Public Disclosure Authorized

Public Disclosure Authorized

Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 17-Dec-2019 | Report No: PIDA27473

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Project Name	Parent Project ID (if any)
Brazil	P169134	Improving Mobility and Urban Inclusion in the Amazonas Corridor in Belo Horizonte	
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
LATIN AMERICA AND CARIBBEAN	13-Jan-2020	24-Mar-2020	Transport
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Municipio de Belo Horizonte	URBEL, BHTRANS	

Proposed Development Objective(s)

The Project Development Objective (PDO) is to: (i) Improve the quality of service and accessibility to jobs for public transport users in the area of influence of the Expresso Amazonas; and (ii) Improve the urban living conditions of the poor in selected neighborhoods.

Components

Component 1: Designs, infrastructure and equipment for improving the Amazonas Corridor
Component 2: Urban upgrading and integration of the Cabana do Pai Tomás community to the Amazonas Corridor
Component 3: Strategic Planning for Urban Mobility and Renewal
Component 4: Project Management and Institutional Strengthening

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	100.00
Total Financing	100.00
of which IBRD/IDA	80.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	80.00
Non-World Bank Group Financing	
Counterpart Funding	20.00
Local Govts. (Prov., District, City) of Borrowing Country	20.00

Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

B. Introduction and Context

Country Context

Although Brazil is on the recovery path from the worst economic crisis of its modern history, public investment is highly constrained by the fiscal deficit. GDP contracted by 3.5 percent in 2015 and 3.3 percent 2016, marking the deepest recession in modern Brazilian history. The economic recovery has been slow with growth at 1.1 percent in both 2017 and 2018 and 1.5 percent projected for 2019. The unsustainable trend of rigid public expenditures and a cyclical decline in revenues resulted in general government gross debt rising from 51.5 percent of GDP in 2013 to 78.4 percent by March 2019. To address this debt dynamic, the Federal Government adopted a constitutional amendment to limit federal public expenditure growth to the rate of inflation. Subnational governments are also facing growing fiscal deficits and have limited capacity to cope with growing wage bill and pension payments unless reforms are adopted.

Nevertheless, investments in transport infrastructure and services are still crucial to improve the productivity of Brazilian cities and boost long-term economic growth. Many cities in Brazil are among the most productive in the region, with their productivity generally in line with the world average. Yet, they lag the world productivity "frontier", as measured by North American and Western European cities.[1] Addressing the negative externalities of congestion, slums, crime, and inequalities is essential to improve efficiency of agglomeration economies in Brazil. For example, six Brazilian cities are among the 100 most congested in the world, including Belo Horizonte.[2] In large cities in Brazil, studies have found that congestion may cost close to eight (8) percent of their metropolitan area GDP[3] and investing in infrastructure and services is needed to improve the productivity of Brazilian cities. The country remains below countries of similar income in the stock of physical infrastructure - particularly in the case for transport - and performs poorly in the perception of the quality of infrastructure services.[4] As private investment is expected to remain weak and fiscal constraints have restricted the availability of credit, there are significant needs for long-term financing of infrastructure.

The Metropolitan Region of Belo Horizonte (MRBH) is the third metropolitan area in Brazil; its economic nucleus, the municipality of Belo Horizonte, has experienced important growth in the past 10 years. The MRBH encompasses 34 municipalities with an overall population of 5.2 million people (IBGE 2018). The municipality of Belo Horizonte (BH) is the economic nucleus of this region with 2.5 million inhabitants and an area of 331 sq. km. The city is the political and administrative capital of the State of Minas Gerais and accounts for 3.8 percent of Brazil's GDP (fourth after Sao Paulo, Rio de Janeiro and Brasilia). BH has seen a large population growth in the past 10 years, of 5.4 percent since 2010**.** This was accompanied by unplanned territorial expansion of the city and an increase in informal settlements, together with growing motorization rates and related congestion and pollution.

The worsening of the fiscal and economic crisis, along with labor market issues, has deepened inequalities in Brazil and in BH. While BH has one of the highest Human Development Indexes (HDI)[5] in the country at 0.81, it displays significant disparities within the municipality with areas reaching as low as 0.6. Between 2016 and 2017, Belo Horizonte saw a significant increase in its vulnerable population (15.3 percent)[6,7]. In 2018, close to 30 percent of the population had an average nominal wage equal to half the minimum wage[8] and the city had 8.4 percent of the population (212,000 people[9]) living in poverty or extreme poverty. Furthermore, although users of the public transport are mainly low-income[10], until 2013, the urban mobility policies have prioritized individual motorized vehicles, fueling growing private vehicles ownership by middle- and high-income classes and widening disparities in job accessibility. To counter this situation, despite the fiscal limitations, BH has supported a few projects in public

transportation in recent years, seeking to generate greater attractiveness for the more energy-efficient modes of travel.

Sectoral and Institutional Context

Despite being the first planned city in Brazil[11], economic and population growth has resulted in Belo Horizonte (BH) expanding outwards with a significant increase in informal settlements. Today, approximately 19 percent of the city's population is classified as living in informal settlements[12], occupying an area of 24.6 sq. km or 7.4 percent of the municipality's territory. Among these, the majority (366,000 inhabitants) lives in the 209 areas classified as *vilas e favelas* (slums), characterized by poor housing and sanitation infrastructure, and a lack of access to urban amenities and formal jobs due to their inadequate integration with the transport network. As its fast-growing infrastructure was not accompanied by adequate city and urban transport planning, Belo Horizonte is particularly vulnerable to climate change and climate-extreme events. According to the municipality of BH, 1,200 of the housing structures of the *vilas* and *favelas* in the city were vulnerable to climatic hazards in 2019. Climate impacts occur in the form of floods, landslides and dengue fever, and an increase in vulnerability of up to 10 percent is expected until 2030.[13]

On par with the income inequality and reinforced by the urban expansion and geographic distribution of informal settlements, BH is one of the three cities in Brazil where transport inequality between rich and poor is the largest. BH displays an important monocentric pattern with most formal jobs and amenities concentrated in the city center. Job accessibility in BH is much lower for lower income households; journey-to-work trips are 40 percent longer

[1] Ferreyra, Maria Marta; Roberts, Mark. 2018. *Raising the Bar for Productive Cities in Latin America and the Caribbean (English)*. Washington, D.C.: World Bank Group.
[2] TomTom traffic index, www.tomtom.com
[3] Nota Técnica, Diretoria de Desenvolvimento Economico #3, Julho 2014 (FIRJAN). *Os custos da (i) mobilidade nas regiões metropolitanas do Rio de Janeiro e São Paulo.*
[4] Raiser, Martin et al. "How to Close Brazilian Infrastructure Gap in times of austerity". July 2017.
[5] The Brazilian HDI was calculated by IBGE from the census data of 2010. For the definition see. https://prefeitura.pbh.gov.br/estatisticas-e-indicadores/indice-de-desenvolvimento-humano-municipal-de-belo-horizonte [last accessed June 3rd, 2019, 11.40am].
[6] Fundação João Pinheiro, using PNAD-C 2016 and 2017. *http://fjp.mg.gov.br/index.php/docman/direi-2018/911-serie-vulnerabilidade-e-condicoes-de-vidafinal-com-capa/file*.

[7] Vulnerable population defined by the Ministry of Social Development as household income per capita equal or less R$ 186 for population living in poverty and R$ 93 for extreme poverty. In 2017, these were equivalent to US$ 1.9/day and US$ 0.95/day, respectively (Dollar/Real exchange rate in December 2017: 3.26).
[8] In comparison, the average wage in BH is equivalent to 3.6 minimum wage (IBGE 2017).
[9] IBGE estimated population for Belo Horizonte in 2017 was 2,523,794.
[10] About 76 percent of users have incomes of up to two minimum wage (OD Survey 2012).
[11] https://www.britannica.com/place/Belo-Horizonte; [last accessed June 4th, 2019, 2.02pm]
[12] In addition to *vilas e favelas* (neighborhoods with limited public infrastructure and services usually located in environmentally fragile areas), BH counts on other categories to distinguish different types of informal settlements: *loteamentos irregulares* (areas that have been originally planned, but lack formal registration or titling), *ocupações organizadas* (areas squatted by organized community groups in a planned manner) and *conjuntos habitacionais* (public social housing complexes, often lacking infrastructure and services).
[13] Felipe Bittencourt, Marco Follador, Virgílio Pereira, André Rocha, Ciro Vaz, Thiago Vieira, Melina Amoni, Fabio Bicalho: Climate Vulnerability Index: a case study for the city of Belo Horizonte, Brazil.

amongst the poorest decile when compared to the richest decile.[14] In addition, a recent study showed that as a consequence and with the current transport infrastructure, only 31 percent of job opportunities are accessible within a 60 minutes total travel time (on average for BH)[15]. In comparison, although smaller in size, Montevideo (Uruguay) has a job accessibility indicator of 68 percent for the 60 min travel time threshold. On average, people spend 85 minutes in public transport, and 86 percent spend more than two hours. This is partially a result of public transport lines not being well connected: for the 53 percent of riders transferring lines at least once, waiting times average to 23 minutes, with 68 percent of them waiting for longer than 20 minutes. Low income women are particularly affected by this, as they have lower access to cars and motorbikes and depend on public transportation even more than men when commuting (44 percent of their trips are made in public transportation versus 27 percent of men's trips). Furthermore, as floods are linked to impacts in travel time, distance traveled and average speed, it was calculated that during climate emergency situations in BH, there is an increase in 15 percent of travelled distance and a 42 percent increase in travel time.[16]

Since the 1990s, the urban transport sector in Belo Horizonte has undergone numerous transformations. The "Plan for the Restructuring of the Urban Transportation System of Belo Horizonte" introduced in 1997 trunk-fed integration of buses and the railway system, electronic ticketing system and tariff integration, two integrated stations along two BRT corridors, and the first feeder lines for *vilas e favelas* (i.e. small feeder bus lines in informal settlements). Today, the entire metropolitan and municipal system of buses is served by 514 and 323 lines, respectively, and 14 feeder lines in *vilas e favelas*[17]. The municipal system operates under private concessions managed by the municipal bus agency (Empresa de Transportes e Trânsito de Belo Horizonte S.A. - *BHT*rans), whereas the metropolitan system is managed by the state buildings and roads agency (*Departamento de Edificações e Estradas de Rodagem de Minas Gerais - DER*). The city has also one metro line (Metro Line 1), currently operated by a public enterprise that responds to the Ministry of Transport at the federal level (*Companhia Brasileira de Trens Urbanos* - CBTU). Line 1 is a 28 km about ground metro with 19 stations, that carried 198,000 passengers per day in 2018[18]. While there are plans for expansion of the Metro since early 2000, fiscal constraints have been delaying the implementation. The most recent large-scale transport project in BH was MOVE, a BRT system implemented in March 2014 in preparation for the World Cup. MOVE is a 23 km Bus-Rapid-Transit (BRT) with 44 stations connecting the city center with the Northern region of the MRBH. It carries around 500,000 thousand passengers per day in its trunk and feeder lines, and its operation reduced travel times along the corridor in public transport from 102 to 41 minutes[19].

Despite the efforts, population and economic growth have fueled higher motorization rates, congestion, and pollution in recent years. According to the latest Origin-Destination (OD) Survey (2012), the total number of trips in BH increased by 67 percent since 2002, reaching up to 6.3 million daily trips. Overall, there was a significant growth of individual motorized modes (cars and motorcycles), from 23 percent in 2002 to 37 percent of total trips in 2012, while public transport (metro and buses) lost 15 percentage points (pp) from 43 percent in 2002 to only 28

[14] Pereira, R. H. M., Schwanen, T., & Banister, D. (2015) Distributive justice and equity in transportation. *Transport Reviews* . Volume 37, 2017 - Issue 2: Equity in Transport.

[15] Basu, R., & Alves, B. B. (2019). Practical Framework for Benchmarking and Impact Evaluation of Public Transportation Infrastructure: Case of Belo Horizonte, Brazil. *Transportation Research Record*.
16 Oliveira, L., Oliveira, J., Nascimento C, Schreiner, S: Use of simulation for assessment of natural disaster: a case study of flooding in Belo Horizonte (Brazil).
[17] These lines carry an average of 500,000 passengers per month (BHTrans).
[18] https://www.cbtu.gov.br/images/gaplo/gestaoanual/gestao2018.pdf
[19] https://www.itdp.org/city-transformations/belo-horizonte/; [last accessed June 3rd, 2019, 2.02pm]

percent of total trips in 2012. Projections in the Master Mobility Plan (PlanMob)[20] estimate that if the trend is unchanged, individual motorized modes would represent 45 percent of all trips in 2030, with public transport only accounting for 18 percent of trips. The overall vehicle fleet (individual vehicles) increased by 159 percent and the number of two-wheeled vehicles increased by 333.5 percent between 2000 and 2016. The increase in individual motorized modes was accompanied by high congestion and increased use of motorcycles, especially by men (85 percent of motorcycles trips are made by men). In 2018, the city surpassed the 2 million vehicle mark, equal to 1.24 vehicle per inhabitant. Pollution has also increased significantly. According to the World Health Organization (WHO), BH is the 4th Brazilian city in terms of pollution levels[21], with polluting emissions having increased by 22 percent between 2012 and 2019. Despite the implementation of the MOVE system, the public transport system continued to deteriorate in recent years as congestion impacted service levels, reducing operating speeds, thus significantly increasing travel times and reducing the reliability of the system. The average travel time for public transportation in BH went up from 38 minutes in 2002 to 60 minutes in 2016.

Despite the comprehensive federal law and regulations for designing and building inclusive buildings and public spaces in Brazil[22], BH still faces challenges in complying with these regulations. BH has close to 600,000 persons with disabilities (IBGE). Although the entire bus fleet is equipped with elevators for wheel-chair users, many of the public spaces, including sidewalks and bus stations, currently do not comply with ABNT (Brazilian Association of Technical Regulations) regulations[23]. In some corridors, inadequate repaving of the roads has increased the physical gap between the station platform (sidewalk level) and the bus floor, and users must climb often more than two feet to board the bus (low-floor buses are currently not operating in BH). This is a significant physical challenge for all users, but especially for the ones with disabilities, increases boarding times, and reduces efficiency in operations. Even when stations have been adapted, access to and from the stations are inadequate, requiring people with disabilities to rely on availability of support from others to move freely around the city.

There are still relevant gender gaps in Brazil and in BH, as it relates to the transport and infrastructure sector. Brazil has made relevant advancements closing gender gaps, mainly in health and education[24]. However, there are still relevant gender gaps in access to economic opportunities and agency, in particular as it relates to the transport sector. The labor force participation for women in BH is 54 percent compared to 74 percent for men above 25 years old. In *Cabana*, only 20 percent of women are formally employed, compared to 38 percent of men. Gender gaps are more pronounced when looking at employment segregation; of the people employed in the transport and communication sector, only 13 percent are women, and only 3 percent of women participate in construction. Moreover, women also face more barriers to their mobility and have much lower rates of motorized mobility[25] in BH. The gap is deeper for the low-income women in the areas of *Cabana* and *Jatobá*, where women's motorized mobility rate is 27 percent lower than men's (0.71 trips per day for women versus 1.03 trips per day for men). Besides traveling at lower rates than men, women (especially low-income) travel mostly on slower modes (public transportation and on foot), limiting the pool of job opportunities they can reach within a certain time threshold.

[20] https://www.mobilidadebh.org/, https://prefeitura.pbh.gov.br/sites/default/files/estrutura-de-governo/bhtrans/2018/documentos/Apresenta%C3%A7%C3%A3o%20sobre%20o%20hist%C3%B3rico%20do%20PlanMob-BH.pdf; [last accessed June 4th, 2019, 3.03pm]

[21] http://www.abes-mg.org.br/visualizacao-de-clipping/ler/2281/poluicao-no-limite-em-bh
[22] http://www.acessibilidadebrasil.org.br/joomla/lei-de-acessibilidade-decreto-lei-5296
[23] https://www.mdh.gov.br/biblioteca/pessoa-com-deficiencia/acessibilidade-a-edificacoes-mobiliario-espacos-e-equipamentos-urbanos/
[24] World Bank, BRAZIL, Country Gender Scorecard, October 2019.
[25] Rate at which one travels on motorized modes, measured by trips/day.

Moreover, despite making 63 percent of the bus patronage, women are subject to unsafe transport and sexual harassment. 46 percent of Brazilian women over 18 years have reported not to feel safe using public transport[26] and reported cases of women experience with sexual harassment in Belo Horizonte are increasing[27]. Where there is a response system in place managed by BHTrans and the police, there are still deficiencies on how these cases are handled after reporting, and there are opportunities for improving response protocol. As per a recent study by the International Labor Organization (ILO), lack of access to safe transport is one of the main barriers for women to access economic opportunities reducing its participation in 16.5 percent.

In order to address the sectoral issues, the municipality recently strengthened its policies to coordinate urban development and transport, with a special focus on reducing inequalities. The new Master Plan (*Plano Diretor*, *Lei Municipal nº 11.181*), approved in August 2019, introduced integrated urban and transport development principles, objectives and guidelines. It established updated zoning regulations enabling mixed use and mixed income development and higher densities along the main transport corridors and nodes, thus strengthening the link between urban development and transport. A key aspect of the *Plano Diretor* is the strong focus given to social inclusion and citizen engagement, reflected, amongst other, in: (i) the requirement to include meaningful participatory processes in the budget allocation; (ii) the prioritization of investments in low-income areas called Special Interest Zones (*Zonas Especiais de Interesse Social* – ZEIS); (iii) the ability to capture land values through selling development rights (*Outorga Onerosa do Direito de Construir* – OODC) and the earmarking of these resources to a social housing fund (*Fundo Municipal de Habitação de Interesse Social* – FMHIS). The city has also been updating its Mobility Master Plan, the PlanMob[28], which includes comprehensive measures to deal with growing motorization, congestion and pollution. The PlanMob has three fundamental objectives: (i) decrease road fatalities; (ii) increase the share of non-motorized trips (bicycles, walking) and transit in detriment of the share of car/motorcycle trips; (iii) revert the trend of increasing GHG emissions. Both transport and urban master plans aim for what is known as a transit-oriented development (TOD) approach, which focuses on the creation of compact, walkable, pedestrian-oriented, mixed-use communities, centered around high-quality transit systems.

The implementation of the Expresso Amazonas is envisioned in the PlanMob and is an essential infrastructure investment to improve public transit's performance and connect low income households to job opportunities. The corridor in which Expresso Amazonas will be implemented is a formed by a set of roads including main avenues Amazonas and Tereza Cristina. According to the Origin and Destination Household Survey 2012 (OD 2012), the corridor transports the largest number of daily commuters in the city; 815,000 passengers per day. While 679,000 passengers per day only pass through the corridor, 136,000 passengers alight and embark in bus stops within the areas of the corridor per day, 91,000 from municipal buses and 45,000 from metropolitan buses. This represents respectively 30 and 53 percent of the demand of the municipal and metropolitan bus systems. Currently, the buses benefit from a semi-preferential lane along the Amazonas and Tereza Cristina Avenues but the service suffers from interference from general traffic, and operating inefficiencies due to boarding and alighting at different points and overtaking. Consequently, the average speed of buses along the corridor is 13 km/h during peak time. As a direct consequence of the high traffic, accidents are common; which further contributes to congestion. In the area of influence of Expresso Amazonas[29], crash data reveals that a total of 3,353 crashes with injuries were registered

[26] Patricia Galvão Institute, https://agenciapatriciagalvao.org.br/quem-somos/
[27] https://www.em.com.br/app/noticia/gerais/2018/11/07/interna_gerais,1003768/registrada-primeira-autuacao-por-botao-contra-o-assedio-em-onibus.shtml; [last accessed June 6th, 2019, 7.04pm]
[28] https://www.mobilidadebh.org/, https://prefeitura.pbh.gov.br/sites/default/files/estrutura-de-governo/bhtrans/2018/documentos/Apresenta%C3%A7%C3%A3o%20sobre%20o%20hist%C3%B3rico%20do%20PlanMob-BH.pdf; [last accessed June 4th, 2019, 3.03pm]
[29] Area of Influence is a set of areas defined in the transport model directly served by the corridor (either where the corridor is

between 2015 and 2017, with 28 deaths. It is estimated that crashes along the Expresso Amazonas represent a societal cost of around USD 11.5 million per year.

***Cabana* and *Jatobá* are one of the poorest regions of BH and located in the area of influence of the Expresso Amazonas.** Together with Montes Claros, Maria Tereza, Novo Lajedo and Jardim Getsemani, located in the north of the city, they are defined as strategic areas for intervention in the *Plano Diretor* and BH has developed an ambitious plan to restructure the informal settlements and improve their connectivity to the city's transportation network. This plan was developed through a meaningful citizen engagement process, through the *Orçamento Participativo*[30], a process that includes continuous community consultations to select and design priority projects and allocate municipal budget. The structural renewal of *Cabana* and *Jatobá,* which consists of upgrading the public spaces, improving within neighborhood mobility and accessibility to jobs, has been developed jointly with the communities through this participatory approach. The *Cabana* slum, located in the west region of BH, was first established in the 1960s and is one of the oldest informal areas in BH. It is home to approximately 20 thousand inhabitants. Despite being physically close to the Expresso Amazonas corridor, it has poor connection through limited *vilas e favelas* feeder lines, requiring residents to travel long distances by foot, a situation aggravated by the rugged terrain, the small width of the alleys, and the general precariousness of the internal road network. The *Jatobá* area is located in the Barreiro region, in the Southern portion of BH. Formerly planned as an industrial district in the 1970, it has undergone a continuous process of densification and informal occupation, which poses multiple environmental and social challenges. Nowadays, there are 21 informal settlements and 38,000 people living in *Jatobá*. The area links to the Expresso Amazonas corridor through the Barreiro bus station, which plays, along with Diamante bus station further South, a strategic role in connecting people living in the Southern BH and Southern municipalities of MRBH to the city center. In addition to physical constraints to access transport services, families in *Cabana and Jatobá* regions face affordability challenges to regularly commute by bus, as expenditures represents a significant share of their household income.

As set forth in BH's urban and transport master plans, the proposed project offers an integrated solution to improve accessibility to job opportunities for 815,000 public transport users by implementing the Expresso Amazonas and to upgrade living conditions and enhance connectivity to job opportunities for 20,000 inhabitants from the poorest areas of the city. The strategy used until now by the municipality, of reaching vulnerable populations through feeder lines in *vilas e favelas*, has been an important first step in addressing connectivity problems, but this solution is now exhausted. The current project offers a step forward with a truly integrative solution that operationalizes the transit-oriented development (TOD) objectives, by strengthening integrated strategic planning and implementing public transport infrastructure and the urban renewal with high quality designs that address issues climate change, gender, road unsafety, and low accessibility for the poor and the disabled. The project also intends to set a new standard for future integrated urban and transport projects in BH and Brazil.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The Project Development Objective (PDO) is to: (i) Improve the quality of service and accessibility to jobs for public transport users in the area of influence of the Expresso Amazonas; and (ii) Improve the urban living conditions of the poor in selected neighborhoods.

included or the immediate nearby areas).

[30] https://prefeitura.pbh.gov.br/urbel/orcamento-participativo

- ✓ Improve the quality of service for public transport users in the area of influence of the Expresso Amazonas
- ✓ Improve accessibility to jobs for public transport users in the area of influence of the Expresso Amazonas
- ✓ Improve the urban living conditions of the poor in selected neighborhoods

D. Project Description

The project operationalizes transit-oriented development to improve productivity of an infrastructure asset (the Expresso Amazonas) in a manner that is inclusive to the poor, people with disabilities, and women, and has a strong citizen-oriented focus. The project is also climate conscious because it promotes the use of an energy-efficient mode of transport (mass transit) and includes planning and designs for climate change adaptation for low-income areas and for the Expresso Amazonas. The activities financed by the project include designs, civil works, equipment and studies to implement the Expresso Amazonas and the urban upgrading of *Cabana* and to support the urban renewal plans for *Jatobá and* four informal settlement areas identified as priorities. As set forth by the ESS, all the engineering designs and civil works will include a strong citizen engagement process and will include considerations for improved security, safety and accessibility for all users (including disability and gender needs). These activities are divided into the four components and its subcomponents presented below.

Component 1: Expresso Amazonas (Estimated costs: US$43.73M of which IBRD US$42.95 M)
This component aims at improving the quality of service for public transport users and the accessibility to jobs for public transport users in the area of influence of the Expresso Amazonas and its low-income areas of *Cabana* and *Jatobá*. The Expresso Amazonas consists of 42.3 km of dedicated exclusive lanes on the right mainly in the Amazonas and the Teresa Cristina Avenues, and a large integration station for buses and the future Metro Line 2 (Station Salgado Filho), expected to be financed under the PPP modality. This component will finance, *inter alia*: (i) detailed engineering designs for the entire 42.3 km extension of the Expresso Amazonas, including bike lanes; ii) works, goods, and services for the construction of 26.2 km the Expresso Amazonas including road rehabilitation, bus stops, sidewalks; (iii) the installation of equipment and technology to support the bus operations; and (iv) supervision of works and equipment to be financed by the project, v) ESS activities, including all citizen engagement activities.

Component 2: Urban upgrading and integration of the *Cabana* slum to the Expresso Amazonas Corridor (Estimated costs: US$ 47.85M, of which IBRD US$28.63M)
This component includes an integrated package of infrastructure to improve urban living conditions and connect *Cabana* to the Expresso Amazonas, which will require the resettlement of 308 families (3.5 percent of the local population). This component will finance, *inter alia*: (i) design and construction, widening and/or rehabilitation of selected streets and alleys and sidewalks within the community; (ii) implementation of public and leisure spaces, lighting, landscaping and signage; (iii) design and implementation of slope contention to address geotechnical risks for selected at-risk areas; (iv) improvement of drainage, water supply and sanitation (WSS) services; (v) construction of new onsite residential complex, and other forms of resettlement-related compensation; vi) supervision of works; and vii) ESS activities, including all citizen engagement activities.

Component 3: Strategic planning for urban mobility and renewal (Estimated costs: US$ 5.65 M of which US$5.65M IBRD)
This component aims at strengthening the transport and urban planning capacity of the municipality in support of integrating selected communities to the Expresso Amazonas and addressing the lack of integrated strategic planning tools and project implementation readiness. This integrated approach will allow to improve efficiency on the use of limited financial resources, scale up and sustain socioeconomic impacts. It is designed as a cross-cutting component to prepare selected technical studies, strategic plans, and designs for urban mobility renewal in selected neighborhoods, all considered of strategic relevance by the municipality, as stated in its most recent *Plano Diretor*. Moreover, this component will finance capacity building of selected agencies to ensure that all actions are environmentally and socially sustainable, gender and citizen-oriented. This component is divided into three sub-components:

Sub-Component 3.1: Strategic plan for the Jatobá region (Estimated costs: US$ 1.90M of which US$1.90M IBRD)
It will support the development of a strategic plan for the Jatobá region led by URBEL, with a focus on social, economic and environmental dimensions, and including strategic interventions that will support social and climate resilience and connect the area with the Expresso Amazonas. This will be done through a meaningful citizen engagement approach and will include issues of connectivity, affordability and gender.

Sub-Component 3.2: Strategic designs for infrastructure interventions (Estimated costs: US$ 2.00M of which US$2.00M IBRD)
It will support, *inter alia*, the preparation of studies and engineering designs, led by URBEL, for improving access to transport, providing water and sanitation services and geotechnical risk containment in four informal settlement areas identified as priorities; Montes Claros, Maria Tereza, Novo Lajedo and Jardim Getsemani, all located in the North regions. The targeted areas are linked to the Expresso corridor at the São Gabriel station through the BRT MOVE[31].

Sub-Component 3.3: Urban Mobility Strategic Studies (Estimated costs: US$ 1.75M of which US$1.75M IBRD)
This subcomponent will support, inter alia, strategic studies led by BHTrans, in the area of mobility and urban development, among which, but not limited to: (i) studies to support structuring of the PPP and innovative transit-oriented development (TOD) of the Salgado Filho and Nova Suiça Integration Station in the Expresso Amazonas; (ii) technological innovations for transport in the areas of new mobility and BIG DATA for improved monitoring and planning; and (iii) social, technical or environmental studies and designs to improve transport system connectivity, safety, operational performance, inclusiveness, adaptation or mitigation, quality of infrastructure, including cross-cutting considerations regarding gender and citizen engagement**.**

Component 4: Project Management and Institutional Strengthening (Estimated costs: US$ 2.77M of which US$2.77M IBRD)
This component will provide support for project implementation, monitoring, and evaluation through, *inter alia*: (i) strengthening existing monitoring and evaluation, fiduciary and E&S supervision functions of the PMU; (ii) developing and implementing an umbrella communication strategy for the project; (iii) implementing the Stakeholder Engagement Plan (SEP), including meaningful consultations and grievance redress mechanisms; (iv) developing and monitoring a gender action plan, including strengthening the response protocol for cases of sexual harassment, through capacity building of operators; (v) carrying out studies and impact evaluations of the Project; (vi) financing of operating costs; (vii) carrying out project audits; and (viii) carrying out independent external technical verifications of project activities.

Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

[31] These designs will help build the portfolio of interventions for the municipality but will be implemented at a later stage and will not be implemented at this stage.

Summary of Assessment of Environmental and Social Risks and Impacts

Although Belo Horizonte is a planned city, it has a long history of inadequate housing problems. Informal settlements and slums have become a housing alternative for the low-income population. Nearly 20 percent of the population live in substandard housing in approximately 270 informal and precarious settlements (209 being classified as “Vilas” and “Favelas”). These settlements occupy 24.6 Km2 (7.4 percent of the municipal area) and are characterized by poor housing and sanitation infrastructure, and a lack of access to urban amenities and formal jobs due to deficiency in their integration with the transport network. Poverty incidence among dwellers is roughly 2.5 times higher than elsewhere. Settlements are also particularly vulnerable to climate change and climate extreme events. Belo Horizonte is one of the 100 most congested cities in the world and the 4th Brazilian city in terms of pollution levels, where polluting emissions having increased by 22 percent between 2012 and 2019. Addressing the challenges posed by this historical pattern of social and spatial segregation as well as mobility bottlenecks, the Project is expected to have significant positive social and economic impacts on the dwellers of "vilas" and "favelas"- the most vulnerable population. In addition, lower-income workers who bear the largest relative burden with relation to long commuting times and high transport costs are expected to benefit the most of improvements in the Amazonas Bus Corridor.

The main potential environmental and social risks and impacts during the construction stage that are related with Project-supported activities will be mostly temporary and reversible, restricted to the sites where the works will occur, and can be mitigated by simple and well-known measures. They may include: (i) increase in noise levels and production of debris; (ii) soil movement; (iii) solid waste disposal; (iv) local traffic interruptions and congestion, (v) increased number of trucks and other heavy vehicles related on local street network and possible increased risk of traffic accidents; (vi) increase in determined pollutant emissions, mainly particulate material, leading to alteration of air quality; (vii) proliferation of synanthropic fauna; (viii) inconvenience and discomfort to the neighboring population due to increased noise and vibration levels; (ix) temporary disturbance in normal frequency of public services – such as waste collection – and interference with public utility networks; interference with the functioning of commerce activities; (x) temporary influx of workers in informal settlements that are prone to violence and crime; and (ix) expropriation and involuntary resettlement.

After construction and during operation, the Amazonas Bus Corridor and the urban upgrading and mobility works within the Cabana slum are expected to mostly have benefits. They may: (i) improve access of low-income population to economically more dynamic areas of the city, where job and employment opportunities are concentrated; (ii) reduce commuting time; (iii) reduce the number of traffic accidents; (iv) reduce local and greenhouse pollutants emissions; and (v) improve living conditions for inhabitants from the poorest areas of the city. Gentrification of these areas is not expected because of the specific land use regulations that set restrictions related with construction patterns in the so-called Zones of Special Interest (Zonas Especiais de Interesse Social – ZEIS) and rules presiding the transference of housing units built by the social housing programs of the city of Belo Horizonte.

The relevant environmental and social standards for this project are ESS 1, ESS 2, ESS 3, ESS 4, ESS 5, ESS 6, ESS 8 and ESS 10.

The environmental risk of the project is Moderate. The activities supported by the Project are not likely to result in significant adverse environmental impacts, since they will be restricted to the sites where the civil works will be developed, are of medium magnitude and will occur in an already strongly modified habitat, within the city of Belo Horizonte. To deploy the Amazonas Bus Corridor, almost no civil works will be required beyond those related to implementation of bus stops and accessibility. It is not planned to extend the existing lanes and most of the interventions will be related to geometry, signaling, micro-drainage, landscaping services, bus stops, sidewalk treatment, installation of integration and control equipment and complementary services. The works of urban upgrading and integration of the Cabana community to the Amazons Corridor will involve the implementation of a new road system, demolitions and the construction of new houses under Component 2. Of medium magnitude, these works will occur in an already densely occupied and environmentally heavily modified area, without water streams, native vegetation cover or other legally protected structure. The construction of sewage networks, water distribution, drainage, etc. will have a positive environmental impact, improving the quality of the built environment and contributing to the stabilization of slopes, reduction of the impacts of heavy rains and floods. The technical assistance activities encompass conceptual studies and are not expected to have adverse environmental downstream implications.

The social risk of the project is Substantial. The Project addresses challenges posed by the historical pattern of social and spatial segregation in the city of Belo Horizonte. It is expected to have significant positive social and economic impacts on the most vulnerable population. Lower-income workers who bear the largest relative burden with relation to long commuting times and high transport costs are expected to benefit the most from improvements in the Amazonas Bus Corridor. The project will also directly intervene on the low-income community/informal settlement of *Cabana* (which occupies an area of 54.5 ha and houses 7,093 families – nearly 20,000 people), promoting urban upgrading and improving access to public transportation. The interventions were discussed with the community as part of the municipal policy of participatory planning and budgeting and include improvements in sanitation and mobility infrastructures, opening and widening the main access. Construction works in Cabana will require involuntary resettlement, affecting partially and/or completely up to 308 families. Some of these families will be removed for safety and preventative reasons from at-risk areas, as these areas are under more risk of collapsing during construction. Real estate valuation in the area of intervention is not expected to bring adverse impacts related with gentrification because of the specific land use regulations that set restrictions related with construction patterns in the so-called Zones of Special Interest (Zonas Especiais de Interesse Social – ZEIS) and rules presiding the transference of housing units built by the social housing programs of the city of Belo Horizonte, which establish that potential buyers need to be selected from people with the same socioeconomic profile of the first beneficiaries. Nevertheless, these activities will be carried out in a context of violence and crime, putting Project workers at some risk which is reduced thanks to previous experience of the PIU with working within these communities. The technical assistance activities comprise conceptual studies and are not expected to have adverse downstream implications. At the same time, early engagement, a strong stakeholder engagement plan, throughout resettlement design (and early consultation with the affected population), as well as the creation of inclusive feedback loops through citizen orientated consultations throughout project life and beyond, will ensure a management of social risks and monitoring of resettlement.

Several mitigation measures have been planned to manage the adverse environmental and social risks and impacts. They include: (i) the implementation of an Environmental and Social Management Plan (ESMP), (ii) a SEP; (iii) a Resettlement Action Plan for the works to be carried out at the *Cabana* community (RAP); and (iv) Labor Management Procedures (LMP). The ESMP will include (a) a Civil Works Environmental Management Program, addressing the management of solid wastes, noise, emissions, and community and workers health and safety issues; (b) Monitoring Programs for Synanthropic Fauna, (c) a Contaminated Area Management Program aiming to avoid that workers and local communities are exposed to pollutants and hazardous materials; (f) a traffic management plan during construction; (g) a Social Communication Program. Adverse impacts related with involuntary resettlement have been minimized by the project's technical designs and the RAP prioritizes onsite relocation, preserving community ties and neighborhood networks and includes measures to promote social and economic inclusion, community organization and social accountability. The preparation of the ESMP instruments will be completed after detailed project designs are finalized. The RAP, the SEP and the LMP were concluded and were deemed acceptable to the Bank. Finally, to mitigate potentially adverse downstream implications of technical assistance activities envisaged under Component 3 – Institutional Strengthening and Strategic Planning for Urban Mobility and Renewal, the terms of reference, work plans or other documents defining the scope and outputs of technical assistance activities will be drafted so that the advice and other support provided is consistent with ESSs 1-10.

The project also defined mitigation and response measures to GBV and insecurity, according to the risk level, including (i) mapping of service providers for GBV survivors; (ii) enhanced contractual obligations that incorporate requirements on GBV prevention for contractors (for example, having a Code of Conduct (CoC) signed by all the contractor's workers and regular training on their obligations under the CoC); (iii) a GRM with the capacity to conduct referrals for survivors in a confidential manner by linking with community organizations with experience on case management; (iv) awareness raising for the community on GBV risks; and (v) training for the PIU on the identification and management of GBV risks.

A Project Management Unit will be created within the Municipal Secretariat of Infrastructure (SMOBI) and will be composed of technical staff from BHTRANS (the municipal transport agency), URBEL (the municipal urbanization and housing agency), SUDECAP (the city's development agency) and SUPLAN (the Sub-Secretariat of Urban Planning under the Municipal Secretariat of Urban Policy). SMOBI, BHTRANS, URBEL, SUDECAP and SUPLAN have technical staff with large experience to carry out the activities envisaged under the Project, including a specialist on the management of environmental and social risks and impacts. URBEL – the municipal agency responsible for the implementation of the Municipal Housing Policy – will be in charge of the implementation of the RAP in the community of *Cabana*. Urbel has 25 years of experience with interventions carrying out urban upgrading works, construction of social housing complexes, land regularization processes, social works with low-income population and inhabitants of irregular settlements, and resettlement. Between 1997 and 2018, URBEL invested BRL 4 billion on interventions and civil works in urban upgrading of low-income communities and in communities living in at risk areas. URBEL is well-known and widely prized (including in an assessment carried out by the WB as part of a previous Development Policy Loan operation) as a governmental agency of excellence with regards to involuntary resettlement and social housing policies. The other agencies involved with project implementation also have a long experience and proven expertise in their fields.

E. Implementation

Institutional and Implementation Arrangements

The Municipal Secretariat of Works and Infrastructure (SMOBI) will be responsible for the overall project management and implementation and an inter-institutional PMU led by SMOBI will be established for interagency coordination and management of the project. The PMU will be composed of management-level staff from all the involved agencies, including i.e., BHTrans (in charge of the mobility projects within Component 1, as well as of the interventions within sub-component 3.3), URBEL (in charge of the urban upgrading and resettlement interventions within Component 2, as well as of the interventions within sub-component 3.2), SUDECAP (in charge of civil works within Components 1 and 2); the sub-secretariat for Urban Planning (SMPU) of the Municipal Department of Urban Policy (in charge of the urban planning interventions within sub-component 3.1); and CTGM (Municipal controller office). The head of the PMU within SMOBI is responsible for: (a) coordination among different agencies in the prioritization of investments; b) unified dialogue with the WB; (c) implementation monitoring of project components; and (d) reporting on the monitoring and evaluation of the project, as defined in the results framework.

The PMU will be supported by a Program Implementation Unit (PIU), appointed by SMOBI. The PIU will (i) support the preparation of bidding processes, including administrative and technical processes (e.g. terms of reference) and other procurement documents required; (ii) prepare program supervision and evaluation reports; (iii) monitor of physical and financial activities, regarding the components and subcomponents of the program; (iv) participate in the expenditure liquidation phase (e.g. payments requirement and authorization, emission of receipts and certificates of services and products); and (v) maintain the program's technical, legal and financial documentation updated. The PIU is composed by key technical teams in the Municipal Administration.

The agencies have technical staff with large experience to carry out the activities envisaged under the Project. For the most complex parts of the project, the resettlement and the BRT, the responsible agencies have lengthy expertise. The agency responsible for resettlement, one of the most complex elements of the project, is URBEL, a widely prized governmental agency of excellence with regards to involuntary resettlement and social housing policies. In the last 20 years, URBEL has invested US$ 1 billion on interventions and civil works in urban upgrading of low-income communities and in communities living in at risk areas. The agency responsible for the implementation of the BRT, SUDECAP, is a 50-year-old agency with strong experience and recently updated stringent guidelines for the development of designs and implementation of civil works and an active portfolio if civil works of more than US$ 400 million.

CONTACT POINT

World Bank

Bianca Bianchi Alves
Senior Urban Transport Specialist

Emanuela Monteiro
Senior Urban Development Specialist

Borrower/Client/Recipient

Municipio de Belo Horizonte
Alexandre Kalil
Prefeito
gabpref@pbh.gov.br

Josue Costa Valadao
Secretario Obras Publicas
valadao@pbh.gov.br

Implementing Agencies

URBEL
Junia Neves
Coordenadora de Captacao de Recursos
junia@pbh.gov.br

Claudius Vinicius Leite Pereira
Presidente
urbel@pbh.ogv.br

BHTRANS
Celio Bouzada
President
presidencia.bhtrans@pbh.gov.br

Nebai Tabares
Analista de Transporte e Transito
nebai@pbh.gov.br

FOR MORE INFORMATION CONTACT

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: http://www.worldbank.org/projects

APPROVAL

Task Team Leader(s):	Bianca Bianchi Alves Emanuela Monteiro	

Approved By

Environmental and Social Standards Advisor:		
Practice Manager/Manager:		
Country Director:	Adriana Moreira	09-Jan-2020