integration (paragraphs 1.2 and 1.3), connectivity (paragraph 1.8), and tourism in these two regions, the program calls for rehabilitating and expanding the airport infrastructure serving the Uyuni and Tarija airports, since improving the transport infrastructure facilitates connectivity and promotes tourism (paragraph 1.4). In addition, the program will implement crosscutting issues such as: (i) reducing risks related to climate change; (ii) cybersecurity; (iii) women's participation in the aviation sector; (iv) inclusion of persons with disabilities; (v) strengthening tourism SMEs; and (vi) promoting transparency.
- 1.36 **Tarija and Uyuni airports.** The Tarija and Uyuni airports require airside and landside interventions.⁷³ In the Tarija airport, the runway, taxiways, safety areas, apron, visual aids, and perimeter fence will be rehabilitated. In addition, a new air traffic control tower will be built, and the passenger and freight terminal will be upgraded and expanded along with the airport's technical and emergency facilities. In the Uyuni airport, a new, 4,000-m² passenger terminal will be built to address current and future demand, improving passenger service during peak

⁶⁶ [Cyber-security challenges in aviation industry: a review of current and future trends, \(2022\).](#)

⁶⁷ [Kessler and Craiger \(2018\) Aviation Cybersecurity.](#)

⁶⁸ DGAC, 2021.

⁶⁹ [Fundempresa, 2021.](#)

⁷⁰ [INE.](#)

⁷¹ Idem.

⁷² Idem.

⁷³ Airside, they encompass aircraft movement areas and air traffic control; landside, they are passenger facilities.

hours, and work will include the runway safety area, lighting, drainage, new electrical substation, and upgrading of the parking and access areas.

- 1.37 **Transparency in public works.** Airport infrastructure projects are characterized by their complexity, potentially leading to integrity risks due to budget size and the nature of certain works or specialized equipment procurement handled by institutions with uneven capacities. The Government of Bolivia supports various strategies to manage these risks, including the State Procurement System (SICOES),⁷⁴ which provides public information on works procurement, and a registry of authorized companies known as the Single Registry of State Providers (RUPE).⁷⁵ In this program, the project execution unit (PEU) will incorporate best practices in integrity risk management through the program Operating Regulations. In addition, the program will have an ethics code that will: (i) establish policies, procedures, and training for senior officials, employees, and third parties; (ii) establish control mechanisms for the Ministry of Public Works, Services, and Housing (MOPSV); (iii) provide for periodic accountability; and (iv) implement the Infrastructure Transparency Initiative (CoST) for monitoring and ensuring open data in works and goods procurement.
- 1.38 **Sector knowledge.** The Bank has financed programmatic operations that promoted the country's National Transportation Plan, including guidelines for the development of master plans and environmental management in airports, regulatory updates, and preparation of the new civil aeronautics law. Under operation 2951/BL-BO (total approved amount of US\$79,900,000),⁷⁶ which is now in closing stage, the Bank financed the rehabilitation and equipping of the Cobija and Trinidad airports, improving operational safety in line with international standards (aerodrome certification) and addressing the growing demand (expansion of terminal, runway, and apron capacity) in both airports, while at the same time supporting institutional strengthening (technical studies, certification process, and development of PEU capacity) (paragraph 1.41). The main results were: (i) an increase in the number of passengers at both airports, and in the case of Cobija, an increase in the number of cross-border passengers; and (ii) a reduction in the transportation costs at both airports.
- 1.39 In addition, the Bank has vast experience in the region, where it has invested in the rehabilitation and construction of airports and supported policy reforms in Colombia ([2477A/OC-CO-1; CO-2](#)), Costa Rica ([2254/OC-CR](#)), Ecuador ([1614/OC-EC](#)), Bahamas ([3907/OC-BH](#); [2682/OC-BH](#)), Haiti ([3190/GR-HA](#)), Guyana ([1042/SF-GY-1](#)), Jamaica ([887/OC-JA](#), [887A/OC-JA](#), [9/XJ-JA](#)), and Argentina/Uruguay ([4688/OC-RG](#)).
- 1.40 **Lessons learned.** The lessons learned from operation 2951/BL-BO are: (i) have technical, economic, social, and environmental studies in place to avoid delays and reduce uncertainty in terms of execution scope and costs; (ii) strengthen the contract management processes throughout the project cycle; (iii) implement runway rehabilitation plans that do not require a closure of operations; (iv) ensure that the property is viable in the design phase; (v) ensure an adequate social and

⁷⁴ [SICOES](#).

⁷⁵ It has information on providers who participate in procurement processes.

⁷⁶ [Airport Infrastructure Program, Stage I](#).

environmental management plan; (vi) include disaster and climate risk management in the review of the designs; and (vii) reinforce the works inspection and supervision mechanisms through fixed cameras enabling remote control. At the regional level, they are: (i) institutionally strengthen the national civil aviation bureaus with a view to effectively applying ICAO international standards; (ii) design national civil aviation plans to promote public and infrastructure policy; (iii) carry out evaluations; and (iv) include new surveillance, maintenance, and operational safety technologies.

- 1.41 **The country's strategy in the sector.** In goal 3.3 of the Economic and Social Development Plan, the Government of Bolivia undertakes to "support national and international integration to strengthen the production centers through road, air, rail, river, and urban transportation systems." Under this goal, it lists outcome 3.3.2, consisting of strengthened air transport to improve aeronautical services and comply with operational safety standards for commercial civil aviation with a view to the country's integration. The actions to accomplish this goal include: (i) 3.3.2.1: "expand, improve, and/or equip the domestic and international airports with a view to increasing passenger flow," setting a target of at least 5.8 million passengers by 2025; and (ii) 3.3.2.3: "promote and strengthen air transportation through domestic and international connection routes and through control and surveillance of the airspace and provision of airport services in compliance with operational safety standards," setting a target of having nine international routes in operation by 2025.
- 1.42 **IDB Group Country Strategy with Bolivia.** The program is aligned with the country strategy for 2022-2025 (document [GN-3088](#)) in the priority area of productive diversification, by helping to support logistic competitiveness, development hubs, and integration through improvements in the quality of safe airport transportation infrastructure, as well as with other Bank instruments (paragraph 1.50). The country strategy indicates that 131,000 m² of terminal facilities, 460,000 m² of apron facilities, and 89 km of runways had been rehabilitated as of 2019. Thus, the program will contribute to these indicators.

B. Objective, components, and cost

- 1.43 **Objective and scope.** The general objective of the program is to help develop regional integration, connectivity, and tourism in the Tarija and Uyuni regions. The specific objective is to provide safe airport infrastructure with sufficient operating capacity in the targeted terminals to satisfy the projected demand.
- 1.44 **Component 1. Civil works and equipment (US\$52,900,000).** This component will finance: (i) rehabilitation and upgrade of two airports in Bolivia (Uyuni and Tarija), including improvements to the runway, apron, taxiways, terminal, access roads, air control tower, airport services, and ancillary facilities; (ii) provision of air navigation, firefighting, terminal, and communication equipment; and (iii) innovative solutions for upgrading infrastructure to enable energy efficiency (paragraph 1.36).
- 1.45 **Component 2. Social and environmental management and supervision (US\$3,300,000).** This component will finance: (i) preparation of environmental and occupational health and safety plans; (ii) regularization of land; and (iii) technical as well as social and environmental supervision of the works.

- 1.46 **Component 3. Capacity-building (US\$800,000).** This component will finance: (i) market study to identify new international routes; (ii) upgrade of the Uyuni terminal using ethno-engineering criteria;⁷⁷ (iii) study of the air cargo ecosystem for efficient management in the sector; (iv) update to the National Air Navigation Plan; (v) National Aviation Development Plan; (vi) feasibility study on the use of SAF; (vii) study for preparation of an aerodrome plan for certification purposes; (viii) diagnostic assessment of current cybersecurity infrastructure and resources, and implementation plan; (ix) diagnostic assessment of gender in the aviation sector; (x) business plan for the development of indigenous community activities in the airports; (xi) training in: gender, inclusion of persons with disabilities, cybersecurity, entrepreneurial strengths for SMEs, and aerodrome maintenance; (xii) monitoring for transparency in public works; and (xiii) technology tools and applications.
- 1.47 **Administration, audits, and evaluation (US\$3,200,000).** This will finance audits, evaluations, operational management, PEU staff, oversight, and expenditures associated with remote and field supervision.
- 1.48 **Results and indicators.** These are set out in the Results Matrix (Annex II), where the baseline is the benchmark for program evaluation and where the output and outcome indicators are to be confirmed through valid means of verification. The indicators for measuring the general objective will be: (i) tourism-related revenue arising from the increase in passenger traffic; and (ii) at least one international connection to a program airport. The indicators to measure the specific objective will be: (i) annual number of passengers in the rehabilitated airports; (ii) aerodromes certified by the DGAC regulator;⁷⁸ and (iii) number of passengers at peak hour⁷⁹ by square meter in boarding areas.
- 1.49 **Beneficiaries.** The direct area of influence consists of the municipios of Tarija and Uyuni and nearby communities, with an aggregate population of 310,392.⁸⁰ The direct beneficiaries will be the passengers ([link 5](#)), with an estimated annual demand, respectively, of 940,000 (Uyuni) and 1,500,000 (Tarija) by 2052, in addition to freight carriers, tourism SMEs (paragraph 1.62), and airlines. The program will also benefit the local population that will be hired during infrastructure execution and operation, with an emphasis on the female workforce ([link 11](#) and [link 16](#)).

C. Strategic alignment

- 1.50 **Strategic alignment.** The operation is aligned with the Second Update to the Institutional Strategy (document [AB-3190-2](#)), with the challenges of: (i) social inclusion and equality, by reducing gaps in accessibility for people with disabilities (paragraph 1.54); (ii) productivity and innovation, by contributing to the provision of infrastructure for safe passenger and cargo services and air transportation technology and promoting measures to reduce cyberterrorism risks; and (iii) regional economic integration, by helping to encourage

⁷⁷ Ethno-engineering adapts the design of infrastructure to reflect the social and cultural characteristics of the population, favoring participatory mechanisms in construction works.

⁷⁸ RAB 139, Aerodrome Certification Regulations, DGAC.

⁷⁹ Peak demand hour ([link 3](#)).

⁸⁰ [INE](#).

investments in transportation infrastructure and promote the creation of new tourist corridors with neighboring countries. It is also aligned with the crosscutting areas of: (i) gender equality and diversity, promoting women's integration into nontraditional jobs in the airport construction and operation stages, and creation of safe spaces; (ii) climate change and environmental sustainability, by including mitigation and adaptation measures in the planned buildings and achieving EDGE green building certification,⁸¹ promoting the use of efficient energy and water use standards and renewable energy generation; and (iii) institutional capacity and the rule of law in the aviation sector, by helping to improve the delivery of public services for users. According to the [DIA-2020 report "From structures to services – The path to better infrastructure in LAC."](#) efficiency gains can be achieved in the provision of infrastructure through digital transformation (paragraph 1.61), gender (paragraph 1.53), and actions to reduce integrity risks and foster transparency. The program contributes to the Corporate Results Framework 2020-2023 (GN-2727-12), being aligned with at least one challenge or crosscutting issue under document AB-3190-2. In addition, the program is consistent with the Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (GN-2710-5) in the strategic principles of: financing and technical assistance for infrastructure that supports economic growth, provides access, and fosters regional and global integration; and planning, building, and maintaining infrastructure for the delivery of quality services that promote sustainable and inclusive growth; the Transportation Sector Framework Document (GN-2740-12), by contributing to the dimension of quality and capacity of the transportation and service infrastructure, and with the logistics strategic line of action; the Sector Strategy to Support Competitive Global and Regional Integration (GN-2245-1), by improving regional integration as an engine of growth and reducing logistics costs through greater investments in transport infrastructure; the Update to the Gender Action Plan for Operations 2020-2021 (GN-2531-19) and the Diversity Action Plan for Operations 2019-2021 (GN-3001), by fostering an agenda for mainstreaming gender and inclusion of people with disabilities; and the Climate Change Sector Framework Document (GN-2835-8) (paragraph 1.55).

- 1.51 **Contribution to Vision 2025.** This program considers [Vision 2025 Reinvest in the Americas: A Decade of Opportunities](#) in the following areas: (i) gender (paragraph 1.22) and social inclusion (paragraph 1.24); (ii) climate change (paragraph 1.27); (iii) digitalization (paragraph 1.32); (iv) regional integration (document 1.19); and (v) SMEs (paragraph 1.19).
- 1.52 **Regional integration.** The program will contribute through: (i) a study of the import and export air cargo ecosystem, including a proposal for a sector, infrastructure, and efficient service policy; and (ii) opening of new international air routes, at least between Peru and Uyuni, to cover the needs of the international passenger market (paragraph 1.41).
- 1.53 **Gender actions.** The program will contribute to: (i) women's participation in the sector's workforce in the program implementation stage, by: (a) performing a diagnostic assessment of the gender gaps in the aviation sector; (b) conducting trainings and workshops for women on air transportation and

⁸¹ [Excellence in Design for Greater Efficiencies.](#)

airport operation issues; (c) encouraging the hiring of women to fill management and technical positions during the construction processes; and (d) implementing paid internship programs related to airport operation; (ii) strengthening women's security by implementing the ELSA tool⁸² in addition to the Bank's safeguards; and (iii) infrastructure with gender perspective, by facilitating a safe maternity experience and shared caregiving tasks between men and women through: (a) family bathrooms for performing caregiving tasks (children, infants, adults, etc.); and (b) lactation rooms with comfortable spaces to facilitate breastfeeding ([link 11](#)).

- 1.54 **Inclusion actions for persons with disabilities.** This will encompass: (i) ensuring compliance with international standards of universal access, which include: universal building accessibility, communication, signage, and care and service improvements for persons with restricted mobility; (ii) use of technology for the inclusion of persons with disabilities, integration and use of technology to facilitate access to transportation services and use of infrastructure with smart computing environments, as follows: (a) for information purposes, a web portal will be built describing the services provided for persons with disabilities at the airports; and (b) for passenger assistance purposes, a mobile application will be developed to assist persons with disabilities in locating airport services; and (iii) employment inclusion of persons with disabilities, promoting their participation in the construction, planning, and operation of the airport terminals in line with national regulations ([link 12](#)).
- 1.55 **Mitigation and adaptation actions on infrastructure to reduce the effects of climate change.** The program will contribute to: (i) adaptation: by building hailproof roofs, installing meteorological equipment for early detection of electrical storms and others and decision-making on associated air operations, construction of new drainage systems at the two airports, and paving and elevation of the parking area and access roads at the Uyuni airport to prevent floods; and (ii) mitigation: bioclimate architecture in terminals to blunt environmental impacts and reduce end use of energy and water, photovoltaic generation in the Uyuni airport, use of recycled construction materials in runway margins, solid waste management, and construction of a wastewater treatment plant in the Uyuni airport ([link 10](#)).
- 1.56 These measures will allow the facilities at both airports to have a sustainable design and thereby comply with the requirements for EDGE certification, ensuring efficient buildings that enable savings of at least 20% in energy and water consumption during operations and a smaller carbon footprint in the construction stage.
- 1.57 Within the framework of PARECO₂, the program will support the Government of Bolivia in: (i) preparing the National Air Navigation Plan, which will lay the groundwork for construction of performance-based navigation, in order to reduce emissions through more efficient planning and operation of air routes and runway approaches; and (ii) performing a feasibility study on the use of SAF,

⁸² [ELSA, Espacios Laborales Sin Acoso \[Work environments free of sexual harassment\], IDB.](#)

- encompassing: (a) feedstock⁸³ alternatives; (b) regulatory framework; (c) financial plan and incentive plan for SAF fuel production; and (d) design of the production project.
- 1.58 In line with Environmental and Social Performance Standard (ESPS) 4, the Disaster and Climate Risk Assessment Methodology has been applied to properly manage these risks in the program's projects. The disaster and climate risks were classified as moderate, considering the identified threat levels, the criticality estimates, and the vulnerability of the infrastructure interventions and their risk exacerbation levels. It was concluded ([link 10](#)) that this operation does not require a detailed risk analysis, since no significant information gaps were found to exist and the risk management measures to be incorporated into the design and construction of the airports have been identified and will be documented in a risk management plan to ensure a tolerable risk level.
- 1.59 A total of 38.49% of the Bank's Ordinary Capital resources used in the operation are invested in activities that contribute to climate change mitigation and adaptation (according to the multilateral development banks' joint methodology for tracking climate finance) by rehabilitating and upgrading the airports based on ecological building standards and efficient equipment procurement. These resources contribute to the IDB Group target of increasing financing for projects related to climate change to 30% of all approvals by the end of 2023, as provided in indicator 3.5 "Climate finance in IDB Group operations (% of approved/committed amount)" of the Corporate Results Framework 2020-2023 (document GN-2727-12).
- 1.60 This operation is aligned with the mitigation goals of the Paris Agreement by supporting an efficient design and operation of airport infrastructure in Bolivia without creating substantial challenges in terms of committed emissions and contributing to national efforts to manage emissions in the aviation sector. In addition, it is considered aligned with the adaptation goals of the Paris Agreement by having analyzed the physical climate change risks and included measures that will blunt their effects on airport operations in keeping with national climate change adaptation priorities.
- 1.61 **Cybersecurity actions to mitigate digital threats.** The program will help to: (i) thoroughly analyze the current infrastructure and cybersecurity resources, and develop an implementation plan for the project to comply with the ICAO Annex 17 recommendations;⁸⁴ and (ii) develop capacities to mitigate potential threats to cybersecurity and reduce operational safety risks ([link 13](#)).
- 1.62 **Support for SMEs.** The program will develop: (i) a business plan for setting up indigenous SMEs in the airports; (ii) technology tools to connect passengers with the services offered by SMEs, particularly tourism-related SMEs, in Uyuni; and (iii) entrepreneurial strengths to promote improvements in the provision of services by these SMEs.

⁸³ Biofuel created from raw materials. The terms of reference of the study will need to be consistent with the applicable Environmental and Social Policy Framework (ESPF) requirements and with the Bank's commitment to align its operations with the Paris Agreement.

⁸⁴ [Security and facilitation in civil aviation.](#)

- 1.63 **Sustainable Development Goals (SDGs).** The program is aligned with: (i) SDG 5: gender equality; (ii) SDG 8: decent work and economic growth; (iii) SDG 9: industry, innovation, and infrastructure; (iv) SDG 10: reduced inequalities; (v) SDG 13: climate action; and (vi) SDG 16: peace, justice, and strong institutions.

D. Feasibility analysis

- 1.64 **Technical.** The technical and economic feasibility studies were reviewed during program preparation, and the economic assessment was updated ([link 4](#)). Technical feasibility is assured by technical, environmental, and social assessments that were prepared by specialized consultants for the Tarija and Uyuni airports and were financed by preinvestment project 3534/BL-BO.
- 1.65 **Social and economic.** The economic feasibility analysis ([link 5](#)) lists the annual program costs and estimated benefits under “with project” and “without project” scenarios, considering a 30-year life cycle. This analysis examines the difference between the economic and social costs and benefits generated by a public investment project over time, assuming a social discount rate of 12% and an initial investment. For both airports, the main monetized benefits are revenues and social benefits in terms of tourism, employment, and time, while the costs are investment and operating costs and rate differences. The results of the cost-benefit analysis and sensitivity analysis for both airports are set out in the table below.

Table 1. Summary of the cost-benefit and sensitivity analysis

Airport	Total NPV (US\$ millions)	C/B	IRR (%)	Scenario: demand - 20% IRR (%)	Scenario: demand - 30% IRR (%)
Tarija	12.6	1.4	16.6	10.2	7.8
Uyuni	25.4	2.5	25.8	18.1	14.9
Program	38.0	1.7	20.4		

Source: Prepared by the authors.

- 1.66 This analysis is conservative and does not consider other, non-monetizable exogenous benefits such as improvements in operational safety, reduction and minimization of environmental impacts, and improvement in the level of passenger services ([link 5](#)).
- 1.67 **Social and environmental.** Social and environmental feasibility is assured by mandatory compliance with the requirements set out in the Environmental and Social Policy Framework (ESPF) and in the 10 Environmental and Social Performance Standards (ESPS). In addition, the executing agency will: (i) have an Environmental and Social Management Plan (ESMP) in place for the program; and (ii) implement the actions recommended in the environmental and social impact assessment of the works and environmental and social management plan (ESMP) for each of the airports; and (iii) the actions to address the risks associated with the gaps identified in the ESPF have already been

incorporated into the Environmental and Social Action Plan (ESAP), which also includes the results of the public consultation process ([link 2](#)).

- 1.68 **Institutional and financial feasibility.** The institutional capacity of the PEU was evaluated using the Institutional Capacity Assessment Platform (ICAP). This evaluation confirmed that the PEU's institutional capacity is satisfactory.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 **Financing structure and modality.** This operation will be a specific investment loan and will finance works to be determined upon approval of the loan.
- 2.2 **Cost and financing.** The total cost of the program is US\$60,200,000, financed by the Bank from Ordinary Capital resources (Table 2). An itemized budget is available in the project execution plan ([link 1](#)).

Table 2. Estimated program costs⁸⁵

Components	IDB (US\$ millions)	%
Component 1. Civil works and equipment	52.9	87.9
Tarija airport	34.7	57.6
Uyuni airport	14.7	24.4
Equipment	3.5	5.8
Component 2. Social and environmental management and supervision	3.3	5.5
Supervision of Tarija's Oriel Lea Plaza airport	1.6	2.7
Supervision of Uyuni's La Joya Andina airport - Potosí	1.1	1.8
Implementation of ESPSs	0.6	1.0
Component 3. Capacity-building	0.8	1.3
Administration, audit, and evaluation	3.2	5.3
Total	60.2	100.0

Source: Prepared by the authors.

- 2.3 **Disbursement timetable.** The disbursement period will be five years, in line with previous experience with similar works in the country. The period for the start of the works envisaged by the program will be up to 1.5 years from the effective date of the loan contract.

Table 3. Disbursement schedule (US\$ millions)

Components	Year 1	Year 2	Year 3	Year 4	Year 5	Total
IDB	9.0	9.0	12.0	15.1	15.1	60.2
Total	9.0	9.0	12.0	15.1	15.1	60.2
%	15.0	15.0	20.0	25.0	25.0	100.0

Source: Prepared by the authors.

⁸⁵ The costs by main activity and work are indicative.

- 2.4 **Restrictions on the pace of disbursements.** In accordance with documents AB-2990 and GN-2753-7 on Bank financing from Ordinary Capital resources, disbursement of the loan proceeds will be subject to the following limits: (i) up to 15% during the first 12 months; (ii) up to 30% during the first 24 months; and (iii) up to 50% during the first 36 months. These periods will run from the date of approval of the operation by the Board of Executive Directors. These periods may not apply if the requirements established in the Bank's policy have been fulfilled, provided the borrower has been notified thereof in writing.

B. Environmental and social risks

- 2.5 According to the ESPF and based on the assessments conducted during the due diligence process, the program is classified as a category "B" operation, since the construction works will generate moderate, localized, and short-term adverse environmental and social impacts. For the construction stage, impacts on air quality, noise, and vibrations are expected as a result of vehicle traffic and construction machinery, along with impacts on soil quality stemming from waste generation. No impacts are expected on protected species, biodiversity, or cultural sites at either airport. The airports are far from important bird areas, and no significant impacts are therefore expected on such areas. No involuntary displacement of homes or households, or economic displacement, has been identified. A process of regularization of ownership rights over a land parcel will be carried out for the Tarija airport. The Uyuni airport and the potential quarries for the works are located within an indigenous native campesino territory (TIOC). The social and cultural analysis confirmed that there are no indigenous households or communities in the program's direct or indirect impact area, and a socially and culturally appropriate consultation process was completed with the representative leaders of the TIOC. In addition, a roadmap was prepared to complete the assignment of use of the area in threshold 13, within the perimeter of the airport, and its implementation was begun. Environmental impacts during operation are expected to arise from hazardous waste and potentially contaminated liquids. The noise analysis conducted as part of the environmental and social impact assessments determined that the noise levels created outside the perimeter of the airports do not exceed permissible levels under Bolivian legislation, and that the ESMPs establish management measures aligned with good practices. Both airports were also evaluated. To address the requirements set out in the ESPF and the 10 ESPs, the PEU will: (i) implement an environmental and social management system as indicated in ESPS 1; and (ii) conduct activities in accordance with the ESMPs. In addition, an ESAP was designed, with specific requirements based on the following milestones: (i) before OPC; (ii) before the bidding processes for the works; and (iii) before commencement of the works.
- 2.6 The program's environmental and social risk has been classified as substantial. This classification stems from potential risks to the health and safety of the community, the workers, and other stakeholder groups, including within a TIOC. The operation's disaster and climate risk has been classified as moderate, but there is a high risk of frosts, hailstorms, and droughts, which will be mitigated in accordance with the ESMPs.

- 2.7 A meaningful public consultation process, including a socially and culturally appropriate consultation with leaders of the TIOC (Ayllu), was conducted on 19 July (Uyuni) and 22 July (Tarija). The main results are as follows: (i) persons with disabilities request accessible infrastructure; (ii) attainment of international airport category for exports; (iii) inclusion of tour operators through buses at parking areas; (iv) road solutions to provide airport access for carriers; (v) questions as to whether the airports will close while works are being performed; (vi) job requests for people over 60 years of age; and (vii) enormous gratitude for the program.

C. Fiduciary risks

- 2.8 According to Annex III, the PEU's risk level is medium, with the following risks and mitigation measures having been identified: (i) insufficient human resources to execute the new operation, to be mitigated by hiring fully dedicated qualified staff trained in procurement and financial management; and (ii) lack of definition of PEU processes, functions, and responsibilities for proper execution of the program, to be mitigated by identifying all administrative, legal, and operational requirements in the program Operating Regulations, along with reinforcement systems and actions, and developing planning and monitoring tools. The fiduciary team will maintain the risk identification and management process in place during execution.

D. Other risks and key issues

- 2.9 **Risks.** The expected risks in both program preparation and execution are as follows: (i) a medium-high risk of mismatches in program costs if external variables create a significant inflationary effect and impact budget availability for the overall program, to be mitigated by monitoring the financial resources, including parametric price adjustment formulas in the construction contracts, reinforcing the monitoring arrangements during performance of the works, and reassessing the scope of physical targets in the event of budget availability. In addition, the loan contract will include a condition for project execution providing for contingent funds during the loan disbursement process; and (ii) a high risk of delays in legislative approval, to be mitigated by engaging in dialogues with the sector authorities.
- 2.10 **Sustainability.** In its capacity as public airport operator, NAABOL is responsible for performing maintenance after the investment stage. In addition, the Government of Bolivia has carried out actions for routine and rehabilitation maintenance of the airport system, human resources, equipment, and materials. This maintenance includes measures needed to preserve and restore the operational functionality of the airports based on regular inventories for maintenance of paved areas, unpaved areas, visual and radio aids, equipment and vehicles, and terminals and auxiliary buildings. During program execution, financing will be provided for the maintenance of works. In addition, the PEU, together with NAABOL, will design maintenance plans to be implemented during operation stage with resources from the National Treasury. Complementarily, NAABOL has instituted airport fees that will be collected from passengers to contribute to the sustainability of investments.

III. ARRANGEMENTS FOR EXECUTION AND RESULTS MONITORING AND EVALUATION

A. Execution arrangements

- 3.1 **Execution arrangements, modality, and executing agency.** The borrower will be the Plurinational State of Bolivia. The executing agency will be the Ministry of Public Works, Services, and Housing (MOPSV), acting through the Office of the Deputy Minister of Transportation (VMT), which will have a PEU with previous experience in executing IDB-financed operations. The PEU will be responsible for the management of technical, administrative, financial, procurement, environmental, and social aspects associated with execution of the program.
- 3.2 **Execution mechanism.** The VMT will be responsible for scheduling the works and services to be procured prior to execution and supervision. The PEU will conduct the bidding processes for each airport and will be responsible for overseeing the program's implementation, through the contractor and supervisory firm hired for such purpose, by means of field visits, oversight work (by the technical team), processing of change orders, certification of status reports, monitoring of environmental interventions, provisional and final delivery, etc. It will also be responsible for accounting verification to enable processing of the relevant payments.
- 3.3 **Program Operating Regulations.** The Operating Regulations will be consistent with the rules and policies of the VMT and the Bank, as well as with the laws and financial practices in effect in Bolivia. They will contain at least the following: (i) arrangements for program execution and coordination; (ii) institutional, organizational, and responsibilities framework; (iii) programming, monitoring, control, and evaluation arrangements; (iv) financial management, budget, accounting, and payment arrangements; (v) procurement management; (vi) change control procedures; and (vii) transparency mechanisms. The documents described in the ESPF and the ESAP regarding environmental and social management will be included in the program Operating Regulations ([link 9](#)).
- 3.4 **Special contractual conditions precedent to the first disbursement of the loan:** (i) approval and entry into effect of the program Operating Regulations ([link 9](#)), under terms and conditions previously agreed upon with the Bank, including social and environmental requirements and incorporating, as annexes, the Environmental and Social Management System (ESMS) and the Environmental and Social Action Plan (ESAP); (ii) approval of a code of ethics for the project execution unit (PEU) to promote integrity and transparency (paragraph 1.37) in the program's precontractual processes; and (iii) appointment of the key PEU staff, in accordance with the profiles and terms agreed upon with the Bank, including (a) a project manager; (b) a technical coordinator; (c) a planning specialist; (d) a procurement specialist; (e) a financial specialist; and (f) an environmental specialist. The measures are necessary, as the Bank's experience in the region indicates that fulfillment of these conditions prior to the first disbursement contributes to the PEU's internal organization and thereby to proper implementation of the operation.

- 3.5 **As special contractual conditions for execution, the borrower will present evidence, to the Bank's satisfaction:** (i) prior to tendering the first works at each airport, 100% of any property involved will be made free and clear of all encumbrances, as necessary, in accordance with the environmental and social impact assessment; (ii) prior to awarding the contract corresponding to the first program works, a social sector specialist will be hired for the program; and (iii) prior to executing the activities under Component 3, interagency agreements will be signed and in force between the Office of the Deputy Minister of Transportation (VMT) and the Bureau of Civil Aeronautics (DGAC), Bolivian Air Traffic and Airports (NAABOL), and Boliviana de Aviación (BOA), and the scope of the contracts will be defined by the Ministry of Public Works, Services, and Housing (MOPSV), acting through the VMT, in accordance with the competencies of the participating entities, given that these institutions are the technical beneficiaries of the studies for the entire air transportation sector. These agreements will advance the certification processes for the beneficiary airports and the opening of new air routes, as well as other studies described in Component 3.
- 3.6 **Sustainable procurement of works, goods, and services.** Procurement for the program will be conducted in accordance with the Policies for procurement of works and goods financed by the Inter-American Development Bank (document GN-2349-15) and the Policies for selection and contracting of consultants financed by the Inter-American Development Bank (document GN-2350-15).⁸⁶ With regard to the procurement of photovoltaic generation systems, the contractor will include: (i) the IDB Measures to Address Risk of Forced Labor in the Supply Chain of Silicone-based Solar Modules (document GN-3062-1), applicable to providers and subcontractors; and (ii) the requirements under the Bank's Environmental and Social Policy Framework (document GN-2965-3). Partial use of the State Procurement System (SICOES) includes the following methods: (i) the National Production and Employment Support (ANPE) modality for goods and works, which is equivalent to the Bank's shopping method; and (ii) the ANPE modality for individual consultants, which is equivalent to the Bank's contracting of individual consultants as approved by the Board of Executive Directors (document GN-2538-11 of 2017), and which will be used in accordance with the scope provided in the relevant approval and as established in Annex III of this document.
- 3.7 **Disbursements.** The loan proceeds will be disbursed primarily in the form of advances of funds or through any other method established in the Financial Management Guidelines for IDB-financed Projects (document OP-273-12) or its successor document in effect at the time of execution, as described in Annex III. Advances of funds will be made in accordance with a financial plan / cash flow based on commitments covering real liquidity needs for the program for up to 180 days or other period. With the exception of the first advance, advances will be processed once supporting documentation has been provided for at least 80% of the previously disbursed proceeds. To manage resources, the PEU will use the Treasury Single Account (TSA Book for exclusive use). The PEU will submit

⁸⁶ In effect as of January 2020.

- audited financial statements annually and upon completion of the operation, on the terms and pursuant to the timeframes required by the Bank under its policies.
- 3.8 **External audit.** During the execution period, the PEU will submit annual financial statements to the Bank, audited by an independent auditing firm acceptable to the Bank, within 120 days after each fiscal year-end. The determination of scope and other related considerations will be governed by document OP-273-12 and the directive on financial statements and external audits. The cost of the audit will be financed using the loan proceeds.
- 3.9 **Advance bidding/procurement and retroactive financing.** The PEU expects to conduct some advance (bidding/procurement) related to works and supervision at the Tarija airport under program Components 1 and 2, respectively. The Bank may retroactively finance, as a charge against the loan proceeds, up to US\$7.54 million (12.5% of the proposed loan amount) in eligible expenditures incurred by the borrower prior to the loan approval date for payment of advances on these contracts provided that requirements substantially similar to those specified in the loan contract have been fulfilled. These expenditures will have been incurred on or after 29 April 2022 but under no circumstances more than 18 months before the loan approval date.
- 3.10 **Procurement sustainability criteria.** For bidder prequalification and selection, as well as for bid evaluation and contract award, procurement processes may incorporate sustainability criteria (environmental, social, or economic) in their various stages, including: planning, preparation of standard bidding documents, and definition of specifications (Annex III).
- 3.11 **Works maintenance obligations.** The borrower, acting through the executing agency, commits to the following: (i) ensure that the works, goods, and equipment included in the program are properly maintained in keeping with generally accepted technical standards and are subject to proper environmental and social management; and (ii) present to the Bank, during the program execution period, from delivery of the first works or procurement of the first equipment, whichever occurs first, a report on the status of the works, goods, and equipment and the annual maintenance plan for the subsequent year, in the framework of the second semiannual progress report for each year of execution. If the inspections conducted by the Bank or the reports it receives show that maintenance falls short of the agreed upon levels, the borrower and the executing agency will take the necessary steps to fully correct the deficiencies.
- B. Arrangements for monitoring and evaluation of results**
- 3.12 **Monitoring.** The monitoring and evaluation plan ([link 3](#)) will accompany the execution of the operation in accordance with the targets and progress indicators set out in the Results Matrix (Annex II). For such purpose, the following instruments will be used: (i) multiyear execution plan, annual work plan, procurement plan, financial supervision visits, review of audited financial statements, review of disbursement requests, technical/operational meetings with the PEU, and others; (ii) semiannual progress reports, including impact monitoring indicators, outcomes, execution of each component, and fulfillment of the operational requirements described in the program Operation Regulations

([link 9](#)); and (iii) environmental, social, and occupational health and safety reports as described in the ESMP.

- 3.13 **Evaluation.** The PEU will submit a final evaluation within 90 days from the date on which it has provided supporting documentation that accounts for 95% of the program disbursements. This evaluation will include at least the following: (i) an ex post cost-benefit analysis using the same method as the ex ante analysis and including a comparison of results to verify the assumptions and parameters considered, in accordance with the description set out in [link 3](#); (ii) the financial execution results; (iii) fulfillment of the targets, in accordance with the agreed-upon results indicators; and (iv) fulfillment of the contractual commitments.

Development Effectiveness Matrix		
Summary		BO-L1209
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
1. The Strategic Alignment tab in convergence shows alignment on IDB Group Strategic Priorities. The Results Matrix tab lists flagged CRF indicators		
2. The Strategic Alignment tab in convergence shows information on alignment to Country Development Objectives		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		9.3
3.1 Program Diagnosis		2.5
3.2 Proposed Interventions or Solutions		3.2
3.3 Results Matrix Quality		3.7
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		1.5
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		2.5
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		9.5
5.1 Monitoring Mechanisms		4.0
5.2 Evaluation Plan		5.5
III. Risks & Mitigation Monitoring Matrix		
6. Overall risks rate = magnitude of risks*likelihood		Medium Low
The Environmental and Social Data tab in convergence shows the environmental and social risk classification of the project		
IV. IDB's Role - Additionality		
Annex III Fiduciary Arrangements describes project reliance on the use of country systems (VPC/FMP Criteria)		
7. 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	2951/BL-BO Componente 3. Estudios de Pre-inversion

BO-L1209

Evaluability Assessment Note: The proposal presents an operation for a total of US\$60,200,000 to be financed through an investment program loan. The specific objective of this operation will be to provide safe airport infrastructure and operational capacity at the terminals involved to meet projected demand. Achieving this objective will contribute to the general objective of contributing to the development of regional integration, connectivity, and tourism in the regions of Tarija and Uyuni.

The proposal presents an adequate diagnosis of the problem. Specifically, the main problem identified is the lack of infrastructure at the Tarija and Uyuni airports to meet the potential passenger demand. The proposed solutions are appropriate to respond to the identified problem and its contributing factors and are related to the General Objective. The results matrix is congruent with the vertical logic of the project and includes appropriate indicators at the outcome level associated with the Specific Objective and the General Objective. The result indicators are correctly defined to measure the achievements attained by the program and the fulfillment of its specific objective. At the same time, the strategic alignment with the cross-cutting themes is captured by output indicators.

The proposal proposes a cost-benefit analysis for the two projects that make up the program. The IRR for the interventions in both program airports is 20.4%. Given that the benchmark rate is 12%, the aggregate analysis suggests that the project is socioeconomically viable. The methodology for monetizing the benefits consists of valuing the opportunity cost associated with the reduction in travel times and valuing the additional spending by foreign tourists in the intervened areas.

The project includes a monitoring and evaluation plan that aligns with Bank standards. The effectiveness of the proposed intervention will be measured following two approaches: an ex-post cost-benefit analysis approach and a before-after comparison to verify the achievement of goals. These analyses are planned to use the information from the external verification of results. In addition, an ex-ante and ex-post survey will be conducted to collect data on passengers at the airports involved (travel motivation, spending, and days of stay, among others).

RESULTS MATRIX

Program objective:	The general objective of the program is to help develop regional integration, connectivity, and tourism in the Tarija and Uyuni regions. The specific objective is to provide safe airport infrastructure with sufficient operating capacity in the targeted terminals to satisfy the projected demand.
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GENERAL DEVELOPMENT GOALS

Indicators	Unit of measure	Baseline	Baseline year	2028	End target	Means of verification	Comments
General objective: To help develop regional integration, connectivity, and tourism in the Tarija and Uyuni regions							
Average tourism revenue per stay	US\$	Tarija: US\$135 Uyuni: US\$135	2019	To be determined (TBD)	TBD	Qualitative study through passenger surveys to estimate average spending	Average tourist spending per stay. Calculated as average stay multiplied by average daily spending
Opening of a new commercial air route between Cuzco and Uyuni	Unit	0	2022	1	1	Authorization by the regulator to provide the new air route service	

SPECIFIC DEVELOPMENT GOALS

Indicators	Unit of measure	Baseline	Baseline year	End target (2028)	Means of verification	Comments
Specific objective: To provide safe airport infrastructure with sufficient operating capacity in the targeted terminals to satisfy the projected demand						
Annual number of passengers in the rehabilitated airports (Tarija and Uyuni airports)	Number of passengers	Tarija: 376,453 Uyuni: 181,667	2019	Tarija: 539,000 Uyuni: 267,000	Final program evaluation report	
Regulator certification for each of the target airports	Unit	0	2022	2	Aerodrome certificate in accordance with Bolivian Aeronautical Regulations (RAB) 139	
Passengers during peak hour per 1000m ² of terminal space	Number of passengers	Tarija: 65 Uyuni: 180	Tarija: 2015 Uyuni: 2016	Tarija: 44 Uyuni: 90	Baseline studies: Master plan Final program evaluation report	

OUTPUTS

Outputs	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Means of verification	Comments
Component 1: Civil works and equipment											
Number of rehabilitated airports that satisfy the RAB and are designed for climate-change resilience and consider inclusive accessibility	Number of airports	0	2022	0	0	0	1	1	2	Supervision reports Works delivery certificate	
Milestones	m²	0	2022	0	0	2,200	2,500	3,300	8,000		
• Square meters of terminal space rehabilitated/ expanded											
• Square meters of runway and apron rehabilitated/built	m²	0	2022	0	0	30,000	44,000	41,000	115,000		
• Linear meters of perimeter fence and road	m	0	2022	0	0	0	2,000	1,000	3,000		
• Drainage	m	0	2022	0	0	4,100	6,000	2,900	13,000		
• Control tower built	Unit	0	2022	0	0	0	1	1	2		
• Lighting and visual aids system	System	0	2022	0	0	0	0	1	1		
• Family bathrooms and lactation rooms	Unit	0	2022	0	0	0	2	2	4		
• Actions to eliminate sexual harassment and gender violence (code of conduct, action protocols, complaints and claims mechanism, and awareness-raising program)	Unit	0	2022	1	0	0	0	0	1		
Air navigation and firefighting systems and equipment	Unit	0	2022	0	0	0	1	1	2		
Efficient energy and water use systems installed	Unit	0	2022	0	0	0	2	2	4		
Cargo terminal rehabilitated at Tarija	Unit	0	2022	0	0	0	0	1	1		
Wastewater and stormwater treatment plant for Uyuni	Unit	0	2022	0	0	0	0	2	2		
Photovoltaic generation system installed for Uyuni	System	0	2022	0	0	0	0	1	1		
Air terminals with EDGE certification	Unit	0	2022	0	0	0	0	2	2		

Outputs	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Means of verification	Comments
Component 2: Social and environmental management and supervision											
Environmental and social management plans (ESMPs) prepared and approved	Unit	0	2022	2	0	0	0	0	2	Supervision reports	
Supervisory firm engaged	Unit	0	2022	1	2	0	0	0	3		
Agreements or legal instruments signed to regularize the right of ownership over the Uyuni airport	Unit	0	2022	0	1	1	0	0	2		
Component 3. Capacity-building											
Market study to identify new international routes	Study	0	2022	0	0	1	0	0	1	Final consulting report	
Upgrade of Uyuni terminal using ethno-engineering criteria	Study	0	2022	1	0	0	0	0	1	Final consulting report	
Study of the air cargo ecosystem for efficient management in the sector	Study	0	2022	0	0	1	0	0	1	Final consulting report	
Updating of the National Air Navigation Plan	Plan	0	2022	0	0	0	0	1	1	Final consulting report	
National Aviation Development Plan	Plan	0	2022	0	0	0	0	1	1	Final consulting report	
Feasibility study on sustainable aviation fuels (SAF)	Study	0	2022	0	0	0	1	0	1	Final consulting report	
Study for preparation of an aerodrome plan to apply for certification	Studies	0	2022	0	0	0	0	2	2	Final consulting report	
Diagnostic assessment of current cybersecurity infrastructure and resources, and implementation plan	Study	0	2022	0	0	0	0	1	1	Final consulting report	
Number of public employees trained in cybersecurity and inclusive accessibility	Number of individuals trained	0	2022	0	0	5	5	10	20	Training course completion certificates	
Diagnostic assessment of gender in the aviation sector	Study	0	2022	0	0	1	0	0	1	Final consulting report	
Women trained in airport operations (air traffic control, flight dispatch, meteorology, and air information services)	Women	0	2022	0	0	0	0	40	40	Training course completion certificates	

Outputs	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Means of verification	Comments
Training to promote harassment-free spaces	Workshops	0	2022	0	1	1	0	0	2	Final consulting report	
Development of portal within the NAABOL website describing the services required by passengers with disabilities or restricted mobility in Bolivian airports	Study	0	2022	0	0	1	0	0	1	Final consulting report	
Development of mobile application to visually assist persons with disabilities to self-sufficiently locate and use the airport terminal	Application	0	2022	0	0	0	1	0	1	Final output report	
Sign language course for customer care personnel at the Tarija and Uyuni airports	Course	0	2022	0	0	0	1	1	2	Course completion certificates	
Business plan for development of activities by indigenous communities in the airports	Business plan	0	2022	0	0	0	1	0	1	Final consulting report	
Development of mobile application to promote services provided by SMEs in Uyuni	Application	0	2022	0	0	0	0	1	1	Final output report	
Training to develop business entrepreneurial strengths in SMEs	Number of individuals trained	0	2022	0	0	0	15	15	30	Training course completion certificates	
Implementation of an open-data works and procurement monitoring system	System	0	2022	0	1	1	0	0	2	Final consulting report	

Country: Bolivia

Division: INE/TSP

No.: BO-L1209

Year: 2022

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Executing agency: Ministry of Public Works, Services, and Housing (MOPSV) through the Office of the Deputy Minister of Transportation (VMT)

Name: Air Infrastructure Program – Stage II

I. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

1. Use of country systems in the operation

<input checked="" type="checkbox"/> Budget	<input type="checkbox"/> Reports	<input checked="" type="checkbox"/> Information system	<input type="checkbox"/> National competitive bidding (NCB)
<input checked="" type="checkbox"/> Treasury	<input type="checkbox"/> Internal audit	<input checked="" type="checkbox"/> Shopping	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Accounting	<input type="checkbox"/> External control	<input checked="" type="checkbox"/> Individual consultants	

2. Fiduciary execution mechanism

<input checked="" type="checkbox"/>	Specific features	The borrower will be the Plurinational State of Bolivia, and the executing agency will be the MOPSV through the VMT, which will act through the project execution unit (PEU) to carry out technical, administrative, legal, fiduciary, environmental, and social activities. The Bank resources will be provided in accordance with the program Operating Regulations (link 9).
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3. Fiduciary capacity

Fiduciary capacity of the executing agency	The executing agency's fiduciary capacity level is classified as medium . The results of the institutional capacity assessment, conducted using the Institutional Capacity Assessment Platform (ICAP), indicate that the executing agency needs to be strengthened by creating/continuing with a PEU responsible for financial and procurement management. The VMT will be in charge of hiring/rehiring the key PEU staff. In addition, the assessment identified certain reinforcement interventions related to the technical and administrative operational load, as well as flowcharts of processes and procedures for execution
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4. Fiduciary risks and risk response

Taxonomy	Risk	Level	Response
Financial and procurement management	1-Lack of definition of PEU processes, functions, and responsibilities for proper execution.	Medium	Include the PEU's financial and procurement management cycle in the program Operating Regulations (link 9), including: (i) organizational charts for the participating areas of the PEU; (ii) identification of participating areas, positions with responsibilities, timeframes, and documents or deliverables; (iii) flowcharts; (iv) procedures; and (v) bottleneck records.
Financial and procurement management	2-Insufficient human resources to undertake execution.	Medium	Hiring/rehiring fully dedicated qualified staff trained in the procurement and financial management areas.

5. Policies and guidelines applicable to the operation: Procurements under the program will be set out in the procurement plan approved by the Bank, and will be carried out in accordance with the Policies for procurement of works and goods financed by the IDB (document GN-2349-15) and the Policies for selection and contracting of consultants financed by the IDB (document (GN-2350-15) or other policies in effect from time to time.

6. Exceptions to the policies and guidelines: Not applicable.

II. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE LOAN CONTRACT

<p>Exchange rate: For purposes of Article 4.10 of the General Conditions, the Parties agree that the applicable exchange rate will be as indicated in section (b)(i) of the aforementioned article. For purposes of determining the equivalence of expenses incurred in local currency to be charged against the local contribution or of expenditure reimbursements to be charged against the loan proceeds, the agreed-upon exchange rate will be the rate in effect on the date on which the borrower, executing agency, or any other individual or legal entity that has been delegated the authority to incur expenses makes the respective payments to the contractor, provider, or beneficiary.</p>
<p>Type of audit: Audited financial statements for the program. Within 120 days after each fiscal year-end during the original disbursement period or its extensions, and within 120 days after the last loan disbursement date, the executing agency will submit the program's annual financial statements audited by an independent auditing firm acceptable to the Bank, in accordance with terms of reference to be agreed upon by the Bank and the MOPSV through the VMT.</p>

III. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

<input checked="" type="checkbox"/>	Bidding documents	The procurement of works, goods, and nonconsulting services, executed in accordance with the Bank's procurement policies (document GN-2349-15) and subject to international competitive bidding, will use the Bank's standard bidding documents or those agreed-upon by the executing agency and the Bank for a particular procurement. Similarly, consulting services will be selected and contracted in accordance with the Bank's consultant selection policies (document GN-2350-15), using the standard request for proposals issued by the Bank or agreed upon by the executing agency and the Bank for a particular selection. For national competitive bidding and shopping, and for individual consultants, a procurement document agreed upon by the country's relevant authority and the Bank will be used. The program's sector specialist will be responsible for reviewing the technical specifications as well as the terms of reference for procurement during the preparation of selection processes. This technical review may be performed ex ante and is separate from the procurement review method. In addition, requirements under the Bank's new Environmental and Social Policy Framework will be included in the aforementioned bidding documents.
<input checked="" type="checkbox"/>	Recurrent expenditures	Any Bank-financed recurrent expenditures required to implement the program approved by the Project Team Leader will be incurred in compliance with the administrative procedures of the executing agency. These procedures will be reviewed and accepted by the Bank, provided they do not violate the principles of economy, efficiency, and competition.
<input checked="" type="checkbox"/>	Advance procurement / Retroactive financing	The PEU expects to conduct some advance (bidding/procurement) related to works and supervision at the Tarija airport under program Components 1 and 2, respectively. The Bank may retroactively finance, as a charge against the loan proceeds, up to US\$7.54 million (12.5% of the proposed loan amount) in eligible expenditures incurred by the borrower prior to the loan approval date for payment of

		advances on these contracts provided that requirements substantially similar to those specified in the loan contract have been fulfilled. These expenditures will have been incurred on or after 29 April 2022 but under no circumstances more than 18 months before the loan approval date.						
<input checked="" type="checkbox"/>	Procurement supervision	<p>Supervision will be performed ex post, except in cases where ex ante supervision is justified. Procurements processed through the country system will be supervised through that system. The supervision method ((i) ex ante, (ii) ex post, or (iii) country system) to be used will be determined separately for each selection process. Ex post reviews will be performed every 12 months in accordance with the supervision plan, which may be altered during execution. The ex post reviews will include at least one physical inspection visit (inspection visits verify the existence of the procurement, leaving the verification of quality and compliance with specifications to the sector specialist), chosen from among the procurement processes subject to ex post review [not less than 10%]. The threshold amounts for ex post review are as follows:</p> <table border="1"> <thead> <tr> <th>Works</th><th>Goods/Services</th><th>Consulting services</th></tr> </thead> <tbody> <tr> <td>US\$3,000,000</td><td>US\$200,000</td><td>US\$200,000 Firms US\$30,000 Individuals</td></tr> </tbody> </table>	Works	Goods/Services	Consulting services	US\$3,000,000	US\$200,000	US\$200,000 Firms US\$30,000 Individuals
Works	Goods/Services	Consulting services						
US\$3,000,000	US\$200,000	US\$200,000 Firms US\$30,000 Individuals						
<input checked="" type="checkbox"/>	Records and files	The VMT will be responsible for establishing the necessary controls to safeguard and preserve the integrity of the documents generated by ex ante or ex post execution of the program. The Bank may at any time verify the standards of organization, control, and security of the files.						
<input checked="" type="checkbox"/>	Sustainable procurement	For bidder qualification and selection, as well as for bid evaluation and contract award and pursuant to requirements under the technical specifications and contract, procurement processes may incorporate sustainability criteria (environmental, social, or economic) in their various stages, including: planning, preparation of standard bidding documents, definition of specifications, and contractual conditions.						

Main procurement items

Procurement description	Selection method	Estimated date	Estimated amount (US\$ millions)
Works			
Works at Tarija airport	ICB	Jul-2023	34.3
Works at Uyuni airport	ICB	Jul-2023	14.5
Firms			
Supervision at Tarija airport	QCBS	Jul-2023	1.8
Supervision at Uyuni airport	QCBS	Jul-2023	0.8
Various studies (cargo system, ESO, gender, cybersecurity)	QCBS	Jan-2024	0.8

To consult the procurement plan, see [link](#).

IV. AGREEMENTS AND REQUIREMENTS FOR FINANCIAL MANAGEMENT

<input checked="" type="checkbox"/>	Programming and budget	Since the borrower is the Plurinational State of Bolivia, the funds for this operation will be incorporated into the National General Budget and subsequently transferred to the MOPSV through the VMT, which will in turn incorporate them into its own budget. There are no expected challenges capable of affecting budget execution.
<input checked="" type="checkbox"/>	Cash and disbursement management	<p>There are no fiduciary conditions precedent to the first disbursement.</p> <p>Exchange rate: For justification of expenses, the exchange rate to be used will be the rate in effect on the date on which the borrower, executing agency, or any other individual or legal entity that has been delegated the authority to incur expenses makes the respective payments or transfers. Article 4.01, (b), (i) of the General Conditions.</p> <p>Disbursement method: Advances of funds and/or reimbursements.</p> <p>Disbursement mechanism: Submission of disbursement requests, physically and/or electronically through the Online Disbursements platform.</p> <p>Bank account: The borrower/executing agency will keep advanced funds in a U.S. dollar bank account set aside solely for the program at the Central Bank of Bolivia (BCB), to be controlled/reconciled by means of a TSA Book (designated account).</p> <p>Financial plan: Funds will be advanced for a period of up to 6 months (180 days), based on liquidity needs to satisfy commitments.</p> <p>Percentage for substantiation of expenses: 80% of the previously disbursed proceeds.</p> <p>Flow of program resources: The funds will be disbursed to the executing agency into the account opened at the BCB, and from there will be transferred to the contractors/providers as payment for goods and services.</p>
<input checked="" type="checkbox"/>	Accountability, information systems, and reporting	<p>The specific accounting rules for execution will be those set out in the regulatory framework of the Plurinational State of Bolivia.</p> <p>The accountability reporting will consist of statements of cash received and disbursements made and statements of cumulative investments, with their respective notes, prepared on the basis of the accounting generated by the Public Financial Reporting System.</p> <p>Accounting method and currency: Accounting will be done on an accrual basis, but the financial reports to be submitted to the Bank will be prepared on a cash basis and in U.S. dollars.</p>
<input checked="" type="checkbox"/>	Financial supervision of the operation	Financial supervision will be conducted onsite at the VMT through the PEU, and by means of work meetings and desk reviews of reports and audited financial statements, among others. Supervision will be carried out by the Bank's financial management team, support consultants, and the consultant firm hired to audit the program's annual financial statements. These supervision arrangements may be modified based on the experience with the execution of the program. ¹

¹ Opinion on annual audited financial statements and internal control comments/findings, if any.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/22

Bolivia. Loan ____/OC-BO to the Plurinational State of Bolivia
Air Infrastructure Program – Stage II

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Plurinational State of Bolivia, as borrower, for the purpose of granting it a financing aimed at cooperating in the execution of the Air Infrastructure Program – Stage II. Such financing will be for the amount of up to US\$60,200,000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2022)