

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BRAZIL

SANTO ANDRÉ SUSTAINABLE URBAN MOBILITY PROGRAM

(BR-L1402)

LOAN PROPOSAL

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ABBREVIATIONS

ABC	ABC Paulista [subregion comprised of the municipios of Santo André, São Bernardo do Campo, and São Caetano]
BRS	Bus Rapid Service
BRT	Bus Rapid Transit
COPELP	Program's Special Bidding Committee
CPTM	Companhia Paulista de Trens Metropolitanos [São Paulo Metropolitan Train Company]
DET	Departamento de Engenharia de Trânsito [Traffic Engineering Section]
EIRR	Economic internal rate of return
EMTU	Empresa Metropolitana de Transportes Urbanos de São Paulo [Metropolitan Urban Transportation Company of São Paulo]
GDP	Gross domestic product
IBGE	Instituto Brasileiro de Geografia e Estatística [Brazilian Institute of Geography and Statistics]
LRF	Lei de Responsabilidade Fiscal [Fiscal Responsibility Act]
MRSP	Região Metropolitana de São Paulo [Metropolitan Region of São Paulo]
MSA	Município of Santo André
NPV	Net present value
OC	Ordinary Capital
OEL	Optional electronic link
PASV	Plano de Ampliação do Sistema Vial [Road System Expansion Plan]
PMMU	Plano Mestre de Mobilidade Urbana [Urban Mobility Master Plan]
PMU	Program management unit
REL	Required electronic link
SA-Trans	Santo André Transportes [Santo André Transportation Service]
SDUH	Secretaria de Desenvolvimento Urbano e Habitação [Urban Development and Housing Department]
SEMASA	Saneamento Ambiental de Santo André [Santo André Environmental Sanitation Service]
SIOPI	Budget and financial management system
SMUOSP	Secretaria de Mobilidade Urbana, Obras e Serviços Públicos [Urban Mobility, Works, and Public Services Department]
TCE/SP	Tribunal de Contas do Estado de São Paulo [State Audit Office of São Paulo]
TPCO	Transporte público coletivo [public mass transportation]

PROJECT SUMMARY

BRAZIL SANTO ANDRÉ SUSTAINABLE URBAN MOBILITY PROGRAM (BR-L1402)

Financial Terms and Conditions				
Borrower: Município of Santo André (MSA)			Flexible Financing Facility^(a)	
Guarantor: Federative Republic of Brazil			Amortization plan:	25 years
Executing agency: MSA, through the Urban Mobility, Works, and Public Services Department			Original weighted-average life:	15.25 years
Source	Amount (US\$)	%	Disbursement period:	5 years
IDB (Ordinary Capital)	25,000,000	50	Grace period:	5.5 years
Local	25,000,000	50	Inspection and supervision fee:	(b)
Total	50,000,000	100	Interest rate:	LIBOR
			Credit fee:	(b)
			Currency:	U.S. dollars from the Ordinary Capital
Project at a Glance				
Project objective:				
The program's overall objective is to promote the sustainable urban mobility of the Município of Santo André (MSA), through: (i) the construction and rehabilitation of road infrastructure to enhance the integration of the MSA and the Metropolitan Region of São Paulo, both internally and with the country's other regions, and with the port of Santos; and (ii) the implementation of a more efficient transportation system, giving priority to the operation of public and non-motorized modes of transportation. These objectives are also expected to contribute to the reduction of traffic accidents and polluting gas emissions.				
Special contractual condition precedent to the first disbursement:				
The borrower will provide evidence that the shortlist phase for selecting the management firm to support the program management unit has been completed (paragraph 3.3).				
Special contractual execution conditions:				
(i) Within six months from the date on which the loan contract enters into force, the borrower will provide evidence that: (a) the program's financial and accounting management system has been implemented, pursuant to the Bank's requirements (paragraph 3.1); and (b) the program's special bidding committee has been established (paragraph 3.4); and (ii) Prior to the start of the process of awarding each work, the borrower will provide evidence, to the Bank's satisfaction, that it has: (a) social and environmental evaluations pursuant to current laws and the Bank's policies and safeguards; (b) the required environmental licenses and permits; (c) for works that require it, a plan for the resettlement of the affected population, pursuant to the Bank's OP-710 policy; and (d) contracted the firm that will supervise the work in question (paragraph 2.4).				
Special condition: The deadline for the physical start of program works will be four years (paragraph 2.1).				
Exceptions to Bank policies: None				
Strategic Alignment				
Challenges^(c):	SI <input type="checkbox"/>	PI <input type="checkbox"/>	EI <input checked="" type="checkbox"/>	
Cross-cutting themes^(d)	GD <input checked="" type="checkbox"/>	CC <input checked="" type="checkbox"/>	IC <input type="checkbox"/>	

^(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 and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

^(b) 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.

^(c) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

^(d) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. PROJECT DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

- 1.1 **General context.** The município of Santo André (MSA) has a population of 704,942 (IBGE, 2013) and an area of 174.4 square kilometers. The urban zone accounts for 45% of the area and is home to 95% of the municipal population, while the remainder is an environmental conservation area. The MSA is part of the Metropolitan Region of São Paulo (MRSP)¹ and, together with the município of São Bernardo do Campo and the município of São Caetano, is in the subregion known as ABC Paulista. In socioeconomic terms, the MSA has Brazil's 14th highest municipal human development index, at 0.815 in 2010, compared with a national average of 0.715.² Its gross domestic product (GDP) is roughly US\$8 billion (US\$12,500 per capita, just above the national average of US\$11,700). The ABC municípios jointly generate 2.2% of national GDP. The ABC is Brazil's third most important economic hub (after the cities of São Paulo and Rio de Janeiro) and accounts for 42% of national vehicle production. Industries have invested in the region in view of its proximity to major highways that allow production to flow to the port of Santos and to other states.³
- 1.2 The MSA has a radial pattern of urban occupation and the município is physically and functionally divided (north-south) by: (i) a natural barrier formed by the Tamanduateí River; (ii) the metropolitan railway run by the São Paulo Metropolitan Train Company (CPTM);⁴ and (iii) Avenida dos Estados, which is under municipal jurisdiction. The north and south regions are connected by four overpasses, which are insufficient to accommodate the large volume of traffic in peak hours (speeds range between 15 and 20 km/h), resulting in long lines of private vehicles and trucks. On the Santa Terezinha viaduct (paragraph 1.19), for example, because of a level crossing with traffic lights at the roundabout that connects to Avenida dos Estados, the line stretches back for more than 3 kilometers when entering the city's central area, thereby compromising both regional traffic and urban mobility.
- 1.3 Avenida dos Estados connects the central region of São Paulo and part of the ABC region to two regional connecting highways, which are important to the national economy: the Rodoanel beltway and the Anchieta highway (via the Metropolitan Beltway). It is also an important artery for the flow of industrial production and distribution both nationally and internationally, through the Guarulhos airport or the port of Santos, along which major importing and exporting industries,⁵ regional production centers,⁶ and two multimodal freight platforms are

¹ The MRSP consists of 39 municípios, occupies an area of 7,946 square kilometers, and has a population of roughly 20 million. It is Brazil's largest wealth hub, with a per capita GDP of nearly US\$15,000 (State Data Analysis System – SEADE, 2011).

² United Nations Development Programme (UNDP).

³ National Association of Automobile Manufacturers (ANFAVEA) in 2013.

⁴ The CPTM serves 22 cities and transports 2.7 million passengers per day. In the MSA, it operates Line 10, connecting the center of São Paulo with the ABC region.

⁵ General Motors, Bridgestone, Pirelli, Braskem, etc.

⁶ The ABC petrochemical hub and the iron and steel company Usiminas (<http://ri.usiminas.com/enu/usiminas-history>).

located.⁷ Daily truck traffic in the MSA is estimated at 37,000 vehicles, which use Avenida dos Estados as the main road infrastructure. Through traffic accounts for 45% of these vehicles, with origins and destinations outside the municípios, while 30% originate in the municípios, and 25% are internal. Since the large volume of traffic on Avenida dos Santos, the bottlenecks on the overpasses and intersections with the municipal road system, and the malfunctioning traffic lights affect speed,⁸ these factors raise the operating costs on the avenue, generating low competitiveness in the region as a whole ([OEL 13](#)).

- 1.4 **Automotive passenger transportation.** The MSA's public mass transportation system is divided into two systems (metropolitan and local), which operate without integrated fares but on a complementary basis. The metropolitan system consists of: (i) the metropolitan Bus System (*Transporte Coletivo por Ônibus – TPCO*) operated by the Metropolitan Urban Transportation Company of São Paulo (EMTU); (ii) the metropolitan railway operated by the CPTM; and (iii) a trolley bus network operated by the private firm *Sistema Metropolitano de Transportes*. The local system is managed by the public Santo André Transportation Service (SA-Trans), attached to the Urban Mobility, Works, and Public Services Department (SMUOSP) and operated in two subsystems: the União Santo André Consortium (created in 2008 and comprised of six private enterprises), which serves almost the entire city with 33 lines and 327 vehicles; and the Guarará corridor (under concession), comprising an exclusive trunk corridor served by 15 services and 78 vehicles. Total local TPCO demand⁹ amounts to more than 5.3 million passengers per month (2014), with an average distance traveled of 1.97 million kilometers per month; all buses are controlled by a Global Positioning System (GPS), and the fleet has an average age of 5.25 years. The TPCO fare policy in the MSA is reviewed annually on the basis of prorating the total cost of the service among the paying users.¹⁰ The system's income covers the operating expenses of the companies in question, and public subsidies are included in the fare calculation.
- 1.5 The transportation system essentially circulates on roads shared with general traffic (except for the Guarará corridor), which reduces operating speeds (between 9.3 and 16.1 km/h on the five main corridors¹¹). Accordingly, investment in infrastructure that prioritizes public transportation, such as Bus Rapid Transit

⁷ The freight part of the railway is operated by the concession holder MRS Logística. In 2011, the volume of freight being transshipped or unloaded in Santo André was 1.5 million tons. This railway connects Minas Gerais, Rio de Janeiro, and São Paulo, Brazil's leading economies, with the ports of Santos, Sepetiba, and Rio de Janeiro. According to a study by the Institute of Applied Economic Research ([IPEA](#), 2009), exports and imports through the ports of Santos and Rio de Janeiro totaled US\$77 billion, representing 49% of all freight transported through Brazil's 10 leading ports.

⁸ Avenida dos Estados and the Rio de Janeiro metropolitan beltway have high volumes of traffic, ranging between 3,500 and 6,000 vehicles per hour at peak times, with an average speed in the evening rush hour of 27 km/h and 32 km/h respectively, for private cars, including trucks.

⁹ EMTU: 7.9 million passengers per month (2011); and CPTM: 9.7 million passengers per month (2012).

¹⁰ The fare is calculated using the [methodology developed by the Brazilian Transportation Planning Agency in the Executive Group for the Integration of Transportation Policies \(GEIPOT\)](#) (*Empresa Brasileira de Planejamento de Transportes – GEIPOT*).

¹¹ Ideally, it should approach 25 km/h (in a bus rapid transit (BRT) system; with full physical segregation, the expected speed is between 23 and 29 km/h – BRT Planning Guide, ITDP, 2007).

(BRT) and Bus Rapid Service (BRS),¹² implemented in many cities around the world, could help shorten travel times and also abate environmental pollution by up to 33%.^{13, 14} Brazilian experiences suggest that the application of the exclusive lane system for the TPCO¹⁵ could considerably reduce travel times by raising average bus speeds. Following a year and a half of implementation of the first BRS system in Rio de Janeiro, the travel time has been cut by between 30% and 40%, whereas in São Paulo, the average speed along the exclusive bus lane on the right, increased by 68.7% (from 12.4 km/h to 20.8 km/h) ([OEL 16](#)).

- 1.6 **Road safety.** The MSA has a noteworthy tradition in road safety actions,¹⁶ which has enabled it to significantly reduce the number of traffic accident victims in recent years (2010 – 10,347 victims; 2011 – 10,140; 2012 – 7,297; 2013 – 6,668).¹⁷ One of the main tools that enabled the reduction was the creation of a database on traffic accidents, containing continuous information since 1988, which enabled the SMUOSP to develop actions such as: geometric interventions and signage, monitoring, improvement of urban traffic conditions, and education campaigns for different segments of society ([OEL 11](#)). Despite the effectiveness of those actions, the MSA's accident rates remain high in certain traffic corridors, compared with average accident rates in the município as a whole.¹⁸

¹² The BRS is a system of preferential lanes designed on the basis of horizontal and vertical signage elements, communication with the user, and monitoring (in most cases electronic), enabling public transportation to circulate in an exclusive right-hand lane; and it seeks to increase its operating speed.

¹³ Based on information obtained from the Urban Mobility and Transportation Sector Plan for Climate Change Mitigation and Adaptation, Ministry of the Environment, Brazil, 2013.

¹⁴ The studies conducted as part of program preparation found that, considering the investments in transportation corridors envisaged in the representative sample, with the increase in operating speed and a change in the bus model to EURO V (today they are EURO III, but Brazilian legislation provides for a change in the next few years), environmental pollution emissions will be reduced by between 36% and 39% ([OEL 17](#)).

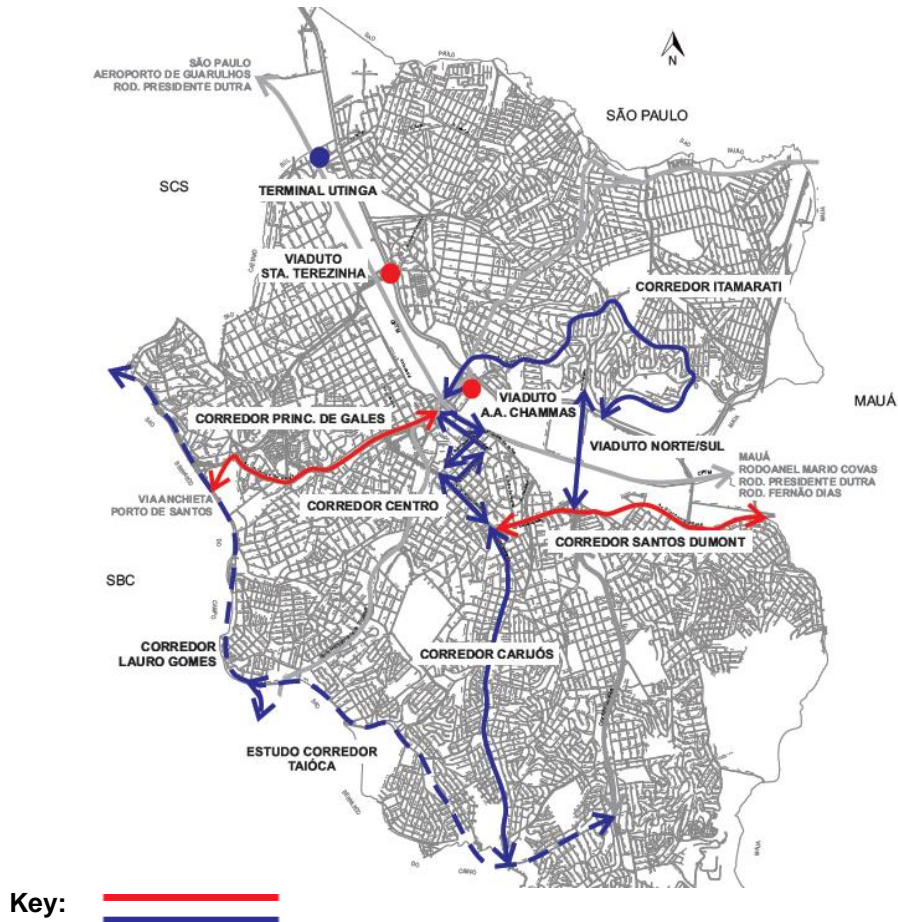
¹⁵ This system is known as BRS and consists of establishing an exclusive lane for bus circulation on the same road as general traffic. Private vehicles are not authorized to use these lanes and are subject to fines if they do. This system is easy to implement, with lower costs than the BRTs, and adapts to the conditions of roads in the cities.

¹⁶ In 2000, the município won the *Volvo Segurança no Trânsito* [Volvo Traffic Safety] award in the city category.

¹⁷ Source: Bulletins of the SMUOSP database.

¹⁸ According to data from the Municipal Traffic Accident Statistics System of the Traffic Engineering Department of the Municipal Government of Santo André (DET/PSA), 17% of traffic accidents with victims occurred in two bus corridors (Príncipe de Gales and Santos Dumont), which represent just 5% of the city's primary roads (6.46 km out of 125.8 km). The two corridors carry an average daily vehicle volume that is far above the average for the município's primary roads.

Figure 1: Main corridors and viaducts in the city



- 1.7 The MSA's main transportation and mobility system problems are: (i) lack of connectivity of the road system at the local and regional levels, because of the urban occupation structure and road infrastructure bottlenecks (paragraph 1.3); and (ii) the TPCO's slow operating speed, due mainly to the under-capacity of the roads that serve both local and metropolitan traffic (paragraph 1.5) and a failure to give priority to TPCO operations vis-à-vis general traffic.
- 1.8 **Lessons learned.** The proposed program takes into account the lessons learned from the implementation of other similar operations financed by the Bank, as described in the Transportation Sector Framework (document GN-2740-3), particularly those in São Bernardo do Campo (BR0400 and BR-L1315), the MSA's neighboring município, such as: (i) the practice of updating the projects' designs before tendering them, so as to adjust the quantity of works and their budget, thereby avoiding subsequent changes to the works, execution delays, and cost overruns; (ii) the successful experience of contracting management support firms, in terms of technical quality in project execution; (iii) the effectiveness of road

safety actions, in terms of reducing traffic accident fatalities;¹⁹ and (iv) the need for interaction between the transportation interventions and land-use planning in view of the impact of changes in land use.

- 1.9 **Strategy of the Município of Santo André.** The MSA's main transportation strategy is to promote sustainable urban mobility. For that purpose, the município has a master plan,²⁰ the Urban Mobility Plan produced in 2006, which needs revising and updating (mainly new household surveys) to align with the new national sustainable urban mobility policies,²¹ and the Road System Expansion Plan (PASV), which defined the priorities and deadlines for making municipal investments in transportation corridors and the transportation structural system. At the regional level, there is the Urban Mobility Master Plan (PMMU) for the ABC region (Intermunicipal Consortium of Greater ABC²²), which envisages an improving the metropolitan public transportation structure ([OEL 9](#)). The program will thus be aligned with the MSA's transportation strategy and will directly benefit TPCO users (250,000 passengers per day, corresponding to the works of the representative sample), and users of the município's transportation structural system (32,000 vehicles per day, corresponding to the works of the representative sample). In addition, it will indirectly benefit the whole population of Santo André and part of the MRSP, since the prioritization of TPCO operations and the expansion of road capacity will reduce congestion in the município and improve local and regional connectivity and integration.
- 1.10 **Institutional design.** The SMUOSP is the municipal agency responsible for establishing urban mobility policies on traffic and public transportation; preparing studies and projects for works construction and maintenance; and providing road maintenance and the installation of urban public services. It works in alignment with urban and land-use policies that are the responsibility of the Urban Development and Housing Department (SDUH). The MSA also has a public enterprise attached to the SMUOSP, SA-Trans, to implement, supervise, and monitor the Santo André public transportation policy ([OEL 15](#)), and the autonomous municipal environmental sanitation service of Santo André (SEMASA), which is responsible for the environmental licensing of MSA works. The MSA's administrative organization is well structured and its employees have

¹⁹ There is evidence in the region that having separate corridors reduces accident rates. The IDB and University of the Andes study mentions a 35% reduction in accidents along the Transmilenio corridor in Bogotá. Moreover, Embarq concluded that the reduction in accidents in corridors where similar interventions were implemented was 30% to 50% in four case studies (Mexico City, Guadalajara, Porto Alegre, and Bogotá). See [study](#).

²⁰ Law 9,394 (of 5 January 2012) replaced Law 8,696 (of 17 December 2004), approving the Município of Santo André Master Plan.

²¹ The Urban Mobility Plan is an urban development policy tool integrated into the Municipal Master Plan, containing guidelines, instruments, actions, and projects aimed at providing widespread and democratic access to the opportunities offered by the city, through the planning of urban mobility infrastructure and means of transportation and their services, facilitating adequate conditions for the mobility of the population and goods and services distribution logistics (PlanMob, 2007). In Law 12,587 (3 January 2012), which institutes the Urban Mobility Policy, Article 24 makes it compulsory to prepare urban mobility plans, subject to the penalty of not receiving national budget funds for urban mobility.

²² The consortium consists of seven cities (Santo André, São Bernardo do Campo, São Caetano do Sul, Diadema, Mauá, Ribeirão Pires, and Rio Grande da Serra), and it aims to coordinate and strategically develop the region.

sufficient technical capacity. Nonetheless, some of the technical training actions, studies, and computer hardware updates in the units involved directly or indirectly with TPCO planning and management will strengthen the MSA's strategy for promoting sustainable urban mobility (paragraph 1.8) and contribute to a better quality of service offered to the population.

- 1.11 **Strategic alignment.** The program is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008) and is aligned with the challenge of: (i) economic integration, by supporting regional cooperation and integration in the connectivity and transportation networks subsector, considering the multinational targeting criterion (document GN-2733), since it helps to reduce transportation costs on export-oriented roads, improving the coverage, quality, and connectivity of the transportation infrastructure between the MSA, the MRSP, and the port of Santos ([OEL 12](#)). It also contributes to the crosscutting area of Social Development and Climate Change by improving the efficiency of public transportation, which will increase the number of people with access to better low-carbon public transportation systems, thereby reducing greenhouse gas emissions ([OEL 17](#)); (ii) gender equity and diversity, since it seeks to expand women's participation in the municipal public transportation sector, through bus driver training for women. Lastly, according to the alignment analysis based on the indicators in the 2016-2019 Corporate Results Framework (document GN-2727-4), it also contributes to the following outcome and output indicators: (i) reduction in emissions with the support of the Bank's financing; (ii) women benefited through economic empowerment initiatives; and (iii) roads built and improved (kilometers).
- 1.12 The program is consistent with the Bank's 2016-2018 strategy with Brazil (document GN-2850), which identifies the strategic objective of expanding and improving transport and logistics infrastructure since it seeks to improve the transportation system based on more modern and efficient physical infrastructure, with better environmental conditions and improve the mobility of passengers and goods, with a consequent improvement in the MSA's competitiveness.
- 1.13 The program is also consistent with: (i) the guidelines of the Transportation Sector Framework Document (document GN-2740-3), which, as a general goal for Latin America and the Caribbean, proposes that countries have accessible, efficient, inclusive, sustainable, and safe transportation systems that reduce poverty and promote quality of life and economic development; and (ii) with the Infrastructure for Competitiveness Strategy (document GN-2710-5), particularly with the strategic principle of planning, constructing, and maintaining infrastructure to provide quality services that promote sustainable and inclusive growth, by supporting the prioritization of mass transportation operation through exclusive bus lanes. The program is aligned with the strategic area of sustainable transportation and the crosscutting areas of gender and regional integration.

B. Objectives, components, and costs

- 1.14 **Objectives.** The program's overall objective is to promote the sustainable urban mobility of the Município of Santo André (MSA), through: (i) the construction and rehabilitation of road infrastructure to enhance the integration of the MSA and the Metropolitan Region of São Paulo (MRSP), both internally and with the country's other regions and with the port of Santos; and (ii) the implementation of a more efficient transportation system, giving priority to the operation of public and non-

motorized modes of transportation. In turn, these objectives are expected to contribute to traffic accident reduction and lower polluting gas emissions.

- 1.15 In aggregate terms, the program will: (i) provide the units directly involved in managing transportation operations with technical training, equipment, and studies, in order to promote more efficient transportation system management; (ii) undertake road works to promote territorial connection and integration; and (iii) implement exclusive lanes for public transportation, bicycle lanes, and complementary works to improve the urban environment, with the aim of giving priority to the operation of public and non-motorized modes of transportation. The program will have four components.
- 1.16 **Component 1. Engineering and administration (US\$5 million):** This component will finance the following subcomponents: **1.1. Studies and designs:** this will include the preparation of technical, economic, and socio-environmental studies, and the engineering designs of the program's works; **1.2 Program administration, evaluation, and monitoring:** this will include the operating costs of the program management unit (PMU), the contracting of consulting services to support the program's execution management and environmental supervision, and evaluation and monitoring activities, and execution; and **1.3. Financial audit:** this will include the commissioning of an independent external financial audit.
- 1.17 **Component 2. Civil works and works supervision (US\$40.5 million):** This component will finance the following subcomponents: **2.1. Road works,** to include works crossing over the Tamanduateí River, Avenida dos Estados, and Line 10 of the CPTM metropolitan trains, thereby enhancing the MSA's geographic connectivity and its integration with the MRSP and the port of Santos (Latin America's largest container port) and the country's other regions, via the Rodoanel beltway and its links with the country's 10 most important highways; **2.2. Transportation corridors,** which will include the construction of roughly 4 km of exclusive corridors to prioritize the operation of mass public transportation, the design of which will use engineering solutions and urban design for all modes of travel, to guarantee more universal access and sustainable urban mobility ([OEL 1](#)); **2.3. Road safety,** consisting of the development and implementation of a strategic safety plan, including awareness-raising and education actions to reduce traffic accidents, safe access for children to schools, and the monitoring and evaluation of the plan's effectiveness, among other activities; and **2.4. Technical supervision of the works,** through consulting firms to be contracted by the MSA.
- 1.18 The transportation corridor projects will include resources that upgrade the urban environment, such as: the widening and upgrading of sidewalks, street lighting, and tree planting along the length of the corridor and in the city blocks that provide access from public transportation terminals to places where people concentrate, such as schools, hospitals, etc., located near the corridor. The terminals will provide universal access, including adequate spaces for baby strollers and wheelchairs.
- 1.19 The program is a multiple-works loan that includes works with similar characteristics but that are mutually independent. To evaluate the program, a representative sample of roughly 50% of the program has been analyzed, which has technical engineering designs, environmental and social evaluations, and economic viability. The sample consists of (i) 3.7 km of exclusive bus lanes –

- [Santos Dumont](#) (180 passengers per day), involving the implementation of exclusive right-hand bus lanes, bus stops, a drainage system, a signage system, and all elements of urban enhancement; and (ii) complementation works to increase the capacity of the [Santa Terezinha](#) viaduct (32,000 vehicles per day).
- 1.20 **Works eligibility criteria.** In addition to the projects in the representative sample, other works could be financed by this component, which will need to fulfill the following eligibility criteria: (i) have an economic internal rate of return (EIRR) of at least 12%; (ii) have technical studies and engineering designs, economic viability, and social and environmental evaluations, including resettlement plans produced in accordance with current legislation and the Bank's safeguard policies; (iii) have the necessary environmental licenses and permits; (iv) directly benefit public mass transportation system users, by providing a reduction in travel times, for the transportation corridors; and (v) for the road works, evidence of a shortening of travel times in interventions that promote territorial connection and integration. Before their inclusion in the program, the works must have the Bank's no objection to the social and environmental evaluations, resettlement plans, if any, and engineering designs.
- 1.21 **Component 3. Institutional strengthening (US\$3.62 million):** This component will finance: (i) actions to strengthen the município's operational units related to program execution and transportation planning and operation; (ii) revision of the Santo André Sustainable Urban Mobility Plan; (iii) the system for responding to complaints and monitoring mobility, including design of the system and training for operators; and (iv) training plans for the operation and use of the public transportation system.
- 1.22 **Component 4. Environmental offset and expropriation (US\$0.87 million).** This component will finance the environmental mitigation actions needed for program execution, as well as the expropriations related to works execution and, if necessary, implementation of the resettlement plans.
- 1.23 **Costs.** The program's total cost amounts to US\$50 million, of which US\$25 million will come from IDB/OC resources, while the remaining US\$25 million will be provided as counterpart funding from the MSA.

Table 1: Program Costs (US\$)

	Categories	IDB	Counterpart	Total
1	Engineering and administration	3,231,750	1,768,250	5,000,000
1.1	Studies and designs	750,000	500,000	1,250,000
1.2	Administration, evaluation, and monitoring	2,432,500	1,192,500	3,625,000
1.3	Audits	49,250	75,750	125,000
2	Civil works and works supervision	20,172,500	20,327,500	40,500,000
2.1	Transportation corridors	7,195,000	7,955,000	15,150,000
2.2	Road works	11,617,875	11,607,125	23,225,000
2.3	Road safety	354,000	271,000	625,000
2.4	Works supervision	1,005,625	494,375	1,500,000
3	Institutional strengthening	1,557,500	2,067,500	3,625,000
3.1	Strengthening of operational units	695,000	1,055,000	1,750,000
3.2	Sustainable Urban Mobility Plan	862,500	1,012,500	1,875,000
4.	Concurrent costs	38,250	836,750	875,000
4.1	Expropriation and resettlement	0	750,000	750,000
4.2	Environmental mitigation and offset	38,250	86,750	125,000
	Total	25,000,000	25,000,000	50,000,000

C. Key results indicators

- 1.24 The program's main impact will be a reduction in the number of traffic accidents. The main expected outcomes are: (i) a reduction in travel time for trucks, private vehicles, and buses; (ii) an increase in the satisfaction of users of municipal public transportation services; (iii) a reduction in the emission of air pollutants; (iv) a reduction in operating costs; and (v) an increase in the number of people with access to low-carbon public transportation. In addition, the main outputs expected are: (i) technical studies and detailed project designs completed; (ii) transportation corridors constructed and operating; (iii) road infrastructure works undertaken; (iv) an increase in open spaces for public use (urban redevelopment); (v) municipal road safety strategic plan formulated; (vi) training provided for the public employees involved; (vii) an education plan on the use of the transportation system completed; and (viii) Santo André Sustainable Urban Mobility Plan concluded.
- 1.25 The proposed indicators and means of verification optimize the use of information available in the MSA. There is a baseline for the projects in the representative sample and for the other projects, which will be developed during the execution of the respective technical studies. The baseline thus established will serve as the benchmark for program evaluation. The output indicators will be verified directly and the outcome indicators will be measured both directly and indirectly.
- 1.26 **Economic evaluation.** For the economic evaluation, the individual projects included in the program are classified in two groups: (i) works to build, upgrade, or rehabilitate urban roads (viaducts); and (ii) upgrading works on mass public transport corridors. The difference between the two groups of projects affects the criteria and procedures used to identify and calculate the economic benefits. The economic evaluation document ([OEL 4](#)) includes the criteria and methodologies used to determine the benefits quantified throughout the expected useful life of the investments to be undertaken, and the economic costs thereof. The following table sets out the indicators of economic return, calculated using a 12% discount rate: benefit/cost ratio (BCR), net present value (NPV), and economic internal rate of return (EIRR). The analysis of each project was supported by a sensitivity analysis, to verify the robustness of the results.

Table 2: Result of the Economic Assessment

	Case	EIRR (%)	NPV (US\$ million)	BCR
Santa Terezinha Viaduct	Base*	42.1	26.8	1.78
	Alternative 3b**	27.8	21.5	1.53
Santos Dumont corridor	Base	133.0	131.1	12.04
	Investment cost + 20%	115.2	129.2	10.38

* Extension of the viaduct over Avenida dos Estados.

** Direct link, with the construction of four directional overpasses over Avenida dos Estados.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 The program is a global multiple-works operation, containing works with similar characteristics that are mutually independent (paragraphs 1.19 and 1.20) under the

Flexible Financing Facility (document FN-655-1). The deadline for the physical start of the works will be four years (special contractual conditions), and the disbursement period will be five years. Both periods will run from the date on which the loan contract enters into force. The disbursement schedule is shown below:

Table 3: Tentative Disbursement Schedule (US\$ million)

Source	Year 1	Year 2	Year 3	Year 4	Year 5	%
IDB	6.81	6.34	6.31	3.72	1.82	50
Local	1.92	4.40	7.39	5.83	5.47	50
Total	8.73	10.74	13.70	9.55	7.29	100
%	18%	21%	27%	19%	15%	-

B. Environmental and social risks

- 2.2 In accordance with the Bank's Environment and Safeguards Compliance Policy (OP-703), the program was classified as a Category "B" operation, because the potential environmental and social impacts resulting from its implementation will be mainly localized, temporary, and of low-to-medium scale; and effective mitigation measures are available for them. Pursuant to the Bank's policies, preparation of this program included: (i) a wide-ranging public consultation process ([OEL 21](#)); (ii) a simplified environmental and social evaluation for each project in the sample, including an analysis of gender considerations in the public transportation system ([OEL 20](#)); and (iii) an Environmental and Social Management Report ([REL 3](#)).
- 2.3 In general, the program will generate positive social and environmental impacts, which will mainly occur in the operating phase of the projects to be financed. As the works will be located in a densely populated urban area, the construction process is expected to cause low-to-medium scale negative impacts associated mainly with the management of solid wastes, increased noise and vibrations, longer travel times, accidents and difficulties in accessing neighboring buildings, with the consequent temporary loss of income for commercial activities, pollution risks associated with the management of areas contaminated by the previous industrial use of the land plots and/or fuel leakages at the gasoline stations close to the works sites, loss of urban tree cover, etc. To mitigate these effects, all of the projects will have an environmental control plan—the implementation of which will be compulsory—as part of the corresponding bidding documents. The technical supervision of the works will include environmental oversight. In the sample projects, expropriations from the area will be very limited, and no direct effects on low-income population groups were identified.²³
- 2.4 Special contractual conditions for execution will require the borrower to present the following to the Bank's satisfaction before each work contract is awarded: (i) social and environmental assessments in conformity with current legislation and the Bank's policies and safeguards; (ii) the required environmental permits and licenses; (iii) in the case of works that require it, a resettlement plan for the affected

²³ No resettlement is anticipated. Should any be required, it will be subject to the Bank's no objection and will comply with the Bank's policy (OP-710) and with the requirements of the resettlement framework ([OEL 23](#)), contained in the Environmental and Social Management Report ([REL 3](#)).

population, pursuant to the Bank's operational policy OP-710; and (iv) the contracting of the firm responsible for supervising the respective works.

- 2.5 **Gender.** Fewer than 15% of employees in the firms that currently operate the buses in the MSA mass transportation system are women. Their presence is most significant in the administrative and legal sectors (55%), ticket collecting (24%), and cleaning (20%). Women only occupy 3% of vehicle driver posts and 16% of jobs overseeing bus operation—jobs that offer good opportunities in terms of pay for unskilled personnel. With a view to reversing this trend,²⁴ the program will seek to guarantee equity in the offer of jobs by operators, for which it will finance the following (paragraph 1.21): (i) a training program for the operation of the system, such as on sustainable driving, with clear gender targets, which will be widely disseminated in strategic media, and also seeking the subsequent absorption of the trained individuals by the operators; (ii) training for drivers in dealing with conflict situations, such as sexual harassment complaints, among others; and (iii) the existence of separate restrooms in the garage facilities and bus terminals, among others.
- 2.6 On a complementary basis, from the perspective of women as system users, the program will include (paragraph 1.21): (i) citizen education for proper use of the system, including campaigns aimed at preventing sexual harassment, giving seating priority to pregnant women or those with children, older adults, or people with limited mobility, etc.; (ii) a system for dealing with complaints, which will include guidelines on how to proceed in responding to complaints of sexual harassment, failure to respect seating priorities, etc.; and (iii) physical improvements to the system to guarantee its universal accessibility (paragraph 1.18).

C. Fiduciary risks

- 2.7 The institutional capacity of the borrower and executing agency (SMUOSP) was evaluated using the Institutional Capacity Assessment System (ICAS) ([OEL 5](#)), and the Project Risk Management (PRM) tool was also applied. The findings of these assessments show that there is a satisfactory institutional capacity and medium risk level for managing the actions to be carried out under the program. On fiduciary matters, a need for technical support for PMU staff was identified to avoid execution delays. To mitigate this, a management firm will be retained to support the PMU in program management and administration; and ongoing training and skill building events will be held by the Bank for members of the PMU and all staff of the management firm involved in execution. During the program's startup workshop, training is scheduled for the staff responsible for implementing the Bank's policies and operating procedures.

D. Other project risks

- 2.8 **Analysis of municipal financial capacity.** The financial analysis, based on information from the 2010-2014 period and projected expenditure, shows that the MSA recorded a deficit in each of the last four years (2011-2014). Moreover, the primary balance was negative in that period. However, the município is projecting a

²⁴ The concentration of women workers in lower-productivity economic sectors.

surplus for the next few years²⁵ ([OEL 19](#)). The 2010-2014 period was analyzed in terms of the requirements of the Fiscal Responsibility Act (LRF, Complementary Law 101/2000), confirming that the MSA is in compliance with the established ceilings for all required indicators.

- 2.9 **Execution risks.** The program's works are traditional from the engineering standpoint, and the projects to be implemented in the first few years already have designs. The program will finance the consulting studies needed for the works to be undertaken later. In addition, a management firm will be contracted to support the PMU so as to ensure that the program is managed effectively.
- 2.10 **Conservation and other risks.** Conservation risks are low. The SMUOSP is responsible for the operation and administration of the maintenance of the public roads and the drainage system, as well as for urban cleaning and the maintenance of parks and green areas in the município, with resources identified in the multiyear plans. The fact that the state of the highways, drainage system, and street cleaning in the MSA is satisfactory leads to the conclusion that the budget is sufficient and the system adopted is effective ([OEL 15](#)).
- 2.11 An evaluation of the SMUOSP's works execution capacity showed that the risk of cost overruns is low. Of the 13 transportation works executed in the last five years, only six had additional works costs, averaging 15.7% ([OEL 15](#)). Nonetheless, the risks of cost increases associated with macroeconomic factors or the lack of counterpart funding were rated medium. Should cost overruns, inflation, or exchange-rate variations occur in this program that could compromise attainment of the program's targets, the MSA will be responsible for increasing the local counterpart funding either from budget resources or from other financing sources (the município has transportation projects to be financed by the federal government's Accelerated Growth Program), with the new budget allocations contemplated in the multiyear plans. Even if the scope of the program is changed in some way, the eligibility criteria adopted ensure that all of the works financed, and thus the program as a whole, will remain economically feasible, with an EIRR above 12%.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Implementation arrangements

- 3.1 The borrower will be the MSA, and the Federative Republic of Brazil will guarantee the financial obligations arising from the loan. The executing agency will be the MSA, acting through the SMUOSP. The program will be coordinated and supervised by the PMU, reporting to the Secretary of the SMUOSP. The PMU will consist of: (i) a general director; (ii) a technical director; (iii) an administrative director; and (iv) a communications advisor. The general director and the technical director will work on the program full-time. The PMU will have full responsibility over the program's coordination and general administration, supervision, and evaluation. This entails: (i) presenting work plans for execution and bidding

²⁵ The surplus as of 2015 is due to the fact that the MSA has estimated revenue from loan operations within the limits of the Fiscal Responsibility Act (LRF), both in its Annual Budget Law and in the Budgetary Guidelines Law.

- processes; (ii) preparing the required reports; (iii) submitting disbursement requests; (iv) preparing and presenting audited financial statements to the Bank; and (v) maintaining the financial accounting system pursuant to the Bank's rules. As a special contractual condition of execution, within six months from the date on which the loan contract enters into force, the borrower will provide evidence that the program's financial and accounting management system has been implemented, pursuant to the Bank's requirements.
- 3.2 Other Santo André municipal departments and the decentralized agencies, public and semipublic enterprises, and public foundations (*administração indireta*) will provide technical support to the executing agency, in accordance with their legal responsibilities, for the preparation of studies, designs, and bidding processes under program execution.
- 3.3 The executing agency will be supported in the administration of program execution by a management firm whose functions include the following: (i) the provision of specialized technical services in engineering; (ii) technical assistance for monitoring project execution; and (iii) administrative and technical support for: (a) program execution planning; (b) the preparation and updating of semiannual reports, with updates of the multiyear execution plan and the procurement plans; (c) the monitoring and tracking of the progress of contracts, including support for contracting processes, the formulation of monitoring and analysis reports, the preparation and processing of the corresponding payments, the inspection of works, designs, and other services (works visits, guidance and review of final engineering designs, and quality control), and the environmental supervision of program implementation; (d) the monitoring of output and outcome indicators; and (e) the monitoring and evaluation of the program's execution, among other items. In addition, the executing agency will hire consulting firms for civil works supervision, which will provide specialized technical engineering services for works supervision and inspection. **A special contractual condition precedent to the first disbursement is that the borrower provide evidence of having completed the shortlist phase for selecting the management firm that will support the PMU.**
- 3.4 **Fiduciary agreements and requirements.** The fiduciary agreements and requirements reflect the guidelines on financial management and execution of procurement processes to be applied for program execution. These agreements have been developed on the basis of the analysis of the fiduciary context of the country and the executing agency. The PMU will also be responsible for fiduciary management during the operation's execution, including the formulation of the budget, implementation and monitoring of procurement and contracting processes, monitoring of the performance of contracts, and procedures for authorizing and recognizing expenses and the respective payments. In addition, a special bidding committee will be created in the PMU for the program execution period, from the date of the latter's establishment. A special contractual condition for execution will require that, within six months from the date on which the loan contract enters into force, the borrower will provide evidence of having set up the program's special bidding committee.
- 3.5 **Procurement.** Works and services contracting and goods procurement to be financed with the loan proceeds will be done in accordance with the Policies for the

Procurement of Works and Goods Financed by the IDB (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants financed by the IDB (document GN-2350-9), both from 2011. International bidding processes will be reviewed ex ante.

- 3.6 **Disbursements.** Disbursements will be made in the form of advances of funds, based on the project's actual liquidity needs for a maximum period of six months. They will be deposited in a special bank account in the name of the project for the exclusive use of the loan proceeds, pursuant to the Financial Management Policy for IDB-financed Projects (OP-273-6). The Bank may make another advance of funds when at least 80% of the total amount of funds already advanced has been justified.
- 3.7 **External audit.** The financial statements and eligibility of project expenses will be audited annually by an independent auditing firm acceptable to the Bank, to be contracted by the executing agency, or by the State Audit Office (*Tribunal de Contas do Estado*) if accredited by the Bank. The audit services will be financed from the loan proceeds. The project's audited financial statements will be submitted to the Bank annually no later than 120 days after the end of the entity's fiscal year, pursuant to the procedures and terms of reference previously agreed upon with the Bank. The audit will include a review of procurement processes.
- 3.8 **Retroactive financing and recognition of expenses.** The Bank may use the loan proceeds to retroactively finance eligible expenses incurred by the borrower before the loan approval date of up to a total of US\$2 million (8% of the proposed loan amount); and it may also recognize eligible expenses as a charge against the local counterpart funding of up to US\$10 million (8% of the estimated local counterpart amount). The expenses in question refer to consulting assignments and works execution, and must have fulfilled requirements that are substantially analogous to those specified in the loan contract. The aforementioned expenses must be incurred in the 18 months preceding the loan approval date but under no circumstances will they include expenses incurred prior to 23 February 2015 (Project Profile approval date).

B. Summary of monitoring and evaluation arrangements

- 3.9 The monitoring and evaluation plan ([REL 2](#)) will cover program execution, performance of the proposed activities, and the physical and financial execution of the outputs. Program monitoring and evaluation will take into account the targets and progress indicators defined jointly with the PMU, which were incorporated into the Results Matrix. In addition, an ex post economic evaluation will be performed. Program monitoring and evaluation will use the following instruments: (i) multiyear execution plan ([REL 1](#)) and procurement plan ([REL 4](#)); (ii) semiannual monitoring reports; (iii) audited financial statements; and (iv) Project Completion Report. At the end of the program, an ex post economic evaluation will be performed, following the same methodology used in the ex ante evaluation to ensure comparability.

Development Effectiveness Matrix				
Summary				
I. Strategic Alignment				
1. IDB Strategic Development Objectives		Aligned		
Development Challenges & Cross-cutting Themes	-Economic Integration -Gender Equality and Diversity -Climate Change and Environmental Sustainability			
Regional Context Indicators	-Greenhouse gas emissions (kg of CO2 e per \$1 GDP (PPP))			
Country Development Results Indicators	-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)* -Women beneficiaries of economic empowerment initiatives (#)* -Roads built or upgraded (km)*			
2. Country Strategy Development Objectives		Aligned		
Country Strategy Results Matrix	GN-2850	Expand and reform the transport and logistics infrastructure.		
Country Program Results Matrix	GN-2849	The intervention is included in the 2016 Operational Program.		
Relevance of this project to country development challenges (If not aligned to country strategy or country program)				
II. Development Outcomes - Evaluability		Evaluable	Weight	Maximum Score
		8.3		10
3. Evidence-based Assessment & Solution		8.4	33.33%	10
3.1 Program Diagnosis		3.0		
3.2 Proposed Interventions or Solutions		2.4		
3.3 Results Matrix Quality		3.0		
4. Ex ante Economic Analysis		10.0	33.33%	10
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis		4.0		
4.2 Identified and Quantified Benefits		1.5		
4.3 Identified and Quantified Costs		1.5		
4.4 Reasonable Assumptions		1.5		
4.5 Sensitivity Analysis		1.5		
5. Monitoring and Evaluation		6.6	33.33%	10
5.1 Monitoring Mechanisms		2.0		
5.2 Evaluation Plan		4.6		
III. Risks & Mitigation Monitoring Matrix				
Overall risks rate = magnitude of risks*likelihood		Medium		
Identified risks have been rated for magnitude and likelihood		Yes		
Mitigation measures have been identified for major risks		Yes		
Mitigation measures have indicators for tracking their implementation		Yes		
Environmental & social risk classification		B		
IV. IDB's Role - Additionality				
The project relies on the use of country systems				
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External control, Internal Audit. Procurement: Information System, Shopping Method, Contracting individual consultant, National Public Bidding.		
Non-Fiduciary				
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:				
Gender Equality				
Labor				
Environment	Yes	The project preparation implemented an initial and preliminary assessment of the CO2 emissions, in addition to the assessment of the emission of CO, NOx, Sox and HC. According to the study implemented under all gases, the project would reach positive mitigation results. In regards to CO2 emissions the expected mitigation potential will reach annually up to 11,000 tonnes of CO2 (excluding additional non-CO2 gases, such as CH4 and N2O). On a time period of 30 years the total expected amount of CO2 emissions mitigation would be 330,000 tCO2.		
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				
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan				

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

The overall objective of the program is to promote sustainable urban mobility in the municipality of Santo André (MSA), through: (i) the construction and rehabilitation of road infrastructure to improve the integration of MSA and the Metropolitan Area of São Paulo (RMSP) both internally and with other regions and with the Port of Santos; and (ii) the implementation of a more efficient transport system operation prioritizing collective and non-motorized modes.

In terms of program diagnosis, given that there is still little evidence on the effectiveness of transport investments, the document does not present empirical evidence to prove the effectiveness of the operation in terms of its impact on reducing traffic accidents. In terms of the results matrix, all indicators presented are SMART and means of verification are clearly identified. The economic analysis of the operation is solid. The monitoring plan is aligned with the activities prepared for the PMR, but does not report the annual costs of the products reported in the results matrix.

The evaluation plan is based on an ex post economic analysis. The risks identified are reasonable and include mitigation measures and metrics for monitoring.

RESULTS MATRIX

Program objective	The program's overall objective is to promote the sustainable urban mobility of the Município of Santo André (MSA), through: (i) the construction and rehabilitation of road infrastructure to enhance the integration of the MSA and the Metropolitan Region of São Paulo, both internally and with the country's other regions, and with the port of Santos; and (ii) the implementation of a more efficient transportation system, giving priority to the operation of public and non-motorized modes of transportation. In turn, these objectives are expected to contribute to traffic accident reduction and lower polluting gas emissions.			
Impact indicators	Baseline (2015)	Target (2020)	Source	Comments
Traffic accident severity index (in UPS ¹ /million vehicles x km x year) in the Santos Dumont corridor – ISA	288.8 (2013)	181.8	Traffic accident data (number of victims, seriousness, exact location, characteristics of the injured, among others) are regularly monitored by the Traffic Engineering Section (DET) of the MSA's Urban Mobility, Works, and Public Services Department (SMUOSP).	The index shows the number of accidents related to their severity, divided by the length and traffic volume of each corridor. A reduction in the number and severity of accidents will result from the program's actions, as well as specific road safety actions. The target of 181.8 is the average of the traffic accident severity index for the entire Município.
Outcome indicators	Baseline (2015)	Target (2020)	Source	Comments
Average truck speed (in km/h) on Avenida Prestes Maia and Avenida dos Estados in the morning rush hour	22.9	26.3 ²	Survey of trucks speed conducted by the DET	Represents the increase in the average speed of trucks on the segment connecting the central region of São Paulo to two important regional connecting highways (the Rodoanel beltway and the Anchieta highway).

¹ Standard unit of accident severity, calculated as the sum of accidents in the segment weighted by their level of severity – without casualties, with nonfatal casualties, with people run over, with fatalities. The weightings (1, 4, 6, and 13, respectively) are defined according to the socioeconomic cost of each type of accident. The methodology was developed by the Brazilian Ministry of Transportation in 2002

² The value was calculated by projection and will be updated in the next few months following the conclusions of the traffic simulations for 2020

Average speed (in km/h) of all vehicles at the intersection of Avenida Prestes Maia with Avenida dos Estados in the morning rush hour	19.0	28.0	Vehicle count by type of vehicle and traffic simulations, conducted by the DET	Represents the increase in average speed of private vehicles, trucks, and buses using a north-south connecting viaduct in the município (intersection of Avenida Prestes Maia and Avenida dos Estados).
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Outcome indicators	Baseline (2015)	Target (2020)	Source	Comments
Toxic gas emissions from buses (in t/year) in the Santos Dumont corridor – toxic gas emissions			Simulations performed at the end of the program.	The reduction in gas emissions will result from an increase in the average speed of the buses, quantified in traffic studies. ³ The most important indicator will be carbon dioxide (CO ₂), the main greenhouse gas.
CO	57.95	35.80 (-38%)		
HC	13.22	5.99 (-55%)		
NOx	59.35	40.34 (-32%)		
SOx	3.12	1.52 (-51%)		
Suspended particles	2.64	1.75 (-34%)		
CO ₂	4,317	2,782 (-36%)		
Index of user satisfaction with the municipal public transportation system	34% (2011)	50%	Survey of satisfaction with the mass transit system, conducted by Santo André Transportes (SA-Trans).	Represents the proportion of users rating the transportation service provided by SA-Trans as “excellent” or “good”.
Average travel time in public transportation in the morning rush hour (minutes) (Santos Dumont corridor – SD)	SD 15.7	9.3	Data from the SA-Trans GPS bus monitoring system	Represents a reduction in travel time for public transportation users in the program’s corridors.
Average transportation service operating costs (COT) (US\$ million/year) (Santos Dumont corridor).	143.1 ⁴	139.8	Traffic studies and fare adjustment worksheets of the SA-Trans subconcession holders.	Represents the cost reduction resulting from faster operating speed and more rational programming of supply (reduction of: labor, number of vehicles, fuel, and maintenance).
Percentage of women hired to drive buses	3.1%	6%	Information generated by the bus transport firms.	Represents the increase in the number of women hired to drive buses.

³ The traffic studies are presented as an appendix to the program’s monitoring and evaluation plan. The studies used data from the Brazilian Land Transportation Agency and the Institute of Applied Economic Research.

⁴ The value of the system operating cost target represents the cost estimate for 2020, calculated as an extrapolation of the growth trend of costs observed between 2009 and 2014. The target was calculated considering the reduction in operating costs resulting from the Santos Dumont corridor project, which is US\$3.3 million. The currency rate used was US\$1 = R\$ 2.

Output indicators									
Component 1: Engineering and administration									
Indicators	Baseline 2015	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Means of verification	Cost (US\$ million)	Target
1.1 Studies and designs									
1.1.1. Number of engineering studies and designs	0		2	2			Remittance of studies and contracts by the PMU to the Bank, and recorded in the semiannual progress report.	1.25	4
1.2. Program administration, evaluation, and monitoring									
1.2.1 Contract with the management firm to support program execution	0	1					Remittance of the contract by the PMU to the Bank, and recorded in the semiannual progress report.	3.625	1
1.3 Accounting and financial audit									
1.3.1. Contract with the audit firm	0	1					Remittance of the contract by the PMU to the Bank, and recorded in the semiannual progress report.	0.125	1
Component 2: Civil works and supervision									
Indicators	Baseline 2015	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Means of verification	Cost (US\$ million)	Target
2.1 Transportation corridors									
2.1.1. Kilometers of corridor constructed (Príncipe de Gales corridor and Santos Dumont corridor) – Group I	0	1.65	1.65	0.4			Semiannual progress report and technical inspection visits by the Bank	11.25	3.7
2.1.2. Kilometers of corridor constructed (future corridors to be chosen) – Group II	0			0.15	0.15	0.1	Semiannual progress report and technical inspection visits by the Bank	3.9	0.4
2.1.3 Number of people with access to low-carbon public transportation ⁵	0			311,860			Data from the SA-Trans electronic ticketing system		
2.1.4 Kilometers of corridor constructed or rehabilitated.	0	1.65	1.65	0.55	0.15	0.1			4.1
2.2. Road works									
2.2.1. Number of road works (viaducts upgraded) – Group I	0			1			Semiannual progress report and technical inspection visits by the Bank	18.35	1

⁵ Represents the increase in access to low-carbon vehicles by users of the public transportation system. This indicator pertains to the representative sample. An output indicator will be calculated for the future projects.

Indicators	Baseline 2015	Year 1 15-16	Year 2 16-17	Year 3 17-18	Year 4 18-19	Year 5 19-20	Means of verification	Cost (US\$ million)	Target
2.2.2. Number of road works (to be determined) – Group II	0				1		Semiannual progress report and technical inspection visits by the Bank	4,875	1
2.3. Road safety									
2.3.1. Contract signed for the municipal road safety strategic plan	0		1				Remittance of the contract by the PMU to the Bank, with the plan at the conclusion of the consulting contract. Progress will be recorded every six months.	0.65	1
2.4 Works supervision									
2.4.1. Contract of the Corridor Works Supervision Firm – Group I	0	1					Remittance of the contract by the PMU to the Bank, recorded in the semiannual progress report and discussion during the Bank's technical inspection visits.	0.45	1
2.4.1. Contract of the Corridor Works Supervision Firm – Group II	0			1			Remittance of the contract by the PMU to the Bank, recorded in the semiannual progress report and discussion during the Bank's technical inspection visits.	0.156	1
2.4.1. Contract of the Road Infrastructure Works Supervision Firm – Group I	0	1					Remittance of the contract by the PMU to the Bank, recorded in the semiannual progress report and discussion during the Bank's technical inspection visits.	0.699	1
2.4.1. Contract of the Road Infrastructure Works Supervision Firm – Group II	0			1			Remittance of the contract by the PMU to the Bank, recorded in the semiannual progress report and discussion during the Bank's technical inspection visits.	0.195	1
Component 3: Institutional strengthening									
Indicators	Baseline 2015	Year 1 15-16	Year 2 16-17	Year 3 17-18	Year 4 18-19	Year 5 19-20	Means of verification	Cost (US\$ million)	Target
3.1. Support for operating units									
3.1.1 Number of SMUOSP technical staff trained	0		27				Training certificates sent by the PMU to the Bank	0.175	27
3.1.2 Number of technical staff from the Urban Development and Housing Department trained	0			23			Training certificates sent by the PMU to the Bank	0.150	23

Indicators	Baseline 2015	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Means of verification	Cost (US\$ million)	Target
3.1.3 Contract signed for financial and fare structuring of the municipal mass transportation system.	0	1					Contract sent by the PMU to the Bank	0.350	1
Indicators	Baseline 2015	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Means of verification	Cost (US\$ million)	Target
3.1.4 Contract signed for land use and infrastructure support capacity for the bus corridors	0		1				Contract sent by the PMU to the Bank	0.425	1
3.1.5 Purchase of computer hardware and software.	0		20				Purchase voucher sent by the PMU to the Bank	0.250	20
3.1.6 Contract signed for the design of the system for dealing with complaints and for the monitoring of mobility and training of operators	0	1					Contract sent by the PMU to the Bank	0.1	1
3.1.7 Contract signed for the training plan for operating the transportation system	0		1				Contract sent by the PMU to the Bank	0.150	1
3.1.8 Contract signed for the transportation system use education plan	0		1				Contract sent by the PMU to the Bank	0.150	1
3.1.9 Contract signed for the Santo André Sustainable Urban Mobility Plan	0		1				Contract sent by the PMU to the Bank. Progress will be recorded every six months.	1.875	1
3.1.10 Number of women trained to drive buses	0		25	25			Training certificates sent by the PMU to the Bank	0.05	50
Component 4: Environmental offset and expropriation									
4.1. Environmental offset									
4.1.1 Number of trees planted under the program	0					9,500	Semiannual progress report and technical inspection visits by the Bank	0.125	9,500*
4.2. Expropriations									
4.2.1 Number of units expropriated to enable the program's projects to be implemented	0		6				Remittance of the decree of expropriation, semiannual progress report, and technical inspection visit by the Bank.	0.750	6*

* The data refer to the program's representative sample and will be updated when the other projects have been developed.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: Brazil
Program name: Santo André Sustainable Urban Mobility Program
Program number: BR-L1402
Prepared by: Santiago Schneider (FMP/CBR)
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I. EXECUTIVE SUMMARY

- 1.1 The institutional assessment of the program's fiduciary management was based on: (i) the country's current fiduciary context; (ii) the results of the assessment of the main fiduciary risks and the Program Risk Management (PRM) workshop; (iii) the institutional capacity assessment (ICAS); and (iv) work meetings held with the Bank's project teams, the Urban Mobility, Works, and Public Services Department (SMUOSP), the Finance and Planning Department, the Competitive Bidding Section of the Government Department, and the Legal Affairs Department of the Município of Santo André (MSA). As a result of this work, the following fiduciary agreements have been prepared on procurement and financial management for project execution

II. FIDUCIARY CONTEXT OF THE COUNTRY AND EXECUTING AGENCY

- 2.1 Brazil has robust national fiduciary systems that allow for good management of administrative, financial, control, and procurement processes, in line with the principles of transparency, economy, and efficiency. Accordingly, the Bank's fiduciary strategy for Brazil focuses on progressive and sustainable use of the country's fiduciary systems.
- 2.2 The MSA uses the budget and financial management system (SIOPI), which is an integrated budget, accounting, and treasury system administered by the MSA's Finance Department. For the planning and organization of program actions, the following national management support tools are used: (i) the Multiyear Government Action Plan; (ii) the Multiyear Plan, which lays down guidelines, objectives, and targets for public administration; (iii) the Budgetary Procedures Law, which defines the government's budgetary guidelines; (iv) the Annual Budget Law, which estimates and sets government expenditure for the current fiscal year; and (v) the Fiscal Responsibility Act (LRF), which sets government expenditure limits.
- 2.3 For procurement and contracting processes, the MSA has a competitive bidding section—attached to the Government Department—which is a support body for the technical departments and has two offices that deal with health and works as well as recurrent contracting. To fulfill its functions, it has a Special Bidding Committee with exclusive experience in bidding processes governed by the National Competitive Bidding Act (Law 8,666/93).

- 2.4 As regards the use of procurement systems, the São Paulo (SP) system is not used, and only in-person auctions are conducted. Although the e-compras online system is available, it is only used as an information portal for the start of the process. Advertising is generally done through the local, municipal, state, and federal press.
- 2.5 The MSA has an Internal Oversight Section (DCI) directly linked to the Finance Department. The DCI audits and evaluates the results of the accounting, financial, and operational execution of all of the MSA's departments as well as its decentralized agencies, public and semipublic enterprises, and public foundations, and the fulfillment of the LRF's provisions. The DCI works in coordination with the State Audit Office (TCE/SP).
- 2.6 External control is maintained by the São Paulo State Audit Department (TCE/SP), which continuously monitors the financial transactions and processes of the entities by tracking the financial management systems and by making visits according to annual audit plans. External control of federal resources is maintained by the national oversight agencies—the Audit Office of the Union, the Office of the Comptroller General of the Union, and the state and federal Public Prosecutors.
- 2.7 The loan will be implemented through the Program Management Unit (PMU) within the SMUOSP, which will prepare, manage, and monitor the program's actions.

III. EVALUATION OF FIDUCIARY RISK AND MITIGATION ACTIONS

- 3.1 The results of the institutional analysis of the MSA, including the SMUOSP, using the ICAS and PRM tools, showed that it has satisfactory institutional capacity and a medium risk level for managing the actions to be undertaken in the program. The main fiduciary risk identified consists of potential delays in execution, since this is the first loan operation with the Bank, which involves fulfillment of its policies, reporting requirements, and the need for interagency coordination between the entities involved.
- 3.2 To mitigate this risk, technical support needs to be provided to PMU staff. For this purpose, the following measures are being proposed: (i) creation of the PMU and appointment of its staff and personnel responsible for technical execution; (ii) the strengthening of the executing agency, by providing training to the team in fulfillment of the fiduciary management policies; (iii) preparation and dissemination of a program operating manual, including the workflows and responsibilities of the agencies that are part of the execution model; (iv) adoption of a computerized management system to generate the reports required by the Bank; and (v) the creation and training of the program's Special Bidding Committee (COPELP) with support from the Competitive Bidding Department.

IV. CONSIDERATIONS FOR THE SPECIAL CONDITIONS OF THE CONTRACT

- 4.1 The special fiduciary conditions for execution are as follows:
- 4.2 Within six months from the loan contract signature date, the Município will provide evidence that: (i) a management system to generate the financial reports

pursuant to the Bank's requirements has been implemented; and (ii) the COPELP has been set up.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 5.1 **Procurement execution.** Procurement will be undertaken through the PMU, with support from the COPELP. Works, goods, and nonconsulting services will be procured pursuant to the Policies for the Procurement of Works and Goods Financed by the IDB (document GN-2349-9 of March 2011). Consultants will be selected and contracted according to the Policies for the Selection and Contracting of Consultants Financed by the IDB (document GN-2350-9 of March 2011). Procurement processes will be reviewed by the Bank as specified in the Procurement Plan (see link to [Procurement Plan](#)).
- 5.2 **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services arising under the program and subject to international competitive bidding (ICB) will be executed using the standard bidding documents issued by the Bank. Bidding processes that require national competitive bidding (NCB) will be executed using national bidding documents agreed upon with the Bank (or satisfactory to the Bank if not yet agreed upon). For the procurement of off-the-shelf goods or non-complex services, the Bank will accept the use of the Banco do Brasil COMPRASNET and Licitações-e online auction systems for amounts up to the ICB threshold.
- 5.3 **Selection and contracting of consultants.** Consulting service contracts arising under the program will be executed using the standard request for proposals issued by the Bank. The sector specialist will review the terms of reference for contracting consulting services.
- 5.4 **Retroactive financing and recognition of expenses.** The Bank may retroactively finance eligible expenses incurred by the borrower before the loan approval date from the loan proceeds, up to a total of US\$2 million (8% of the proposed loan amount); and it may also recognize eligible expenses as a charge against the local counterpart funding for up to US\$2 million (8% of the estimated local counterpart amount). Such expenses may include consulting studies and works execution, provided requirements substantially analogous to those specified in the loan contract were complied with. The aforementioned expenses must be incurred in the 18 months preceding the loan approval date but under no circumstances will they include expenses incurred prior to 23 February 2015 (Project Profile approval date).
- 5.5 **Direct contracting.** No direct contracting was identified.
- 5.6 **Procurement thresholds.** The borrower or executing agency, as the case may be, will be notified of the threshold for using ICB, online at www.iadb.org/procurement. For amounts below this threshold, the selection method will be determined according to the complexity and characteristics of the procurement or contract in question, which will be indicated in the approved procurement plan.
- 5.7 **Recurring expenses.** None anticipated. Nonetheless, should such expenses be identified during execution, they will be reviewed and accepted provided they do not contravene the fundamental principles of economy, efficiency, competition,

and transparency. Operating costs do not include the salaries of currently serving civil servants, however.

- 5.8 **Domestic preference.** No domestic preference margins will apply.
- 5.9 **Initial procurement plan.** The current proposal is attached. The version eventually agreed upon may be updated during program execution, according to circumstances (link to [Procurement Plan](#)).
- 5.10 **Procurement supervision:** All processes involving ICB, direct contracting, and consulting service selections in amounts estimated at over US\$1 million will be subject to ex ante review. The Bank may alter the review modality indicated in the procurement plan based on the annual audit reviews.
- 5.11 **Records and files.** The files will be kept in the offices under appropriate security conditions.

VI. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

A. Programming and budget

- 6.1 The PMU will be responsible for planning execution of the activities as indicated in the program execution plan, the budgets, and the annual work plan; and it will coordinate directly with the Finance and Planning Department, which is responsible for the MSA's planning activities. The budget for program activities will be approved through the Municipal Budget Law, will form part of the Annual Budget Law, and will include the funds needed for executing both the external loan and the local counterpart. These funds must be recorded in the year of execution within the Município's integrated financial administration system (SIOPI).

B. Accounting and information system

- 6.2 The MSA uses the SIOPI, which integrates budget, accounting, and treasury activities, and its use is mandatory for all municipal entities. The SIOPI allows for efficient centralized management of all of the municipal government's financial resources. In relation to the loan operation, all budget, accounting, and financial information will be recorded in the SIOPI.
- 6.3 Currently, the SIOPI system cannot automatically issue reports in dollars, by investment category, or financing source, as required by the Bank. Accordingly, within six months from the loan contract signature date, the MSA will provide evidence that it has a management system in place that generates financial reports in accordance with the Bank's requirements.

C. Disbursements and flow of funds

- 6.4 The program will use the MSA treasury system. Expenses will be subject to the budget and financial execution process, and will also be duly recorded in the SIOPI.
- 6.5 Bank resources used to pay the program's expenses will need to be managed through an exclusive account that makes it possible to independently identify the loan proceeds. This applies to both income and payments.

- 6.6 Disbursements will be made in U.S. dollars under the advance of funds modality. The Bank will make disbursements on the basis of a 180-day projection presented by the executing agency. Future advances of funds will require at least 80% of the amounts previously advanced to be accounted for.
- 6.7 Expenses considered ineligible by the Bank will be reimbursed from local counterpart or other resources at the Bank's discretion, depending on the nature of the ineligibility.

D. Internal oversight and internal audit

- 6.8 The MSA has an Internal Oversight Section (DCI) that is directly linked to the Finance Department. The DCI will supervise and evaluate the results of the accounting, financial, and operational execution of all entities (departments and decentralized agencies, public and semipublic enterprises, and public foundations) in the orbit of the Santo André Municipal Government (PMSA), and their compliance with the provisions of the LRF. It will work in coordination with the TCE/SP and will support the audits that the latter performs of the PMSA.

E. External oversight and reports

- 6.9 The program's financial statements and the eligibility of its expenses will be audited each year by an external audit firm acceptable to the Bank, or by the TCE/SP if it is acceptable to the Bank when loan execution begins. At the present time, the TCE/SP is not acceptable to the Bank. Nonetheless, the fiduciary team is in dialogue with the authorities of the Audit Office to make it acceptable in the future.
- 6.10 Pursuant to the provisions of document OP-273-6, Financial Management Policy for IDB-financed Projects, the auditor will submit a report on the eligibility of the program's expenses, and will make physical inspection visits in addition to the Bank's actions and reviews. The program's audited financial statements will be sent to the Bank annually no later than 120 days following the end of each of the executing agency's fiscal years, pursuant to procedures and terms of reference previously agreed upon with the Bank.

F. Supervision plan

- 6.11 The supervision plan may be altered during program execution, according to the evolution of risk levels or additional control needs, as determined by the Bank.

Supervision activity	Supervision plan		
	Nature-scope	Frequency	Entity responsible
Procurements	Review of processes/methods of procurement and contracting of works and consulting services	As indicated in the procurement plan	Sector and procurement specialist
	Supervision visit	Annual	Sector specialist and fiduciary team
	Ex post review of disbursements and procurement processes	Annual	Fiduciary team
	Annual audit	Annual	Fiduciary team
Financial	Review of disbursement requests	Periodic	Fiduciary team
	Supervision visit	Annual	Sector specialist and fiduciary team

G. Execution mechanism

- 6.12 The program will be coordinated and supervised by the PMU, which will report to the head of the MSA's SMUOSP. The PMU will consist of: (i) a general director; (ii) a technical director; (iii) a financial-administrative director; and (iv) a communications advisor. Other MSA departments will provide technical support, in accordance with their legal responsibilities, for the preparation of studies, designs, and bidding processes during program execution
- 6.13 The PMU will be responsible for fiduciary administration during the execution of the operation, including budget formulation, financial records, the undertaking and monitoring of procurement and contracting processes, monitoring of contract execution, and procedures for authorizing and recognizing expenses and the respective payments. In addition, a COPELP will be created within the PMU for a five-year period running from the date of its establishment.