TERMS OF REFERENCE

Contractual to carry out the guidelines for the Regulatory Framework, & parameters for transport and territorial planning (Component I)

BRAZIL

[Project Number]

BR-T1505

[Web link to approved document]

Modal Shift for Low Carbon transport for Cargo and Passenger in Brazil

1. Background

1.1. Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

1.2. This Technical Cooperation (TC) is to support Brazilian government to implement the national decarbonization plan in federal transport sector. The TC aims to achieve its objective by: (i) developing regulatory frameworks, transport logistics and the relationship with the territorial planning and pre-feasibility studies to facilitate investments in low carbon transportation modes and climate-resilience infrastructures; (ii) piloting technologies/initiatives to support low carbon transition in Brazil; and (iii) updating the elements of the Integrated Transport Planning, particularly National Logistics Plan and the General Plans of Public Actions or Partnership, to meet the country's target for Decarbonization.

1.3. Brazil's infrastructure gap represents a vast opportunity for new investments, especially in sectors where financial returns are highly associated with significant social and environmental co-benefits. Between 1990 and 2016, Brazil's annual average investment in infrastructure was just over 2.0% of its Gross Domestic Product (GDP) and has been below 2% since 2016 (IPEA, 2021). To reach the world's average, the country needs to invest around 4.7% of its GDP/year for the next 20 years. The transportation sector requires more investment than any other sector (1.92% of the GDP).

1.4. The quality of Brazilian infrastructure and its services are significantly below other BRIC and Latin-American and Caribbean (LAC) countries. Although some advances can be seen throughout the editions of the Global Competitiveness Report, based on overall infrastructure quality, in 2019, Brazil ranked 78th out of the 141 countries surveyed by the World Economic Forum, with particularly inadequate results on roads and air transportation infrastructure quality.

1.5. Transportation costs account for nearly 60% of Brazil's total logistics costs —roughly 12.3% of GDP compared with 7.8% in the United States' GDP. Although the country has one of the longest highway systems in the world (close to two million kilometers long), just about 12.3% of the system is paved. Of that fraction, only 38% are in good or excellent condition, 34% are in fair condition, and 28% are in poor condition. Brazil's paved system suffers mostly from problems related to signage, pavement quality, and engineering. The railway system is limited and suffers from operational bottlenecks, representing 18% of

the total cargo flow. Obsolete equipment limited multimodal terminals, and shortfalls in capacity reduce the efficiency of Brazilian ports

1.6. Infrastructure is a central element for a post pandemic sustainable economic recovery. Infrastructure has secondary effects on other sectors of the economy and can boost their productivity as they recover from the pandemic crisis. However, the efficiency of infrastructure investment affects its multipliers effects. Analyses from the Organization for Economic Co-operation and Development (OECD) and International Monetary Fund (IMF) have shown that for every dollar of investment in infrastructure, there is an average 1.6x multiplier in the form of a boost of short-term employment combined with a long-term productivity gain in the economy. Further, the net benefit of building more resilient infrastructure in low- and middle-income countries would be around US$4.2 trillion, with US$4 in benefits for each US$1 invested (World Bank, 2019). In Brazil, it has been estimated that inefficiencies (due to inadequate infrastructure) subtract around 10-15 percent from the country's GDP (IMF, 2015).

1.7. Sustainable infrastructure can help address such issues and increase Brazil's resilience to future shocks, including those related to climate impacts. Recommendations for a sustainable recovery indicate that efforts should be directed towards the maintenance and upgrade of existing infrastructure assets, followed by the prioritization of new projects, and the reevaluation of infrastructure developments plans. This TC supports these efforts as it focuses on how transport and logistics projects can be improved to deliver better services, while incorporating sustainability elements that address climate change mitigation and adaptation.

2. Consultancy objective(s)

2.1. The objective of this consultancy is to develop a (i) comprehensive diagnosis (including collect, process, organize and make data available), benchmarking, and harmonization of regulatory frameworks to facilitate low carbon investments in freight and passenger large capacity modes of transport (rail, waterways etc.), including public and private investments. This consultancy will be responsible for the components I.

3. Main activities

3.1. The selected consulting firm will:

a) Review Brazil transport regulation at federal level for decarbonization and climate-resilience infrastructure to develop a sectorial analysis of the regulatory frameworks, to facilitate the Modal Shift for Low Carbon transport for Cargo and Passenger in Brazil

b) Use secondary data and, when necessary, primary data to diagnose the freight and passenger large capacity modes of transport (rail, waterways etc.) in Brazil.

c) Identify barriers on implementing decarbonization and climate-resilience infrastructure

d) Analyze policies, delivery mechanisms and existing technical capacity in Brazil to understand the required elements in creating an enabling environment for Low Carbon transport for Cargo and Passenger.

e) Analyze national and subnational frameworks to define clear roles and responsibilities to prepare high quality projects.

f) Assess the best practices in low carbon transport, nationally and internationally, and their possible implementation in Brazil.

4. Deliverables

4.1. **Product 1**. Deliver a work plan and technical proposed methodology.

4.2. **Product 2**. Report containing a review of regulatory frameworks to facilitate low carbon investments in freight and passengers, identifying existing barriers (policies, delivery mechanisms and technical capacity).

4.3. **Product 3**. Draft version of Brazilian comprehensive diagnosis report, providing an overview of the main problematic of the transport Cargo and Passenger sector, including transport regulatory and institutional framework, strategy design and actor mapping.

4.4. **Product 4**. Final version of diagnosis with conclusions and recommendations for Brazilian authorities on how to implement the transition to Low Carbon transportation for Cargo and Passenger

5. Qualifications

5.1. The consultancy firm and its team must have at least 15 years of experience in planning and policy projects involving sustainable infrastructure. Experience working with national and subnational government is also expected, as well as a relevant network in the area. Fluency in English, Portuguese and Spanish is also required for consultant team.

5.2. The consultancy firm must meet the following criteria:

- Consultancy firm with proved experience in transport/mobility projects involving sustainable infrastructure. Excellent interaction with national and local governments is desirable.
- The consultancy should have experience of at least 15 years in studies and similar projects carried out in Brazil - preferably - or in in Latin American or Caribbean countries. Companies will have to show experience in creating innovative methodologies of a holistic nature for intervention in and the consolidation of strategic areas.
- The companies contracted to execute the project should be qualified in low carbon transport projects with a focus on economic development, competitiveness, and sustainability.
- Multidisciplinary teams will be appreciated. In the case of collective registrations, these will be made on behalf of a single technical officer, who will be the Team Leader, or, in the case of a legal entity of private law, on behalf of a single company / office with the designation of the Team Leader, his/her partner, who will be responsible for the presentation of the works.
- To meet the objective of this ToR, the consulting team should include the following knowledge on key topics: Cargo and Passenger transport, low carbon transport, decarbonization, climate-resilience infrastructure, urban resilience, diversity and inclusion, governance.
- The team leader must have a degree on transport planning, urban or regional planning, engineering, or related areas with at least 15 years of experience in transport projects implemented with national or local governments.
- Team of consultants with at least 10 years of experience in transport strategy and planning.

6. Criteria

6.1. All activities contained in this ToR must be previously agreed with the project manager assigned by the IDB.

6.2. All documents contained in this TOR will be sent to the IDB's project manager and to the TSP/CBR specialists for approval.

6.3. Final reports must be previously approved by the IDB and by Brazilian authorities.

6.4. Every product must be submitted to the Bank in an electronic file. The documents should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

6.5. All documents and other materials will need to be drafted in English and Portuguese and delivered in digital format in Word Microsoft Office 2007 or a more recent format.

7. Other requirements

7.1. All travel should be included in the contract value

7.2. The consulting firm shall communicate the information to the IDB and the municipalities through fortnightly online meetings conducted through Microsoft Teams, or similar, as approved by the Project Manager.

7.3. The consulting firm will be responsible for communicating to the IDB and Brazilian authorities in a timely manner (at least two weeks) its pre-meeting lists of data needs, key project contacts, interested potential respondents and map of study areas/maps and illustrations for study/project agenda launch and meeting notes.

8. Payment Schedule

8.1. Payment terms will be based on project milestones or deliverables. The Bank does not expect to make advance payments under consulting contracts unless a significant amount of travel is required. The Bank wishes to receive the most competitive cost proposal for the services described herein.

Payment Schedule	
Deliverable	**%**
Product 1	15%
Product 2.	25%
Product 3.	25%
Product 4.	35%
Total	**100%**

TERMS OF REFERENCE

Contractual to carry out the Pre-feasibility studies for new projects of low carbon transport for public and private investments (Component I).

BRAZIL

[Project Number]

BR-T1505

[Web link to approved document]

Modal Shift for Low Carbon transport for Cargo and Passenger in Brazil

1. Background

1.1. Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

1.2. This Technical Cooperation (TC) is to support Brazilian government to implement the national decarbonization plan in federal transport sector. The TC aims to achieve its objective by: (i) developing regulatory frameworks, transport logistics and the relationship with the territorial planning and pre-feasibility studies to facilitate investments in low carbon transportation modes and climate-resilience infrastructures; (ii) piloting technologies/initiatives to support low carbon transition in Brazil; and (iii) updating the elements of the Integrated Transport Planning, particularly National Logistics Plan and the General Plans of Public Actions or Partnership, to meet the country's target for Decarbonization.

1.3. Brazil's infrastructure gap represents a vast opportunity for new investments, especially in sectors where financial returns are highly associated with significant social and environmental co-benefits. Between 1990 and 2016, Brazil's annual average investment in infrastructure was just over 2.0% of its Gross Domestic Product (GDP) and has been below 2% since 2016 (IPEA, 2021). To reach the world's average, the country needs to invest around 4.7% of its GDP/year for the next 20 years. The transportation sector requires more investment than any other sector (1.92% of the GDP).

1.4. The quality of Brazilian infrastructure and its services are significantly below other BRIC and Latin-American and Caribbean (LAC) countries. Although some advances can be seen throughout the editions of the Global Competitiveness Report, based on overall infrastructure quality, in 2019, Brazil ranked 78th out of the 141 countries surveyed by the World Economic Forum, with particularly inadequate results on roads and air transportation infrastructure quality.

1.5. Transportation costs account for nearly 60% of Brazil's total logistics costs —roughly 12.3% of GDP compared with 7.8% in the United States' GDP. Although the country has one of the longest highway systems in the world (close to two million kilometers long), just about 12.3% of the system is paved. Of that fraction, only 38% are in good or excellent condition, 34% are in fair condition, and 28% are in poor condition. Brazil's paved system suffers mostly from problems related to signage, pavement quality, and engineering. The railway system is limited and suffers from operational bottlenecks,

representing 18% of the total cargo flow. Obsolete equipment limited multimodal terminals, and shortfalls in capacity reduce the efficiency of Brazilian ports

1.6. Infrastructure is a central element for a post pandemic sustainable economic recovery. Infrastructure has secondary effects on other sectors of the economy and can boost their productivity as they recover from the pandemic crisis. However, the efficiency of infrastructure investment affects its multipliers effects. Analyses from the Organization for Economic Co-operation and Development (OECD) and International Monetary Fund (IMF) have shown that for every dollar of investment in infrastructure, there is an average 1.6x multiplier in the form of a boost of short-term employment combined with a long-term productivity gain in the economy. Further, the net benefit of building more resilient infrastructure in low- and middle-income countries would be around US$4.2 trillion, with US$4 in benefits for each US$1 invested (World Bank, 2019). In Brazil, it has been estimated that inefficiencies (due to inadequate infrastructure) subtract around 10-15 percent from the country's GDP (IMF, 2015).

1.7. Sustainable infrastructure can help address such issues and increase Brazil's resilience to future shocks, including those related to climate impacts. Recommendations for a sustainable recovery indicate that efforts should be directed towards the maintenance and upgrade of existing infrastructure assets, followed by the prioritization of new projects, and the reevaluation of infrastructure developments plans. This TC supports these efforts as it focuses on how transport and logistics projects can be improved to deliver better services, while incorporating sustainability elements that address climate change mitigation and adaptation.

2. Consultancy objective(s)

2.1. The objective of this consultancy is to develop technical, economic, environmental, and social feasibility assessments and pre-investment studies (Component I) for new projects of low carbon / sustainable cargo and/or passenger large capacity modes of transport (rail, waterways etc.) prioritized by federal and state governments.

3. Main activities

3.1. For each project, the selected consultant or firm will:

a) Compilate and analyze existing information for each project, including the necessary consultations and interviews with implementing agencies and government stakeholders.

b) Develop a baseline.

c) Carry out the necessary field work (if necessary): topographic surveys, soil studies, identification of current and planned infrastructure in the medium term, industrial and commercial activity characterization, etc.

d) Develop studies of projections of cargo/freight demands, as well as of the population and mobility needs for the next 20 years.

e) Develop technical engineering designs.

f) Develop technical, economic, environmental, and social feasibility assessments.

g) Develop alternatives studies.

h) Identify barriers to the project execution, including relevant legal and regulatory aspects and minimum legal guidelines for hiring

4. Reports / Deliverables

4.1. Product 1. Background analysis and diagnosis of the current situation for each project.

4.2. Product 2. Project Formulation and Evaluation Document, containing the technical, economic-social, financial, and environmental aspects involved, and including alternatives study.

4.3. Product 3. Executive Project of the works for each project.

4.4. Product 4. Tender documentation for projects.

5. Qualifications

5.1. The consultancy firm and its team must have at least 10 years' experience in delivering transport projects. Experience working with national and subnational government is also expected, as well as a relevant network in the area. Fluency in English, Portuguese and Spanish is also required for consultant team.

5.2. The minimum team that the Consulting Firm must assign to carry out the studies will consist of:

a) Project Director: A Civil Engineer, a professional with more than fifteen (15) years of experience, especially in transport projects.

b) Assistant Project Director: Engineer or Architect, professional with more than ten (10) years of experience, especially in coordination of infrastructure projects.

c) Transport Specialist: Civil Engineer, professional with more than ten (10) years of experience, especially in transport projects.

d) Economist: Bachelor of Economics, professional with at least ten (10) years of experience in socio-economic analysis and economic-financial evaluation of projects, especially in transport.

e) Environmental Specialist: Civil or Environmental Engineer, professional with at least ten (10) years of experience, especially in environmental studies and evaluations of transport projects.

f) Legal Specialist: bachelor in law, professional with at least ten (10) years of experience, especially in environmental studies and evaluations of transport projects.

5.3. The following documents must be submitted for analysis:

- Curriculum vitae of consultants indicated by the consultancy firm to deliver the activities, including their experience with similar projects and three references.
- Technical proposal, including the description of the institutions, their relevance to the consultancy objective, as well as the methodology that will be used.
- Financial proposal, containing detailed budget and activities.
- Activity implementation schedule.

6. Criteria

6.1. All activities contained in this ToR must be previously agreed with the project manager assigned by the IDB.

1.1. All documents contained in this TOR will be sent to the IDB's project manager and to the TSP/CBR specialist for approval.

1.2. Final reports must be previously approved by the IDB and by the government authorities.

6.2. Every product must be submitted to the Bank in an electronic file. The documents should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

6.3. All documents and other materials will need to be drafted in English and Portuguese and delivered in digital format in Word Microsoft Office 2007 or a more recent format.

7. Other requirements

7.1. All travel should be included in the contract value

7.2. The consulting firm shall communicate the information to the IDB and the municipalities through fortnightly online meetings conducted through Microsoft Teams, or similar, as approved by the Project Manager.

7.3. The consulting firm will be responsible for communicating to the IDB and municipalities in a timely manner (at least two weeks) its pre-meeting lists of data needs, key project contacts, interested potential respondents and map of study areas/maps and illustrations for study/project agenda launch and meeting notes.

8. Payment Schedule

Payment Schedule	
Deliverable	**%**
Product 1	15%
Product 2.	35%
Product 3.	50%
Total	**100%**

TERMS OF REFERENCE

Contractual to carry out the Infratech Strategy to support low carbon transition, including assessment of Technologies (Component II)

BRAZIL

[Project Number]

BR-T1505

[Web link to approved document]

Modal Shift for Low Carbon transport for Cargo and Passenger in Brazil

1. Background

1.1. Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

1.2. This Technical Cooperation (TC) is to support Brazilian government to implement the national decarbonization plan in federal transport sector. The TC aims to achieve its objective by: (i) developing regulatory frameworks, transport logistics and the relationship with the territorial planning and pre-feasibility studies to facilitate investments in low carbon transportation modes and climate-resilience infrastructures; (ii) piloting technologies/initiatives to support low carbon transition in Brazil; and (iii) updating the elements of the Integrated Transport Planning, particularly National Logistics Plan and the General Plans of Public Actions or Partnership, to meet the country's target for Decarbonization.

1.3. Brazil's infrastructure gap represents a vast opportunity for new investments, especially in sectors where financial returns are highly associated with significant social and environmental co-benefits. Between 1990 and 2016, Brazil's annual average investment in infrastructure was just over 2.0% of its Gross Domestic Product (GDP) and has been below 2% since 2016 (IPEA, 2021). To reach the world's average, the country needs to invest around 4.7% of its GDP/year for the next 20 years. The transportation sector requires more investment than any other sector (1.92% of the GDP).

1.4. The quality of Brazilian infrastructure and its services are significantly below other BRIC and Latin-American and Caribbean (LAC) countries. Although some advances can be seen throughout the editions of the Global Competitiveness Report, based on overall infrastructure quality, in 2019, Brazil ranked 78th out of the 141 countries surveyed by the World Economic Forum, with particularly inadequate results on roads and air transportation infrastructure quality.

1.5. Transportation costs account for nearly 60% of Brazil's total logistics costs —roughly 12.3% of GDP compared with 7.8% in the United States' GDP. Although the country has one of the longest highway systems in the world (close to two million kilometers long), just about 12.3% of the system is paved. Of that fraction, only 38% are in good or excellent condition, 34% are in fair condition, and 28% are in poor condition. Brazil's paved system suffers mostly from problems related to signage, pavement quality, and engineering. The railway system is limited and suffers from operational bottlenecks,

representing 18% of the total cargo flow. Obsolete equipment limited multimodal terminals, and shortfalls in capacity reduce the efficiency of Brazilian ports

1.6. Infrastructure is a central element for a post pandemic sustainable economic recovery. Infrastructure has secondary effects on other sectors of the economy and can boost their productivity as they recover from the pandemic crisis. However, the efficiency of infrastructure investment affects its multipliers effects. Analyses from the Organization for Economic Co-operation and Development (OECD) and International Monetary Fund (IMF) have shown that for every dollar of investment in infrastructure, there is an average 1.6x multiplier in the form of a boost of short-term employment combined with a long-term productivity gain in the economy. Further, the net benefit of building more resilient infrastructure in low- and middle-income countries would be around US$4.2 trillion, with US$4 in benefits for each US$1 invested (World Bank, 2019). In Brazil, it has been estimated that inefficiencies (due to inadequate infrastructure) subtract around 10-15 percent from the country's GDP (IMF, 2015).

1.7. Sustainable infrastructure can help address such issues and increase Brazil's resilience to future shocks, including those related to climate impacts. Recommendations for a sustainable recovery indicate that efforts should be directed towards the maintenance and upgrade of existing infrastructure assets, followed by the prioritization of new projects, and the reevaluation of infrastructure developments plans. This TC supports these efforts as it focuses on how transport and logistics projects can be improved to deliver better services, while incorporating sustainability elements that address climate change mitigation and adaptation.

2. Consultancy objective(s)

2.1. The objective of this consultancy is to develop an Infratech Strategy to support low carbon transition including assessment of Technologies (Component II).

3. Main activities

3.1. The selected consulting firm will:

g) Review Brazil regulation to adopt technologies at federal level for decarbonization and climate-resilience infrastructure, to facilitate the Modal Shift for Low Carbon transport for Cargo or/and Passenger in Brazil

h) Assessment of Technologies in freight and passenger large capacity modes of transport (rail, waterways etc.) to support low carbon transition in Brazil.

i) Identify barriers and best practices on the adoption of technologies to implement decarbonization and climate-resilience infrastructure

j) Analyze policies, delivery mechanisms and existing institutional and technical capacity in Brazil to understand the required elements in creating an enabling environment for Low Carbon transport for Cargo and Passenger.

k) Analyze national and subnational frameworks to define clear roles and responsibilities to prepare high quality projects.

l) Develop an Infratech Strategy to support low carbon transition, including legal guidelines for the treatment, use and confidentiality of data

4. Deliverables

4.1. **Product 1**. Deliver a work plan and technical proposed methodology.

4.2. **Product 2.** Report containing a review of regulatory frameworks to facilitate low carbon investments in freight and passengers, identifying existing barriers and best practices (policies, delivery mechanisms and technical capacity).

4.3. **Product 3.** Draft version of Brazilian Infratech Strategy to support low carbon transition, including transport regulatory and institutional framework, strategy design and actor mapping.

4.4. **Product 4.** Final version of an Infratech Strategy to support low carbon transition and recommendations for Brazilian authorities.

5. Qualifications

5.1. The consultancy firm and its team must have at least 15 years' experience in sustainable infrastructure strategy, planning and policy projects. Experience working with national and subnational government is also expected, as well as a relevant network in the area. Fluency in English, Portuguese and Spanish is also required for consultant team.

5.2. The consultancy firm must meet the following criteria:

- Consultancy firm with proved experience in assessing the use of technologies for sustainable infrastructure, and transport projects. Excellent interaction with national and local governments is desirable.
- The consultancy should have experience of at least 15 years in studies and similar projects carried out in Brazil - preferably - or in in Latin American or Caribbean countries.
- The companies contracted to execute the project should be qualified in low carbon transport projects with a focus on economic development, competitiveness, and sustainability.
- Multidisciplinary teams will be appreciated. In the case of collective registrations, these will be made on behalf of a single technical officer, who will be the Team Leader, or, in the case of a legal entity of private law, on behalf of a single company / office with the designation of the Team Leader, his/her partner, who will be responsible for the presentation of the works.
- The team leader must have a degree on engineering, or related areas with at least 15 years of experience in transport projects implemented with national or local governments.
- Team of consultants with at least 10 years of experience in transport strategy and planning.

6. Criteria

6.1. All activities contained in this ToR must be previously agreed with the project manager assigned by the IDB.

6.2. All documents contained in this TOR will be sent to the IDB's project manager and to the TSP/CBR specialists for approval.

6.3. Final reports must be previously approved by the IDB and by Brazilian authorities.

6.4. Every product must be submitted to the Bank in an electronic file. The documents should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

6.5. All documents and other materials will need to be drafted in English and Portuguese and delivered in digital format in Word Microsoft Office 2007 or a more recent format.

7. Other requirements

7.1. All travel should be included in the contract value

7.2. The consulting firm shall communicate the information to the IDB and the municipalities through fortnightly online meetings conducted through Microsoft Teams, or similar, as approved by the Project Manager.

7.3. The consulting firm will be responsible for communicating to the IDB and Brazilian authorities in a timely manner (at least two weeks) its pre-meeting lists of data needs, key project contacts, interested potential respondents and map of study areas/maps and illustrations for study/project agenda launch and meeting notes.

8. Payment Schedule

8.1. Payment terms will be based on project milestones or deliverables. The Bank does not expect to make advance payments under consulting contracts unless a significant amount of travel is required. The Bank wishes to receive the most competitive cost proposal for the services described herein.

Payment Schedule	
Deliverable	**%**
Product 1	15%
Product 2.	25%
Product 3.	25%
Product 4.	35%
Total	**100%**

TERMS OF REFERENCE

Contractual to carry out the design and structuring of a low carbon transport pilot supported by the application of innovative solutions, including Logistics as a Service (LaaS) (Component II)

BRAZIL

[Project Number]

BR-T1505

[Web link to approved document]

Modal Shift for Low Carbon transport for Cargo and Passenger in Brazil

1. Background

1.1. Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

1.2. This Technical Cooperation (TC) is to support Brazilian government to implement the national decarbonization plan in federal transport sector. The TC aims to achieve its objective by: (i) developing regulatory frameworks, transport logistics and the relationship with the territorial planning and pre-feasibility studies to facilitate investments in low carbon transportation modes and climate-resilience infrastructures; (ii) piloting technologies/initiatives to support low carbon transition in Brazil; and (iii) updating the elements of the Integrated Transport Planning, particularly National Logistics Plan and the General Plans of Public Actions or Partnership, to meet the country's target for Decarbonization.

1.3. Brazil's infrastructure gap represents a vast opportunity for new investments, especially in sectors where financial returns are highly associated with significant social and environmental co-benefits. Between 1990 and 2016, Brazil's annual average investment in infrastructure was just over 2.0% of its Gross Domestic Product (GDP) and has been below 2% since 2016 (IPEA, 2021). To reach the world's average, the country needs to invest around 4.7% of its GDP/year for the next 20 years. The transportation sector requires more investment than any other sector (1.92% of the GDP).

1.4. The quality of Brazilian infrastructure and its services are significantly below other BRIC and Latin-American and Caribbean (LAC) countries. Although some advances can be seen throughout the editions of the Global Competitiveness Report, based on overall infrastructure quality, in 2019, Brazil ranked 78th out of the 141 countries surveyed by the World Economic Forum, with particularly inadequate results on roads and air transportation infrastructure quality.

1.5. Transportation costs account for nearly 60% of Brazil's total logistics costs —roughly 12.3% of GDP compared with 7.8% in the United States' GDP. Although the country has one of the longest highway systems in the world (close to two million kilometers long), just about 12.3% of the system is paved. Of that fraction, only 38% are in good or excellent condition, 34% are in fair condition, and 28% are in poor condition. Brazil's paved system suffers mostly from problems related to signage, pavement quality, and engineering. The railway system is limited and suffers from operational bottlenecks,

representing 18% of the total cargo flow. Obsolete equipment limited multimodal terminals, and shortfalls in capacity reduce the efficiency of Brazilian ports

1.6. Infrastructure is a central element for a post pandemic sustainable economic recovery. Infrastructure has secondary effects on other sectors of the economy and can boost their productivity as they recover from the pandemic crisis. However, the efficiency of infrastructure investment affects its multipliers effects. Analyses from the Organization for Economic Co-operation and Development (OECD) and International Monetary Fund (IMF) have shown that for every dollar of investment in infrastructure, there is an average 1.6x multiplier in the form of a boost of short-term employment combined with a long-term productivity gain in the economy. Further, the net benefit of building more resilient infrastructure in low- and middle-income countries would be around US$4.2 trillion, with US$4 in benefits for each US$1 invested (World Bank, 2019). In Brazil, it has been estimated that inefficiencies (due to inadequate infrastructure) subtract around 10-15 percent from the country's GDP (IMF, 2015).

1.7. Sustainable infrastructure can help address such issues and increase Brazil's resilience to future shocks, including those related to climate impacts. Recommendations for a sustainable recovery indicate that efforts should be directed towards the maintenance and upgrade of existing infrastructure assets, followed by the prioritization of new projects, and the reevaluation of infrastructure developments plans. This TC supports these efforts as it focuses on how transport and logistics projects can be improved to deliver better services, while incorporating sustainability elements that address climate change mitigation and adaptation.

2. Consultancy objective(s)

2.1. The objective of this consultancy is to design and structure a low carbon pilot that can be supported by the application of innovative solutions, including Logistics as a Service (LaaS).

3. Main activities

3.1. The selected consultancy firm will deliver the activities described below:

a) Select and diagnose potential areas where pilot projects can be applied, and carry out a diagnosis of the area, focused on validating the choice of the pilot.

b) Develop a general characterization, based on available information of the areas, and a diagnostic of the planning and regulatory parameters, and other key development instruments.

i) Consultations and interviews with implementing agencies and government stakeholders.

j) Develop technical engineering designs.

k) Develop technical, economic, environmental, and social prefeasibility assessments.

l) Identify barriers to the project execution.

4. Reports / Deliverables

4.1. Product 1. Deliver a work plan and a technical proposed methodology for pilot selection.

4.2. Product 2. Pilot selection and general characterization. Actual situation diagnosis.

4.3. Product 3. Project Formulation containing the technical, economic-social, financial and environmental aspects involved, including alternatives study.

4.4. Product 4. Executive Project final report.

5. Qualifications

5.1. The consultancy firm and its team must have at least 10 years' experience in delivering transport projects. Experience with national and subnational governments of Brazil is also expected, as well as a relevant network in the area. Fluency in English, Portuguese and Spanish is also required for consultant team.

5.2. The minimum team that the Consulting Firm must assign to carry out the studies will consist of:

a) Project Director: A Civil Engineer, a professional with more than fifteen (15) years of experience, especially in transport projects.

b) Assistant Project Director: Engineer or Architect, professional with more than ten (10) years of experience, especially in coordination of infrastructure projects.

c) Transport Specialist: Civil Engineer, professional with more than ten (10) years of experience, especially in transport projects.

d) Economist: Bachelor of Economics, professional with at least ten (10) years of experience in socio-economic analysis and economic-financial evaluation of projects, especially in transport.

e) Environmental Specialist: Civil or Environmental Engineer, or related professional disciplines with at least ten (10) years of experience, especially in environmental studies and evaluations of transport projects.

5.3. The following documents must be submitted for analysis:

- Curriculum vitae of consultants indicated by the consultancy firm to deliver the activities, including their experience with similar projects and three references.
- Technical proposal, including the description of the institutions, their relevance to the consultancy objective, as well as the methodology that will be used.
- Financial proposal, containing detailed budget and activities.
- Activity implementation schedule.

6. Criteria

6.1. All activities contained in this ToR must be previously agreed with the project manager assigned by the IDB.

6.2. All documents contained in this TOR will be sent to the IDB's project manager and to the TSP/CBR specialist for approval.

6.3. Final reports must be previously approved by the IDB and by government authorities.

6.4. Every product must be submitted to the Bank in an electronic file. The documents should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

6.5. All documents and other materials will need to be drafted in English and delivered in digital format in Word Microsoft Office 2007 or a more recent format.

7. Other requirements

7.1. All travel should be included in the contract value

8. Payment Schedule

Payment Schedule	
Deliverable	**%**
Product 1	10%
Product 2.	20%
Product 3.	30%
Product 4.	40%
Total	**100%**

TERMS OF REFERENCE

Contractual to develop the products related to Knowledge Dissemination (Component II)

1. Background

1.1. Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

1.2. This Technical Cooperation (TC) is to support Brazilian government to implement the national decarbonization plan in federal transport sector. The TC aims to achieve its objective by: (i) developing regulatory frameworks, transport logistics and the relationship with the territorial planning and pre-feasibility studies to facilitate investments in low carbon transportation modes and climate-resilience infrastructures; (ii) piloting technologies/initiatives to support low carbon transition in Brazil; and (iii) updating the elements of the Integrated Transport Planning, particularly National Logistics Plan and the General Plans of Public Actions or Partnership, to meet the country's target for Decarbonization.

1.3. Brazil's infrastructure gap represents a vast opportunity for new investments, especially in sectors where financial returns are highly associated with significant social and environmental co-benefits. Between 1990 and 2016, Brazil's annual average investment in infrastructure was just over 2.0% of its Gross Domestic Product (GDP) and has been below 2% since 2016 (IPEA, 2021). To reach the world's average, the country needs to invest around 4.7% of its GDP/year for the next 20 years. The transportation sector requires more investment than any other sector (1.92% of the GDP).

1.4. The quality of Brazilian infrastructure and its services are significantly below other BRIC and Latin-American and Caribbean (LAC) countries. Although some advances can be seen throughout the editions of the Global Competitiveness Report, based on overall infrastructure quality, in 2019, Brazil ranked 78th out of the 141 countries surveyed by the World Economic Forum, with particularly inadequate results on roads and air transportation infrastructure quality.

1.5. Transportation costs account for nearly 60% of Brazil's total logistics costs —roughly 12.3% of GDP compared with 7.8% in the United States' GDP. Although the country has one of the longest highway systems in the world (close to two million kilometers long), just about 12.3% of the system is paved. Of that fraction, only 38% are in good or excellent condition, 34% are in fair condition, and 28% are in poor condition. Brazil's paved system suffers mostly from problems related to signage, pavement quality, and engineering. The railway system is limited and suffers from operational bottlenecks, representing 18% of the total cargo flow. Obsolete equipment limited multimodal terminals, and shortfalls in capacity reduce the efficiency of Brazilian ports

1.6. Infrastructure is a central element for a post pandemic sustainable economic recovery. Infrastructure has secondary effects on other sectors of the economy and can boost their productivity as they recover from the pandemic crisis. However, the efficiency of infrastructure investment affects its multipliers effects. Analyses from the Organization for Economic Co-operation and Development (OECD) and International Monetary Fund (IMF) have shown that for every dollar of investment in infrastructure, there is an average 1.6x multiplier in the form of a boost of short-term employment combined with a long-term productivity gain in the economy. Further, the net benefit of building more resilient

infrastructure in low- and middle-income countries would be around US$4.2 trillion, with US$4 in benefits for each US$1 invested (World Bank, 2019). In Brazil, it has been estimated that inefficiencies (due to inadequate infrastructure) subtract around 10-15 percent from the country's GDP (IMF, 2015).

1.7. Sustainable infrastructure can help address such issues and increase Brazil's resilience to future shocks, including those related to climate impacts. Recommendations for a sustainable recovery indicate that efforts should be directed towards the maintenance and upgrade of existing infrastructure assets, followed by the prioritization of new projects, and the reevaluation of infrastructure developments plans. This TC supports these efforts as it focuses on how transport and logistics projects can be improved to deliver better services, while incorporating sustainability elements that address climate change mitigation and adaptation.

2. What you'll do:

2.1 Support awareness raising and communication activities of BR-T1505. This includes the organization of capacity building sessions and workshops to disseminate knowledge produced throughout the project.

3. Activities:

3.1 The consultant will deliver the following activities:

a. Coordinate the awareness raising and communication activities;

b. Organize capacity building sessions with government and other relevant stakeholders;

c. Lead the articulation of outreach activities amongst the IDB, government authorities and other relevant partners;

d. Produce reports and other relevant communication and outreach materials to support knowledge dissemination, ensuring appropriate communication before, during and after knowledge sharing and capacity building sessions.

4. Deliverables:

- Product 1: Work plan setting out the objectives, targets and implementation milestones.
- Product 2: Report on engagement activities with the IDB, government authorities and other relevant partners.
- Product 3: Capacity building sessions with key stakeholders, including the coordination and execution activities and the development of internal reports to communicate outcomes of the activities, and external communication material (e.g. blogs, articles).
- Product 4: Final report containing the coordination and execution activities of the technical cooperation.

5. Payment's timeline:

Product	Description	Deadline
1	Work plan	
2	Draft Report	
3	Capacity Building Sessions	
4	Final Report	

6. What you'll need:

Citizenship: You are either a citizen of Brazil or a citizen of one of our 48-member countries with residency or legal permit to work in Brazil.

Consanguinity: You have no family members (up to fourth degree of consanguinity and second degree of affinity, including spouse) working at the IDB Group.

Education: Bachelor's Degree; MSc, MBA or similar advantageous. Academic background in communication, Languages, or other related field, such as journalism, interactive public affairs, international relations, combined with additional qualifications relevant to specific sector of focus. At least 10 years of professional work experience, or the equivalent combination of education and experience in the field of transport, climate change, and sustainable development.

Experience: Experience in undertaking legal analysis; excellent communication skills, including written and oral forms; proven ability to communicate with several stakeholders and conduct interviews to obtain the required information; ability to prepare clear, and concise reports with specific and visually appealing information; analytic capacity and ability to assess project outputs and relevant findings; good team player, self-starter, ability to work under limited supervision.

Languages: Fluency in English and Portuguese is required.

Core and Technical Competencies: Substantial experience communication production and capacity building, including transport infrastructure and sustainability.

7. Opportunity Summary:

- Type of contract and modality: Products and External Services (PEC) Consultant.
- Responsible person: TSP Specialist in Brazil
- Requirements: You must be a citizen of one of the IDB's 48 member countries and have no family members currently working at the IDB Group.

Our culture: Our people are committed and passionate about improving lives in Latin- America and the Caribbean, and they get to do what they love in a diverse, collaborative, and stimulating work environment. We are the first Latin American and Caribbean development institution to be awarded the EDGE certification, recognizing our strong commitment to gender equality. As an employee you can be part of internal resource groups that connect our diverse community around common interests.

We encourage women, afro-descendants, people of indigenous origins, and persons with disabilities to apply.

About us: At the IDB, we're committed to improving lives. Since 1959, we've been a leading source of long-term financing for economic, social, and institutional development in Latin America and the Caribbean. We do more than lending though. We partner with our 48-member countries to provide Latin America and the Caribbean with cutting-edge research about relevant development issues, policy advice to inform their decisions, and technical assistance to improve on the planning and execution of projects. For this, we need people who not only have the right skills, but also are passionate about improving lives.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. The Bank, pursuant to applicable policies, may contribute toward travel and moving expenses. In addition, candidates must be citizens of an IDB member country.

Visa and Work Permit: It is the responsibility of the candidate to obtain the necessary visa or work permits required by the authorities of the country(ies) in which the services will be rendered to the Bank. If a candidate cannot obtain a visa or work permit to render services to the Bank the contractual offer will be rescinded.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the IDB, IDB Invest, or MIF as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity based on gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, and religion. We encourage women, Afro-descendants, and persons of indigenous origins to apply.

Our team in Human Resources carefully reviews all applications.

TERMS OF REFERENCE

Contractual to carry out an update of the National Logistics Plan and related plans to meet Decarbonization Target (Component III)

BRAZIL

[Project Number]

BR-T1505

[Web link to approved document]

Modal Shift for Low Carbon transport for Cargo and Passenger in Brazil

1. Background

1.1. Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

1.2. This Technical Cooperation (TC) is to support Brazilian government to implement the national decarbonization plan in federal transport sector. The TC aims to achieve its objective by: (i) developing regulatory frameworks, transport logistics and the relationship with the territorial planning and pre-feasibility studies to facilitate investments in low carbon transportation modes and climate-resilience infrastructures; (ii) piloting technologies/initiatives to support low carbon transition in Brazil; and (iii) updating the elements of the Integrated Transport Planning, particularly National Logistics Plan and the General Plans of Public Actions or Partnership, to meet the country's target for Decarbonization.

1.3. Brazil's infrastructure gap represents a vast opportunity for new investments, especially in sectors where financial returns are highly associated with significant social and environmental co-benefits. Between 1990 and 2016, Brazil's annual average investment in infrastructure was just over 2.0% of its Gross Domestic Product (GDP) and has been below 2% since 2016 (IPEA, 2021). To reach the world's average, the country needs to invest around 4.7% of its GDP/year for the next 20 years. The transportation sector requires more investment than any other sector (1.92% of the GDP).

1.4. The quality of Brazilian infrastructure and its services are significantly below other BRIC and Latin-American and Caribbean (LAC) countries. Although some advances can be seen throughout the editions of the Global Competitiveness Report, based on overall infrastructure quality, in 2019, Brazil ranked 78th out of the 141 countries surveyed by the World Economic Forum, with particularly inadequate results on roads and air transportation infrastructure quality.

1.5. Transportation costs account for nearly 60% of Brazil's total logistics costs —roughly 12.3% of GDP compared with 7.8% in the United States' GDP. Although the country has one of the longest highway systems in the world (close to two million kilometers long), just about 12.3% of the system is paved. Of that fraction, only 38% are in good or excellent condition, 34% are in fair condition, and 28% are in poor condition. Brazil's paved system suffers mostly from problems related to signage, pavement quality, and engineering. The railway system is limited and suffers from operational bottlenecks, representing 18% of

the total cargo flow. Obsolete equipment limited multimodal terminals, and shortfalls in capacity reduce the efficiency of Brazilian ports

1.6. Infrastructure is a central element for a post pandemic sustainable economic recovery. Infrastructure has secondary effects on other sectors of the economy and can boost their productivity as they recover from the pandemic crisis. However, the efficiency of infrastructure investment affects its multipliers effects. Analyses from the Organization for Economic Co-operation and Development (OECD) and International Monetary Fund (IMF) have shown that for every dollar of investment in infrastructure, there is an average 1.6x multiplier in the form of a boost of short-term employment combined with a long-term productivity gain in the economy. Further, the net benefit of building more resilient infrastructure in low- and middle-income countries would be around US$4.2 trillion, with US$4 in benefits for each US$1 invested (World Bank, 2019). In Brazil, it has been estimated that inefficiencies (due to inadequate infrastructure) subtract around 10-15 percent from the country's GDP (IMF, 2015).

1.7. Sustainable infrastructure can help address such issues and increase Brazil's resilience to future shocks, including those related to climate impacts. Recommendations for a sustainable recovery indicate that efforts should be directed towards the maintenance and upgrade of existing infrastructure assets, followed by the prioritization of new projects, and the reevaluation of infrastructure developments plans. This TC supports these efforts as it focuses on how transport and logistics projects can be improved to deliver better services, while incorporating sustainability elements that address climate change mitigation and adaptation.

2. Consultancy objective(s)

2.1. The objective of this consultancy is to develop an update of the National Logistics Plan (NLP) and the General Plans of Public Actions or Partnership to meet Decarbonization Target, setting a long-term vision for transport infrastructure in Brazil. This consultancy will be responsible for the component III.

3. Main activities

3.1. The selected consulting firm will:

m) Review Brazil National Logistics Plan and related plans, to facilitate the Modal Shift for Low Carbon transport for Cargo and Passenger in Brazil

n) Use secondary data and, when necessary, primary data to diagnose the Logistics plans in Brazil.

o) Identify barriers on implementing decarbonization and climate-resilience infrastructure.

p) Analyze policies, delivery mechanisms and existing technical capacity in Brazil to understand the required elements to elaborate an update of the National Logistics Plan and related plans.

q) Analyze national and subnational frameworks to define clear roles and responsibilities.

r) Assess the best practices in low carbon transport, nationally and internationally, and their possible implementation in Brazil.

4. Deliverables

4.1. **Product 1**. Deliver a work plan and technical proposed methodology.

4.2. **Product 2**. Report containing a review of the actual National Logistics Plan and related plans, identifying existing barriers (policies, delivery mechanisms and technical capacity).

4.3. **Product 3**. Draft version report, providing an overview of the main problematic of the Logistic Sector, including transport regulatory and institutional framework, strategy design and actor mapping.

4.4. **Product 4**. Final version of an update of the National Logistics Plan (NLP) and the General Plans of Public Actions or Partnership with conclusions and recommendations for Brazilian authorities on how to implement the transition to Low Carbon transportation.

5. Qualifications

5.1. The consultancy firm and its team must have at least 15 years' experience in sustainable infrastructure strategy, planning and policy projects. Experience working with national and subnational government is also expected, as well as a relevant network in the area. Fluency in English, Portuguese and Spanish is also required for consultant team.

5.2. The consultancy firm must meet the following criteria:

- Consultancy firm with proved experience in transport/logistic projects involving sustainable infrastructure. Excellent interaction with national and local governments is desirable.
- The consultancy should have experience of at least 15 years in studies and similar projects carried out in Brazil - preferably - or in in Latin American or Caribbean countries.
- The companies contracted to execute the project should be qualified in low carbon logistics/transport projects with a focus on economic development, competitiveness, and sustainability.
- Multidisciplinary teams will be appreciated. In the case of collective registrations, these will be made on behalf of a single technical officer, who will be the Team Leader, or, in the case of a legal entity of private law, on behalf of a single company / office with the designation of the Team Leader, his/her partner, who will be responsible for the presentation of the works.
- The team leader must have a degree on transport planning, logistics and supply management, urban or regional planning, engineering, or related areas with at least 15 years of experience in transport projects implemented with national or local governments.
- Team of consultants with at least 10 years of experience in logistic/transport strategy and planning.

6. Criteria

6.1. All activities contained in this ToR must be previously agreed with the project manager assigned by the IDB.

6.2. All documents contained in this TOR will be sent to the IDB's project manager and to the TSP/CBR specialists for approval.

6.3. Final reports must be previously approved by the IDB and by Brazilian authorities.

6.4. Every product must be submitted to the Bank in an electronic file. The documents should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

6.5. All documents and other materials will need to be drafted in English and Portuguese and delivered in digital format in Word Microsoft Office 2007 or a more recent format.

7. Other requirements

7.1. All travel should be included in the contract value

7.2. The consulting firm shall communicate the information to the IDB and the municipalities through fortnightly online meetings conducted through Microsoft Teams, or similar, as approved by the Project Manager.

7.3. The consulting firm will be responsible for communicating to the IDB and Brazilian authorities in a timely manner (at least two weeks) its pre-meeting lists of data needs, key project contacts, interested potential respondents and map of study areas/maps and illustrations for study/project agenda launch and meeting notes.

8. Payment Schedule

8.1. Payment terms will be based on project milestones or deliverables. The Bank does not expect to make advance payments under consulting contracts unless a significant amount of travel is required. The Bank wishes to receive the most competitive cost proposal for the services described herein.

Payment Schedule	
Deliverable	**%**
Product 1	15%
Product 2.	25%
Product 3.	25%
Product 4.	35%
Total	**100%**