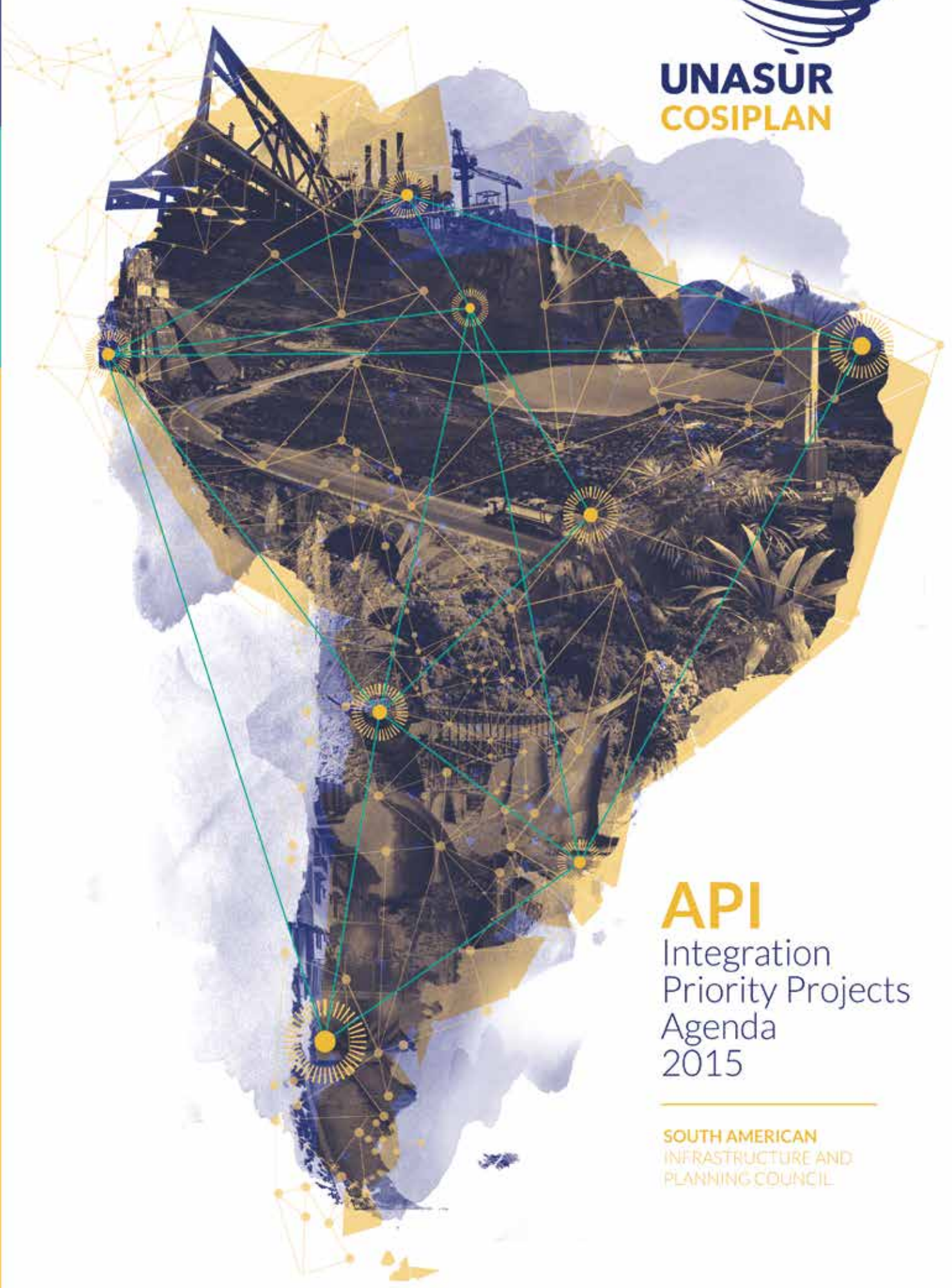




UNASUR
COSIPLAN



API

Integration
Priority Projects
Agenda
2015

**SOUTH AMERICAN
INFRASTRUCTURE AND
PLANNING COUNCIL**





Integration Priority PROJECT Agenda 2015

PRESIDENCY PRO TEMPORE URUGUAY 2014-2016

IIRSA Technical Forum
Technical Coordination Committee



VI Ordinary Meeting of COSIPLAN Ministers
Montevideo, Uruguay, December 3, 2015























Note

The information concerning the projects contained here is built on the data available in the COSIPLAN Project Information System (PIS) (www.iirsa.org/PROJECTos) as of August 18, 2015. The content of such system is updated on a regular basis by the UNASUR member countries.

The maps in this document have been prepared by IIRSA Technical Coordinating Committee (CCT) as a technical and general reference work tool. Borders, colors, denominations, or other information shown in them are used exclusively for illustration purposes, and are not to be understood as a judgment, opinion or other on the legal status of a territory or as recognition of borders by the institutions that make up the CCT.

MAP LEGEND

1. Projects

	Navigability		Ring Railway
	Oil / Gas Pipeline		Tunnel
	Electric Transmission Line		Navigability
	Road		Bridge
	Rail		Environmental Program Multimodal
	Telecommunications Line		Transportation
	Border Crossing, CEBAF		Inland Port
	Port		Electricity Generation
	Logistics Center		Gas Project
	Airport		River
	Ring Road		Telecommunications Infrastructure

2. Geographical References

	Country Capital		Existing Waterway
	City		Existing Railroad
	Country Border		Existing Road

LEGEND

1. Project Life Cycle Stages



Profiling



Pre-execution



Execution



Completed

2. Integration and Development Hubs



Southern Andean



Amazon



Andean



Capricorn



Southern



Guianese
Shield



Paraguay-Paraná
Waterway



Central
Interoceanic



MERCOSUR
Chile



Peru Brazil
Bolivia

3. Sectors



Transport



Energy



Communications

4. Subsectors

Transport



Air



Road



Rail



River



Sea



Multimodal



Border
Crossing

Energy



Energy
Interconnection



Energy
Generation



Communications
Interconnection

Communications

5. Types of Financing



Public



Private



Public/Private

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www.iirsa.org/api2015.asp



Overview

This Fourth Report on the Integration Priority Project Agenda (API), provided for in the COSIPLAN-IIRSA Work Plan 2015, presents the evolution of the API projects as well as an overall assessment of the Agenda and outlines the results of the work carried out by the countries in updating and analyzing the projects.

Chapter 1 presents the evolution of API between 2012 and 2015, taking into account the number of individual projects and the total estimated investment. Furthermore, it provides a detailed analysis of the progress made by the API projects between 2014 y 2015 as a result of the work conducted by the countries during this year's update process.

Chapter 2 describes the projects that make up API, taking into consideration their territorial scope and technical characteristics, the sectors and subsectors involved, and their source of financing. Concerning the evolution of this Agenda, this chapter presents its progress status, the estimated date of completion of the projects, and an analysis of the projects already completed.

Chapter 3 details the technical characteristics, current status and progress of each one of the 31 API structured projects, classified according to the different Integration and Development Hubs to which they belong, including a brief socioeconomic and environmental characterization of the Hubs.

Chapter 4 outlines the territorial planning process undertaken in South America. It explores the importance of the territory as a space to achieve sustainable development, and presents the concept of Integration and Development Hub. It also describes the Indicative Territorial Planning Methodology and its application, which led to the creation of the Project Portfolio. Moreover, mention is made of the main objectives and concepts of the COSIPLAN territorial planning tools and methodologies.



Executive Summary

The **Union of South American Nations (UNASUR)** was created by the South American presidents in 2008 as a forum for high-level political dialogue and coordination among the twelve countries of the region. In 2009, within this institutional framework, a number of sectoral councils at ministerial level, one of which is the **South American Infrastructure and Planning Council (COSIPLAN)**, were created. COSIPLAN is the forum where political and strategic discussions are held with a view to planning and implementing the UNASUR Member Countries' regional infrastructure integration.

In 2010, the presidents charged the COSIPLAN with the task of identifying and selecting a series of works that would impact powerfully on the integration and development of South America, the result of which was the **Integration Priority Project Agenda (API)**. The objective of API is to "promote regional connectivity by building infrastructure networks for physical integration purposes, considering sustainable social and economic development criteria, and preserving the environment and the balance of ecosystems."

API is made up of "**structured projects**." They involve one or more projects from the COSIPLAN Project Portfolio that are known, for the purposes of this Agenda, as "**individual projects**." The structured projects strengthen physical connectivity networks that are regional in scope, and are distributed in the different **Integration and Development Hubs**.

Between **2012 and 2013**, the countries worked on the design of a **Methodology for Scheduling the Life Cycle**⁽¹⁾ of the API individual projects. Furthermore, on the basis of this methodology, a Continuous Monitoring System (CMS), which is part of the COSIPLAN Project Information System (PIS), was developed. The purpose of both instruments is to monitor project progress and facilitate decision making by the competent authorities in order to achieve project implementation.

1. Evolution of the Integration Priority Project Agenda

At present, API includes 31 structured projects made up of 103 individual projects, amounting to an investment estimated at US\$21,136 million.

Since its creation in 2011, API comprises the same 31 structured projects, and changes in terms of number during this period have been in individual projects. A relatively greater variation has been experienced in the estimated investment in the works concerned, which increased by 22% (from US\$17,261 million to US\$21,135 million) between 2012 and 2015.

Results of API Updates in 2015

The focuses of the countries' action related to API are defined jointly through several tools: the Strategic Action Plan (PAE), the work plans designed by consensus on an annual basis, and the COSIPLAN meeting occasions. In 2015, the countries laid particular emphasis on the following four activities:

Virtual Meetings: For the first time, virtual meetings of the Executive Technical Groups to Update the Projects in the COSIPLAN Portfolio and API were held. A meeting was held for each Integration and Development Hub⁽²⁾ using an online video-conferencing tool.

COSIPLAN Project Information System Update: In preparation for the above-mentioned meetings and as a result of the discussions held at them, the countries worked on the update of the API projects in the COSIPLAN Project Information System. As of the date of this report, 85% (88 of 103) of the projects are updated as of 2015.

¹ For more information on the Life Cycle Scheduling Methodology, see Chapter 4 in this Report.

² The only meeting that did not take place was that concerned with the Guianese Shield Hub.

The countries were requested to update the information on their projects directly in the COSIPLAN Project Information System (PIS).

Diagnosis of the API Projects Status: In 2015, the countries conducted a review of the status of the API projects, including both the structured and the individual ones, with the purpose of identifying problems or difficulties obstructing their progress or completion, and benefitting from the efforts offered by the Secretary General of UNASUR to facilitate overcoming the obstacles identified. As of the date of this report, the document on the second stage of analysis and diagnosis of the API projects is underway.

Changes in API between 2014 and 2015: Compared to 2014, individual projects rose from 100 to 103 because two projects were added to the Andean Hub and one to the Amazon Hub. API total estimated investment amount decreased from US\$21,173 million in 2014 to US\$21,136 million in 2015.

2. API in 2015

Territorial Scope of the Projects: When analyzing the API projects by country, it is interesting to note that the countries with the greatest projected investments in API are not necessarily the ones with a greater GDP, population or territory. The first five countries with the highest estimated investment in API are Paraguay, Argentina, Peru, Colombia and Brazil. Most API individual projects are national. These national projects, in terms of number, account for 72% of API and, in terms of estimated investment, for 84% of the Agenda.

Sectors and subsectors: Of all the API individual projects, 97% fall in the transport sector and account for an investment estimated at 91% of the total. The other 3% falls in the energy sector and accounts for an estimated investment of 9%. Regarding the subsector-based breakdown of the API individual projects, road projects account for 31% of the Agenda and almost half of its total estimated investment amount (45%).

API Technical Characteristics:

Based on the data supplied by the countries in the COSIPLAN Project Information System, API involves:

- one freight and passenger airport
- more than 7,935 km of road corridors
- two beltways, one bypass, one rode interchange, one rode junction, and one roundabout
- two tunnels
- 57 bridges
- more than 7,154.4 km of rail corridors
- four river ports, two river port terminals, and 12 docks
- 8,508 km of waterways in 14 rivers and two lakes
- one system for water level prediction
- four sea ports
- six logistics transfer centers
- one management control system
- 12 border control and border service centers
- two 500-kV transmission lines running along 710.9 km
- one 1,500-km long trunk gas pipeline

Type and Source of Financing: The financing defined for the API projects is provided mostly by the public sector (75% of the total estimated investment), while the other investments in the works come from the private sector (15%) and public-private initiatives (10%). Public financing predominates regardless of the sector. In the transport sector, it finances 75% of the projects. As for the sources of financing, it is worth noting the role played by the national treasuries, which finance 37% of the total works involved in API.

The ten API individual projects that require the most financing account for approximately 62% of the whole amount estimated for the works in the Agenda.

API Implementation Status: Most API individual projects (37%) are at the pre-execution stage, while API estimated investment is concentrated in the projects at the execution stage (45%). On the basis of the distribution of the projects among each stage and of their degree of progress within each sub-stage, the following can be observed:

- In the case of the pre-execution stage, 20 of the 38 projects are at an advanced level as their studies have been completed and approved, the permits have been granted, and the financing for commencing the works has been secured.
- Four of the 31 projects at the execution stage are at an advanced level, i.e. more than half of the works involved have been completed.

Estimated Completion of the Projects: The API individual projects that have already been completed are 14, and the investment necessary has amounted to US\$868 million. In 2015, three projects were completed, belonging to the Andean, Amazon, and Central Interoceanic Hubs.

When analyzing API in terms of its projection into the future, it should be noted that almost 80% of the individual projects will be completed by 2018, involving the implementation of 50% of the estimated investment amount. Most projects will be completed in 2022, which is the deadline established for API implementation, involving the expenditure of 84% of the investment estimated for the entire Agenda.

3. The Integration and Development Hubs

The **Amazon Hub** comprises 27 individual projects, structured into three API projects for an investment estimated at US\$3,205 million. Five works have been completed, and another 17 are expected to be completed before 2019. Two structured projects will be completed in 2019 and the other one, in 2020.

The **Andean Hub** comprises 13 individual projects, structured into five API projects for an investment estimated at US\$4,258 million. Three works have been completed, and another five works as well as four structured projects are expected to be completed before 2020.

The **Capricorn Hub** comprises 18 individual projects, structured into five API projects for an investment estimated at US\$7,473 million. Two works have been completed, and another two works as well as two structured projects are expected to be completed before 2019.

The **Guianese Shield Hub** comprises six individual projects, structured into three API projects for an investment estimated at US\$959 million. Two works have been completed, and another two works as well as two structured projects are expected to be completed before 2019.

The **Paraguay-Paraná Waterway Hub** comprises 16 individual projects, structured into four API projects for an investment estimated at US\$1,562 million. Eight works will be completed before 2019, which will involve the implementation of 78% of the investment for the Hub and the completion of two structured projects.

The **Central Interoceanic Hub** comprises seven individual projects, structured into four API projects for an investment estimated at US\$449 million. All the works are expected to be completed before 2018, except for the works involved in the Bioceanic Railway Corridor, which will be completed in 2024, the same year of completion of three structured projects.

The **MERCOSUR-Chile Hub** comprises 15 individual projects, structured into six API projects for an investment estimated at US\$3,144 million. All the works are expected to be completed before 2019, except for the works involved in the Agua Negra Binational Tunnel and the Northeastern Argentina Gas Pipeline, which will be completed in 2022, the same year of completion of four structured projects.

The **Peru-Brazil-Bolivia Hub** comprises one structured project made up of a single individual project for an investment estimated at US\$85 million. The project is expected to be completed in 2017.

4. The Territory and Integration Infrastructure Planning

The distinctive feature of the cooperation and dialogue process aimed at securing a greater and more sustainable physical integration in the region has been **infrastructure planning in the transportation, energy and communications sectors with a regional perspective**. With a focus on the territory, this process is intended to enhance the competitiveness of the economies of the region, contribute to reducing regional disparities and social inequality, and improve life expectancy and quality of life in every country and in the region as a whole.

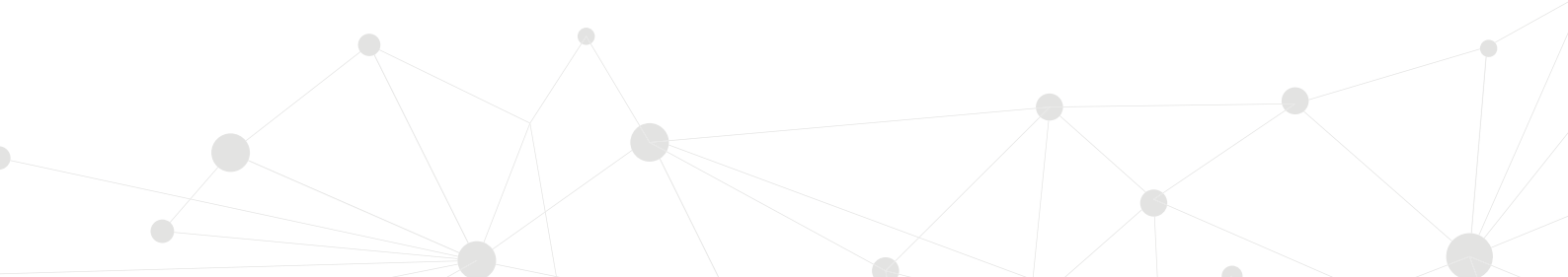
In order to frame infrastructure planning, theoretical and practical tools linking the territory and infrastructure were used, which helped set up the **Integration Infrastructure Project Portfolio**. This was possible thanks to the development and application of the **Indicative Territorial Planning Methodology**. This methodology is based on the identification of Integration and Development Hubs, which organize the South American territory and structure the portfolio.

In 2011, the countries approved the **Integration Priority Project Agenda (API)**, which is made up of a subset of COSIPLAN Portfolio projects. With the creation of API that same year, the notion that interventions in the territory go beyond the construction of physical works was strengthened, in keeping with the objectives of UNASUR.

In order to record the progress made in the implementation of the API projects, it became necessary to add two new components associated with the Project Database: (i) a module to consolidate all the information on the API projects, and (ii) a **Continuous Monitoring System (CMS)** for these projects, based on the **Methodology for Scheduling the Life Cycle** of the API individual projects.

To incorporate these new instruments, technical and programming adjustments had to be made to the Project Database platform in place. In this context, the **COSIPLAN Project Information System (PIS)**, comprising three online interconnected components for both access and data entry, was developed in 2013.

In 2015, small adjustments were made to the PIS to improve the performance of the new elements developed the previous year. An advanced search option with new search filters was created, including a new criteria selection methodology. Some information fields in the project files were improved, and new fields were added, such as “Risks and Hazards” and “Estimated Completion Date.” Several reports were enhanced and created. The charts of the API structured projects were modified, and the API Structured Projects CMS was opened to public access.







Introduction

The origins of South American physical integration can be traced as far back as more than a decade ago. Indeed, since 2000, the South American governments have been making a major effort of cooperation with the purpose of securing a greater and more sustainable physical integration in the region. The First South American Presidential Summit, held in Brazil that same year, marked the beginning of a process of integration and cooperation in different fields among the twelve independent South American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela. Among other actions, the **Initiative for the Integration of Regional Infrastructure in South America (IIRSA)** was launched that year.⁽¹⁾

The **Union of South American Nations (UNASUR)** was created by the South American presidents in 2008 as a forum for high-level political dialogue and coordination among the twelve countries of the region. In 2009, within this institutional framework, a number of sectoral councils at ministerial level, one of which is the **South American Infrastructure and Planning Council (COSIPLAN)**, were created.⁽²⁾ COSIPLAN is the forum where political and strategic discussions are held with a view to planning and implementing the UNASUR Member Countries' regional infrastructure integration.

In 2010, the presidents charged the COSIPLAN with the task of identifying and selecting a series of works that would impact powerfully on the integration and development of South America, the result of which was the **Integration Priority Project Agenda (API)**. The objective of API is to "promote regional connectivity by building infrastructure networks for physical integration purposes, considering sustainable social and economic development criteria, and preserving the environment and the balance of ecosystems."⁽³⁾

The projects in this Agenda were selected on the basis of the following criteria:

- **CRITERION 1:** The projects should belong to the COSIPLAN Project Portfolio⁽⁴⁾ and be a priority in government action, and there should be a commitment to accomplish them (evidenced by the allocation of funds through multi-year financing programs, by the legislation passed, the budget measures taken, etc.).
- **CRITERION 2:** Feasibility studies should be available, or the country should have the funds allocated to start their execution.
- **CRITERION 3:** The projects should strengthen connectivity networks that are regional in scope, and involve cross-border synergies.
- **CRITERION 4:** There should exist an opportunity or a need for taking complementary actions intended to promote efficient service provision and the sustainable development of the territory, according to the characteristics and modality of each specific project.

API is made up of "structured projects." They involve one or more projects from the COSIPLAN Project Portfolio that are known, for the purposes of this Agenda, as "individual projects." The structured projects strengthen physical connectivity networks that are regional in scope, and are distributed in the different Integration and Development Hubs.

In 2012, the Presidents approved the COSIPLAN **Strategic Action Plan (PAE) 2012-2022** and **API**, the two instruments that would structure the work of COSIPLAN in the next ten years. Since then, the progress and implementation of the API projects have deserved special attention by the Council.

Between 2012 and 2013, the countries worked on the design of a **Methodology for Scheduling the Life Cycle**⁽⁵⁾ of the API individual projects. Furthermore, on the basis of this methodology, a **Continuous Monitoring System (CMS)**, which is part of the COSIPLAN Project Information System (PIS), was developed. The purpose of both instruments is to monitor project progress and facilitate decision making by the competent authorities in order to achieve project implementation.

API is reviewed and updated each year by the South American countries, and is one of the main tools of COSIPLAN to implement the integration of South American infrastructure.

1 For more information, visit <http://www.iirsa.org>.

2 For more information, visit <http://www.iirsa.org/cosiplan.asp>

3 For more information, visit <http://www.iirsa.org/pae.asp>

4 For more information, visit <http://www.iirsa.org/api.asp>

5 For more information on the Life Cycle Scheduling Methodology, see Chapter 4 in this Report.



Chapter 1

Evolution of the Integration Priority Project Agenda

API responds to the need to identify and select a series of works that would impact powerfully on the integration and development of South America in order to promote regional connectivity by building infrastructure networks for physical integration purposes, considering sustainable social and economic development criteria, and preserving the environment and the balance of ecosystems.

This chapter presents the evolution of API between 2012 and 2015, taking into account the number of individual projects and the total estimated investment. Furthermore, it provides a detailed analysis of the progress made by the API projects between 2014 y 2015 as a result of the work conducted by the countries during this year's update process.

1.1. The Evolution of API between 2012 and 2015

Since its creation in 2011, API comprises the same 31 structured projects, and changes in terms of number during this period have been in individual projects. A relatively greater variation has been experienced in the estimated investment in the works concerned, which increased by 22% (from US\$17,261 million to US\$21,136 million) between 2012 and 2015.

At present, API includes 31 structured projects made up of 103 individual projects, amounting to an investment estimated at US\$21,136 million.

EVOLUTION OF API BETWEEN 2012 AND 2015

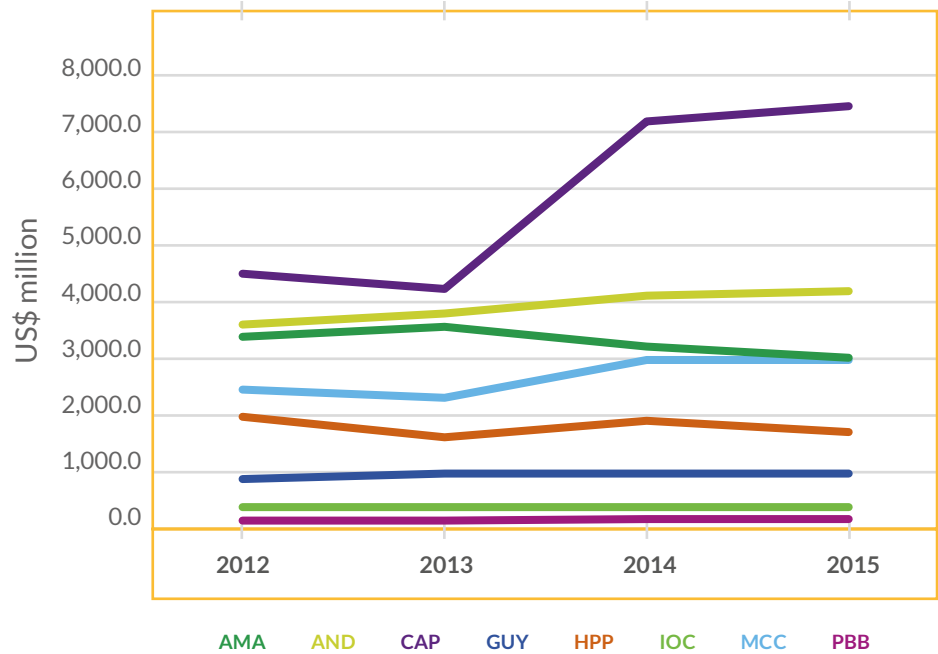
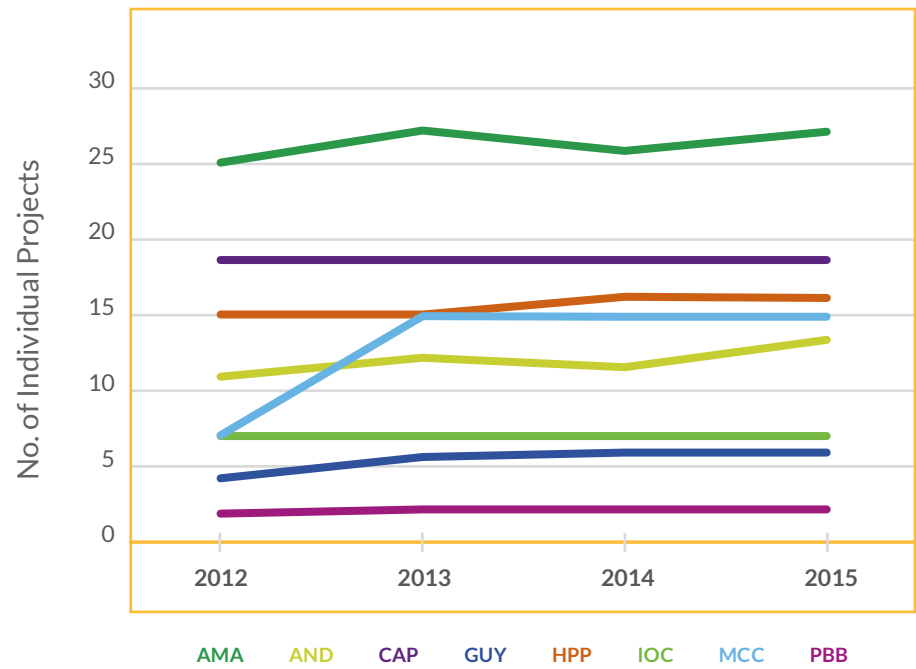
* US\$ million

	No. of Individual Projects	Estimated Investment*
2012	88	17,260.7
2013	101	16,713.8
2014	100	21,172.6
2015	103	21,135.5

The Integration and Development Hubs that incorporated more individual projects are the MERCOSUR-Chile Hub (8), followed by the Amazon and Andean Hubs (2 each). In most of the cases, the increase in the number of projects is due to the splitting of a project into several, more specific ones. Projects Optimization of the Cristo Redentor Border Crossing System, and Autopista del Sol Expressway: Improvement and Rehabilitation of the Sullana - Aguas Verdes Section are two cases in point.

Concerning the estimated investment, the increase in the Capricorn Hub and, to a lesser extent, in the Andean and the MERCOSUR-Chile Hubs is the most important.

EVOLUTION OF API BETWEEN 2012 AND 2015 BY HUB



1.2. Results of API Updates in 2015

The focuses of the countries' action related to the COSIPLAN Project Portfolio are defined jointly through several tools: the Strategic Action Plan (PAE), the work plans designed by consensus on an annual basis, and the COSIPLAN meeting occasions. In 2015, the countries laid particular emphasis on the following four activities:

1.2.1. Virtual Meetings

For the first time, virtual meetings of the Executive Technical Groups to Update the Projects in the COSIPLAN Portfolio and API were held. A meeting was held for each Integration and Development Hub ⁽¹⁾ using an online video-conferencing tool. The advantages of this new form of work are the following:

- Considerable savings in financial and human resources relating the logistical arrangements vis-à-vis face-to-face meetings
- Participation of multidisciplinary teams
- Maximization of the use of time to update the information by Hub, as the meetings are held in different weeks

GTE MEETINGS TO UPDATE THE COSIPLAN PORTFOLIO AND API 2015

Date	Hubs	Countries
26-may	Andean Hub	BO - CO - EC - PE - VE
28-may	MERCOSUR-Chile Hub	AR - BR - CH - PY - UY
02-jun	Central Interoceanic and Peru-Brazil-Bolivia Hubs	BO - BR - CH - PE - PY
16-jun	Capricorn and Southern Hubs	AR - BO - BR - CH - PY
18-jun	Amazon Hub	BR - CO - EC - PE
24-jun	Paraguay-Paraná Waterway Hub	AR - BO - BR - PY - UY

The main objectives of these meetings were: i) review the projects reported to be at the profiling stage since 2011; ii) review the projects not updated after 2013; iii) review the projects, the files of which are empty or incomplete; and iv) analyze the projects proposed to be added and removed, as well as those requiring specific revision.

1.2.2. COSIPLAN Project Information System Update

In preparation for the above-mentioned meetings and as a result of the discussions held at them, the countries worked on the update of the Portfolio and API projects in the COSIPLAN Project Information System.

As of the date of this report, 85% (88 of 103) of the projects are updated.⁽²⁾

In addition, progress was made in the entry of information on each project life cycle in the Continuous Monitoring System (CMS), as well as on the completed projects, as agreed by the countries in 2014.⁽³⁾

1 The only meeting that did not take place was that concerned with the Guianese Shield Hub. The countries were requested to update the information on their projects directly in the COSIPLAN Project Information System (PIS).

2 Information cut-off date: August 18, 2015.

3 As part of the Work Plan 2014, the countries carried out specific actions intended to enhance the quality and standardization of the Portfolio and API project data, and to better communicate their progress and outcomes. This resulted in the following: (i) the organization of the fields in the project files; (ii) specific descriptors by sector, subsector and type of works; (iii) results indicators for the projects already completed; (iv) the application of the Continuous Monitoring System (PMS) to the Project Portfolio; and (v) API progress indicators. For more information on the CMS and the PIS, see COSIPLAN Project Portfolio Report 2014, Annex II.

1.2.3. Diagnosis of the API Projects Status

In 2015, the countries conducted a review of the status of the API projects, including both the structured and the individual ones, with the purpose of identifying problems or difficulties obstructing their progress or completion, and benefitting from the efforts offered by the Secretary General of UNASUR to facilitate overcoming the obstacles identified.

This work was conducted in two stages. The results of the first stage were presented at the meetings of IIRSA National Coordinators and of the COSIPLAN Coordinating Committee held on August 19 and 20, 2015. On the basis of such work, with the aim of making the most of it, it was decided that there would be a second review stage. The primary objective of this review is to ensure consistency in the meaning of each of the categories of difficulties defined and to establish their order of importance. Another purpose is to identify the future courses of action to solve problems in project implementation/progress/completion.

As of the date of this report, the document on the second stage of analysis and diagnosis of the API projects is underway. The results of this work will be presented at the XIII Meeting of the Coordinating Committee (December 2, Montevideo, Uruguay), and the decisions taken on this occasion will be submitted to the COSIPLAN Ministers for their consideration and approval at their VI Ordinary Meeting (December 3, Montevideo, Uruguay).

1.2.4. Changes in API between 2014 and 2015

As already mentioned, API remains relatively stable regarding the number of projects, even though some changes were introduced over this year.

Compared to 2014, individual projects rose from 100 to 103 because two projects were added to the Andean Hub and one to the Amazon Hub.

This increase is due to the splitting of project Improvement of Navigation Conditions on the Napo River into two projects (Ecuadorian Section and Peruvian Section), and of project Autopista del Sol Expressway: Improvement and Rehabilitation of the Sullana - Aguas Verdes Section (including Tumbes Bypass) into three projects:

- Upgrade of Sullana - Tumbes - Turn-off to the International Bypass Road to a Four-Lane Road
- Rehabilitation and Construction of Bridges along the Sullana - Tumbes - Turn-off to the International Bypass Road
- Construction of Tumbes Bypass

API total estimated investment amount decreased from US\$21,173 million in 2014 to US\$21,136 million in 2015.

As detailed below, investment amounts increased in some Hubs and decreased in others. The reason is that, as projects move on in their life cycle, the investments necessary to implement them are known with greater precision.

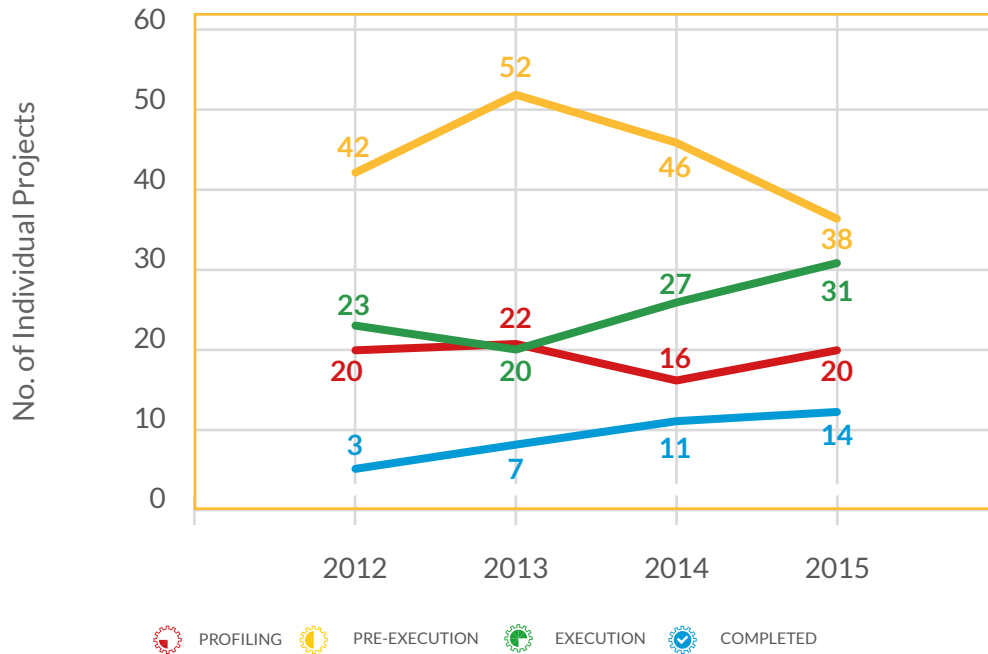
EVOLUTION OF API BETWEEN 2012 Y 2015 BY HUB

* US\$ million

	No. of Structured Projects	% of Structured Projects	No. of Individual Projects		% of Individual Projects		Estimated Investment*		% of Investment (per Hub against the total)	
			2014	2015	2014	2015	2014	2015	2014	2015
AMA	3	9.7	26	27	26.0	26.2	3,286.5	3,205.2	15.5	15.2
AND	5	16.1	11	13	11.0	12.6	4,137.4	4,258.2	19.5	20.1
CAP	5	16.1	18	18	18.0	17.5	7,250.4	7,473.4	34.2	35.4
GUY	3	9.7	6	6	6.0	5.8	958.8	958.8	4.5	4.5
HPP	4	12.9	16	16	16.0	15.5	1,862.3	1,562.3	8.8	7.4
IOC	4	12.9	7	7	7.0	6.8	460.1	448.6	2.2	2.1
MCC	6	19.4	15	15	15.0	14.6	3,131.8	3,143.6	14.8	14.9
PBB	1	3.2	1	1	1.0	1.0	85.4	85.4	0.5	0.4
	31	100	100	103	100.0	100.0	21,172.6	21,135.5	100.0	100.0

When considering the stages of the individual projects in the 2012-2015 period, the evolution in terms of the increase in number of projects in execution and completed as well as the reduction of projects at the pre-execution stage become apparent.

EVOLUTION OF API BETWEEN 2012 AND 2015 BY STAGE





Chapter 2

API in 2015

This chapter describes the projects that make up API, taking into consideration their territorial scope, their technical characteristics, the sectors and subsectors involved, and their source of financing. Concerning the evolution of this Agenda, this chapter presents its progress status, the estimated date of completion of the projects, and an analysis of the projects already completed.

The Integration Priority Project Agenda includes 31 structured projects made up of 103 individual projects from the COSIPLAN Portfolio, amounting to a total investment estimated at US\$21,136 million. Thus, API involves 17% of the projects in the whole COSIPLAN Portfolio and 12% of its estimated investment.⁽¹⁾














PROYECTOS ESTRUCTURADOS DE LA API

* US\$ million

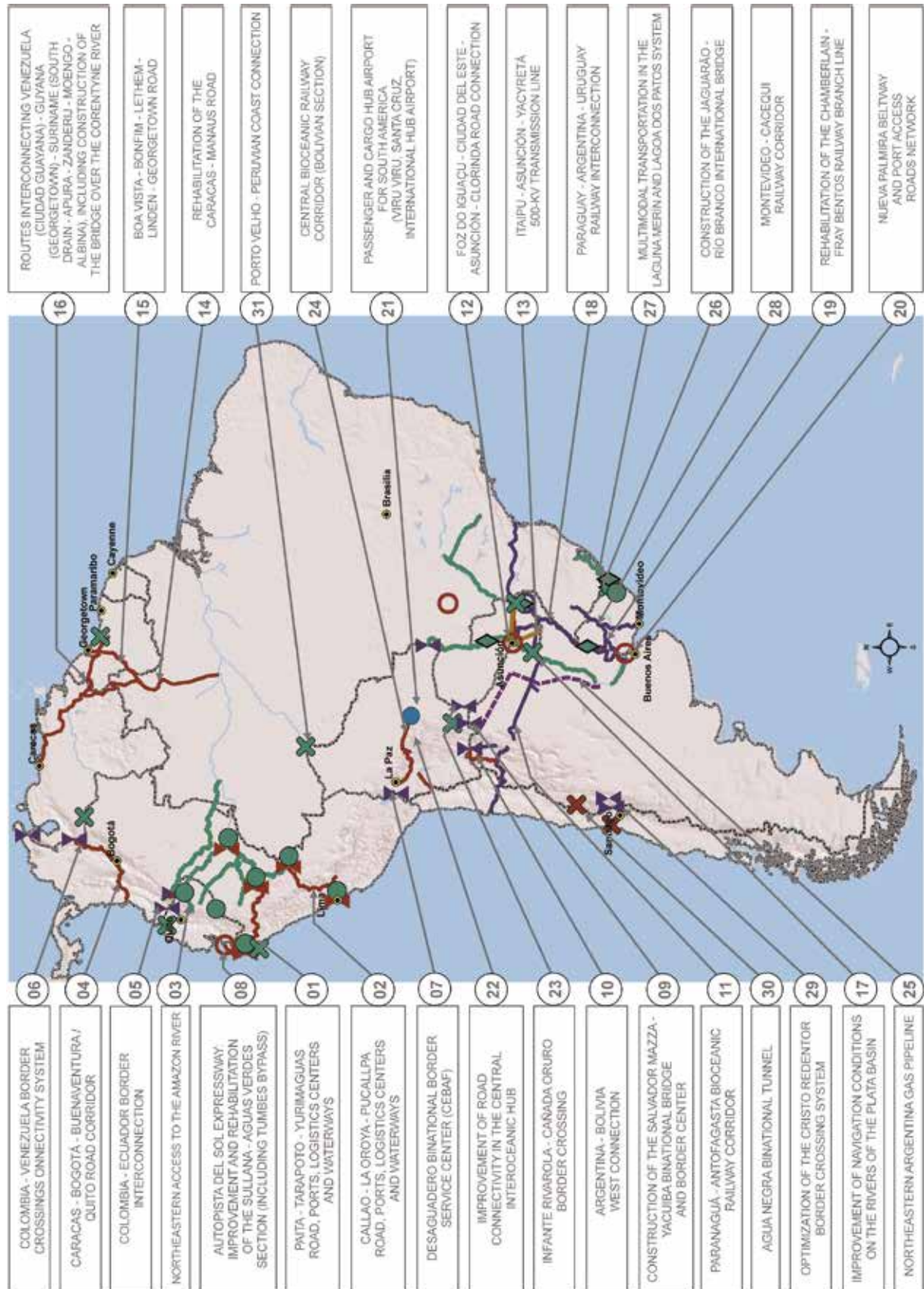
API	Hub	Name	Estimated Investment*	Countries	Stage
1	AMA	PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS	381.6	PE	
2	AMA	CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS	2,761.8	PE	
3	AMA	NORTHEASTERN ACCESS TO THE AMAZON RIVER	61.8	BR - CO - EC - PE	
4	AND	CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR	3,350.0	CO - EC - VE	
5	AND	COLOMBIA - ECUADOR BORDER INTERCONNECTION	287.8	CO - EC	
6	AND	COLOMBIA - VENEZUELA BORDER CROSSINGS CONNECTIVITY SYSTEM	16.0	CO - VE	
7	AND	DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)	29.9	BO - PE	
8	AND	AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS)	574.5	PE	
9	CAP	CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER	45.0	AR - BO	
10	CAP	ARGENTINA - BOLIVIA WEST CONNECTION	477.0	AR - BO	
11	CAP	PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR	5,325.2	AR - BR - CH - PY	
12	CAP	FOZ DO IGUAÇU - CIUDAD DEL ESTE - ASUNCIÓN - CLORINDA ROAD CONNECTION	774.2	AR - BR - PY	
13	CAP	ITAIPU - ASUNCIÓN - YACYRETÁ 500-KV TRANSMISSION LINE	852.0	BR - PY	
14	GUY	REHABILITATION OF THE CARACAS - MANAUS ROAD	407.0	BR - VE	
15	GUY	BOA VISTA - BONFIM - LETHEM - LINDEN - GEORGETOWN ROAD	250.0	BR - GU	
16	GUY	ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (SOUTH DRAIN - APURA - ZANDERIJ - MOENGO - ALBINA), INCLUDING CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER	301.8	GU - SU - VE	
17	HPP	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN	1,170.0	AR - BO - BR - PY - UY	
18	HPP	PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION	277.3	AR - PY - UY	

 PROFILING  PRE-EXECUTION  EXECUTION  COMPLETED

¹ The COSIPLAN Project Portfolio is made up of 593 physical integration projects amounting to a total investment estimated at US\$182,436 million.

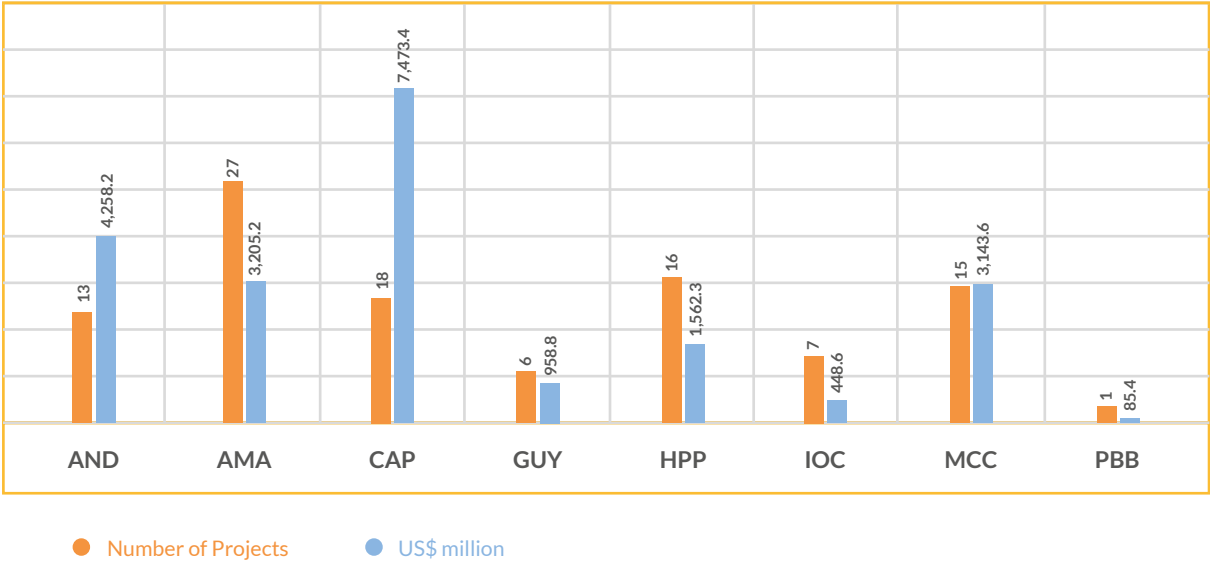
API	Hub	Name	Estimated Investment*	Countries	Stage
19	HPP	REHABILITATION OF THE CHAMBERLAIN - FRAY BENTOS RAILWAY BRANCH LINE	100.0	UY	
20	HPP	NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK	15.0	UY	
21	IOC	PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)	20.0	BO	
22	IOC	IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB	420.0	BO - BR	
23	IOC	INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING	1.9	BO - PY	
24	IOC	CENTRAL BIOCEANIC RAILWAY CORRIDOR (BOLIVIAN SECTION)	6.7	BO	
25	MCC	AGUA NEGRA BINATIONAL TUNNEL	1,600.0	AR - CH	
26	MCC	NORTHEASTERN ARGENTINA GAS PIPELINE	1,000.0	AR - BO	
27	MCC	OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM	272.0	AR - CH	
28	MCC	MONTEVIDEO - CACEQUI RAILWAY CORRIDOR	139.9	BR - UY	
29	MCC	CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE	93.5	BR - UY	
30	MCC	MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM	38.2	BR - UY	
31	PBB	PORTO VELHO - PERUVIAN COAST CONNECTION	85.4	BR - PE	
TOTAL			21,135.5		

API STRUCTURED PROJECTS MAP



The Hubs with the greatest share in API are the Amazon Hub in terms of the number of individual projects (26%), and the Capricorn Hub in terms of the estimated investment (35%). The share of the Amazon and Paraguay-Paraná Waterway Hubs in relation to the estimated investment amount is substantially lower than their share in terms of number of projects, whereas the reverse holds for the Andean and Capricorn Hubs.

API HUB-BASED BREAKDOWN



2.1 Territorial Scope of the Projects

When analyzing the API projects by country, it is interesting to note that the countries with the greatest projected investments in API are not necessarily the ones with a greater GDP, population or territory. The first five countries with the highest estimated investment in API are Paraguay, Argentina, Peru, Colombia and Brazil.

API COUNTRY-BASED BREAKDOWN

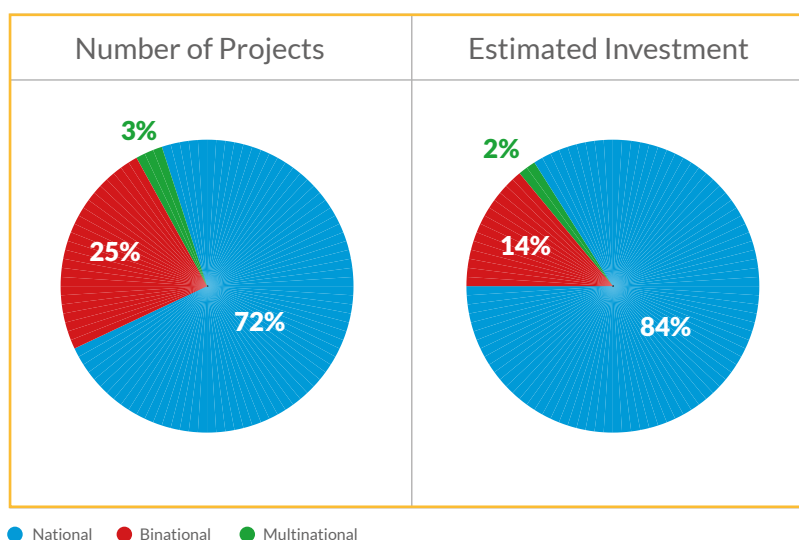
* US\$ million

	No. of Projects	% of Projects	Estimated Investment*	% of Investment
ARGENTINA	21	15.4	4,457.9	17.5
BOLIVIA	12	8.8	569.5	2.2
BRAZIL	18	13.2	3,516.6	13.8
CHILE	5	3.7	1,702.0	6.7
COLOMBIA	9	6.6	3,668.1	14.4
ECUADOR	8	5.9	164.8	0.6
GUYANA	4	2.9	551.8	2.2
PARAGUAY	16	11.8	5,073.8	19.9
PERU	28	20.6	4,279.2	16.8
SURINAME	2	1.5	301.8	1.2
URUGUAY	9	6.6	529.7	2.1
VENEZUELA	4	2.9	723.8	2.8

Note: Reddish shades: less than 6% of API total investment. Greenish shades: from 6% to 20% of API total investment.

Most API individual projects are national. These national projects, in terms of number, account for 72% of API and, in terms of estimated investment, for 84% of the Agenda.

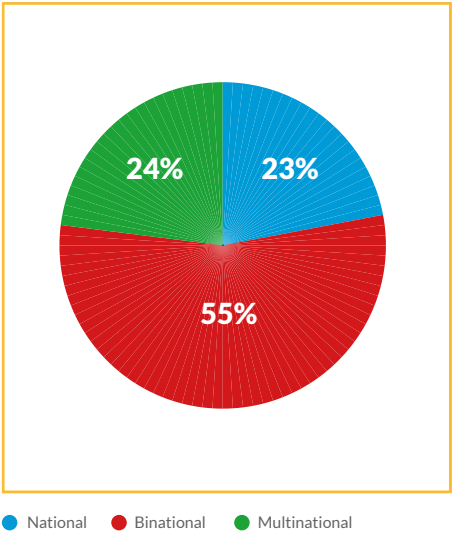
TERRITORIAL SCOPE OF THE INDIVIDUAL PROJECTS



However, when focusing on API structured projects, it should be stressed that their impact is regional in almost 80% of the cases, as the individual projects were articulately arranged by countries.

TERRITORIAL SCOPE OF THE STRUCTURED PROJECTS

% of the No. of Projects



The Hubs with most investments allocated to binational or multinational projects are the Guianese Shield, the MERCOSUR-Chile, and the Paraguay-Paraná Waterway Hubs, with approximately 73%, 33%, and 18% of their estimated investment, respectively. The Capricorn, Andean, Central Interoceanic and Amazon Hubs also include binational and multinational individual projects, accounting for less than 8.5% of the estimated investment in these Hubs.

TERRITORIAL SCOPE OF THE INDIVIDUAL PROJECTS BY HUB

% of the No. of Projects

	AMA	AND	CAP	GUY	HPP	IOC	MCC	PBB
NATIONAL	92.6	61.5	66.7	50	62.5	71.4	66.7	100
BINATIONAL	3.7	38.5	33.3	33.3	31.3	28.6	33.3	0
MULTINATIONAL	3.7	0	0	16.7	6.3	0	0	0
TOTAL	100	100	100	100	100	100	100	100

TERRITORIAL SCOPE OF THE INDIVIDUAL PROJECTS BY HUB

% of the Estimated Investment

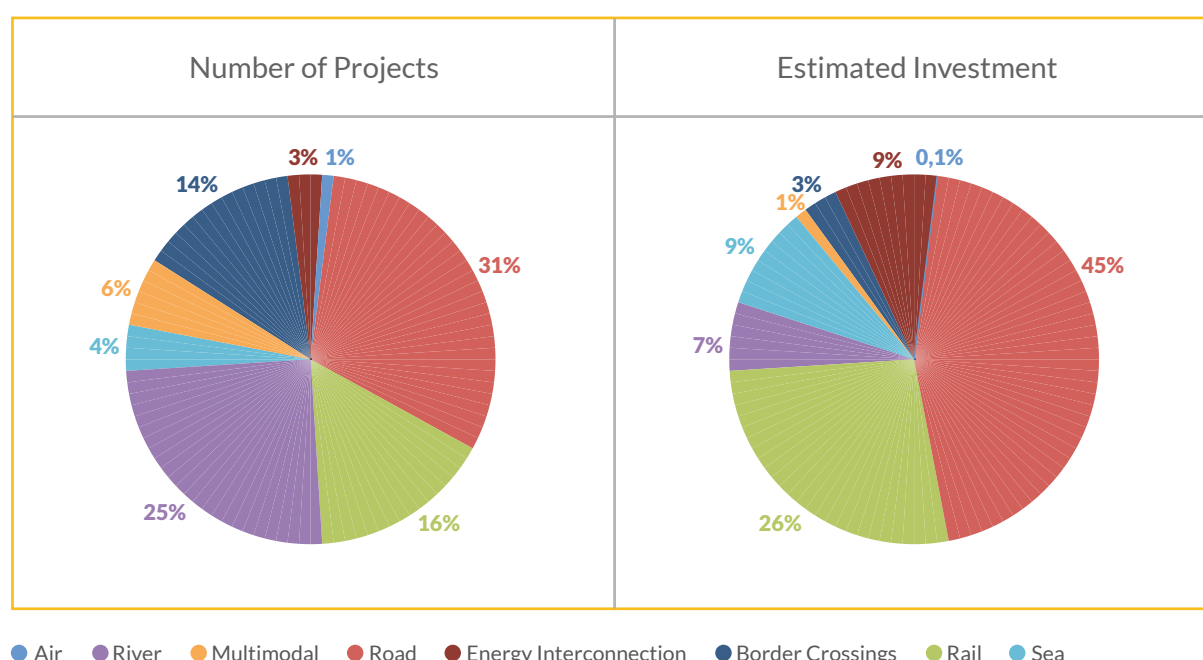
	AMA	AND	CAP	GUY	HPP	IOC	MCC	PBB
NATIONAL	99.5	96.4	91.5	27.2	82.4	99.1	66.7	100
BINATIONAL	0.1	3.6	8.5	41.9	15.1	0.9	33.3	0
MULTINATIONAL	0.4	0	0	30.9	2.5	0	0	0
TOTAL	100	100	100	100	100	100	100	100

2.2 Sectors and Subsectors

As already explained, API is basically a project portfolio intended to improve physical connectivity in the region. Thus, it is no surprising that most of its projects are concerned with the different modes of transport. In fact, 97% of the API individual projects fall in the transport sector and demand 91% of the total estimated investment. The other 3% falls in the energy sector and account for an estimated investment of 9%. Although the latter are few in number, they require a considerable investment on account of their scope and technical characteristics.

Regarding the subsector-based breakdown of the individual projects, road projects account for 31% of API and almost half of its total estimated investment (45%). River projects represent almost a quarter of the API projects and account for only 7% of the estimated investment amount of the Agenda. Similarly, border crossing projects account for 14% in terms of number but only 3% in terms of API total estimated investment. As for rail projects, accounting for 16% in terms of number, they demand 26% of the estimated investment due to the nature of the works involved.

API INDIVIDUAL PROJECTS BY SUBSECTOR

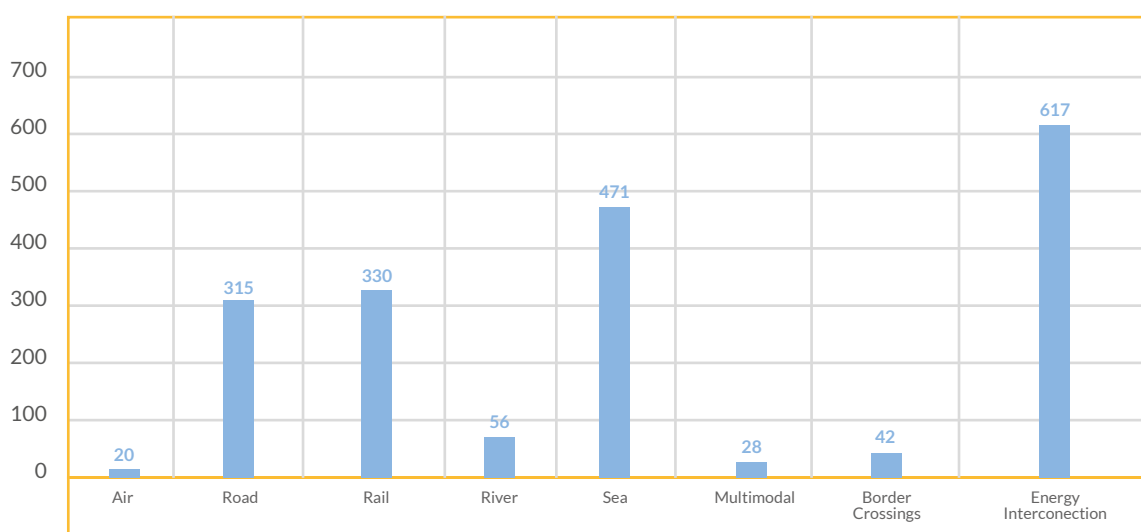


To better understand the nature of each **subsector vis-à-vis the estimated investment**, an analysis of the average cost of the works reveals that energy interconnection projects require the most investment (an average of US\$617 million each, taking into account that this average is affected by the high estimated amount involved in the Northeastern Argentina Gas Pipeline), followed by the sea subsector (US\$471 million, almost all demanded by the works associated with the Callao port), and the rail and road projects, accounting for almost half of the necessary investment.

It is worth noting that the average investment required by the air subsector works is very low, as the only airport project included in API just involves the expansion of an existing airport.

AVERAGE INVESTMENT IN THE API INDIVIDUAL PROJECTS BY SUBSECTOR

*US\$ million



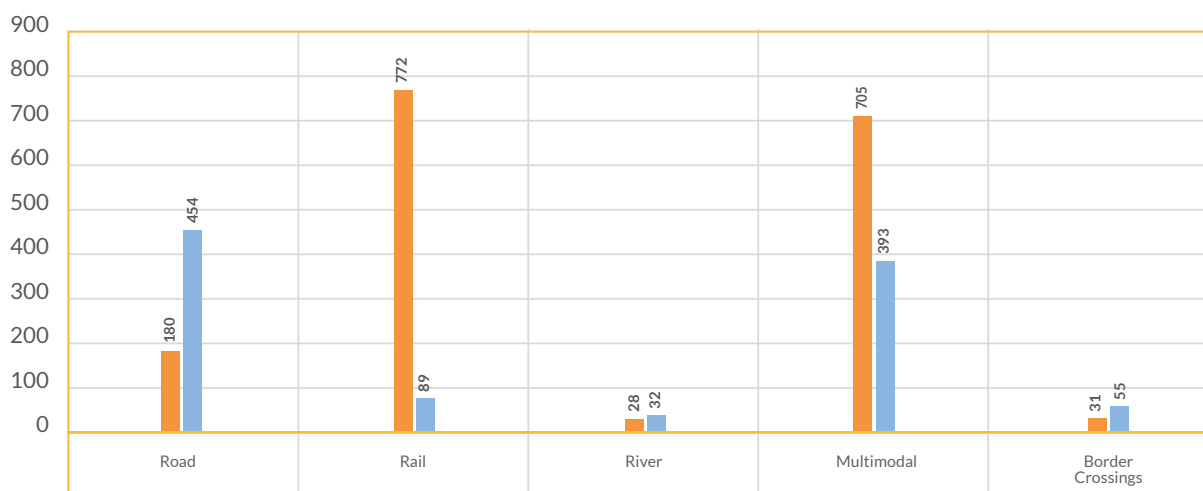
Concerning the **subsectors and type of works involved in API**, for a more detailed analysis a distinction is drawn between new works and works regarding upgrade, expansion or rehabilitation of existing infrastructure. Of the 32 road projects, only seven involve new paving works, representing US\$180 million on average, while the 13 road rehabilitation, expansion and maintenance works represent an average of US\$454 million. This is due to the number of kilometers involved by each type of works. Something similar is observed in border crossings: their infrastructure upgrade and expansion demand nearly twice as much estimated investment as the building of new centers (US\$55 million and US\$31 million, respectively).

An inverse relationship holds for the rail and the sea subsectors. While the rehabilitation of railroads involves an average investment of US\$89 million per works, the investment necessary for the construction of new railroads is much greater: US\$772 million for each project, on average, i.e. almost nine times higher. The same difference is observed between new sea ports and their upgrade: investments in the former almost double those in the latter.

The relationship in the case of river ports is very similar, with US\$28 million for new ports and US\$32 million for upgrade works.

AVERAGE INVESTMENT FOR NEW WORKS AND UPGRADE WORKS INVOLVED IN API INDIVIDUAL PROJECTS

*US\$ million



● New works ● Improvement or rehabilitation of existing works

As regards the sector-based breakdown by Hub, the only three energy projects fall in the Capricorn Hub (2) and the MERCOSUR-Chile Hub (1), the latter involving a greater estimated investment than the other two together.

As for the subsector-based breakdown, there is at least one road project in each Hub, the Amazon, Andean, and Guianese Shield Hubs being the ones with more projects of this type. However, the Andean Hub stands out from the other two because it demands more than three times the estimated investment. This may be related to the geographic characteristics of the territories where the works are located as well as to the number of kilometers that they involve.

Rail projects are mainly located in the Capricorn Hub (9) and, to a lesser extent, in the Paraguay-Paraná Hub (4), although they are also present in the MERCOSUR-Chile (2) and Central Interoceanic (1) Hubs. The Amazon Hub hosts all the sea (4) and multimodal (6) works, in addition to the greatest number of API river projects (11). The Paraguay-Paraná Waterway Hub also has a considerable number of river projects (10, with an estimated investment three-and-a-half times greater than that of the Amazon Hub for works of this type), the other five being located in the MERCOSUR-Chile Hub.

Border crossings are distributed in the Andean (6), MERCOSUR-Chile (4), Capricorn (3), and Central Interoceanic (2) Hubs. Finally, the latter Hub hosts the only air project in the Agenda.

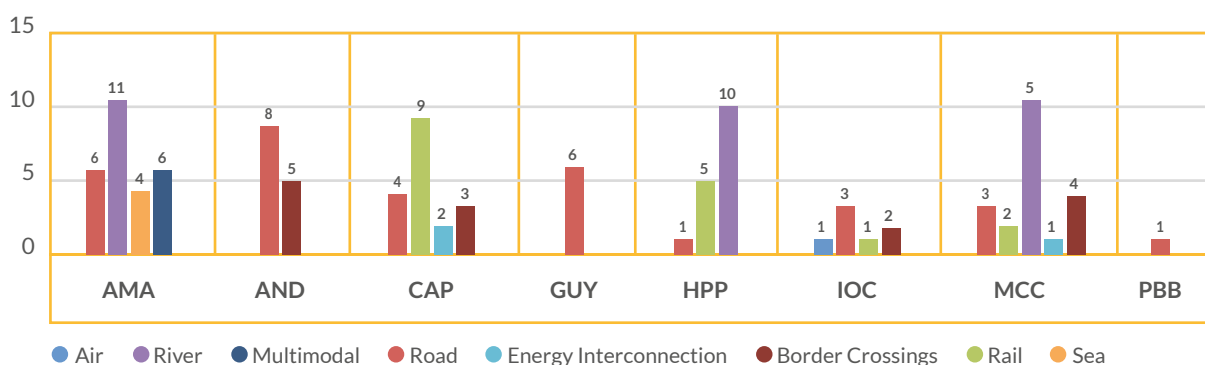
An analysis of the subsectors present in each Hub reveals that they are not evenly distributed. The reason for this is that the greater or smaller presence of a subsector in a given Hub is directly related to the specific characteristics of each territory (a mountainous region, an area with access to the sea, or a plain, among others) and to the number and quality of the infrastructure already in place. Thus, the Hubs with large rivers tend to have more projects falling in the river subsector, as is the case of the Amazon, Paraguay-Paraná Waterway, and MERCOSUR-Chile Hubs.

The only subsector with projects in all the Hubs is the road subsector. This is particularly true of the Andean Hub, which has eight road individual projects.

INDIVIDUAL PROJECTS BY SUBSECTOR AND HUB

No. of Projects

Sub-sector	AMA	AND	CAP	GUY	HPP	IOC	MCC	PBB
Air						1		
Road	6	8	4	6	1	3	3	1
Rail			9		5	1	2	
River	11				10		5	
Energy Interconnection			2				1	
Sea	4							
Multimodal	6							
Border Crossings		5	3			2	4	
Total	27	13	18	6	16	7	15	1

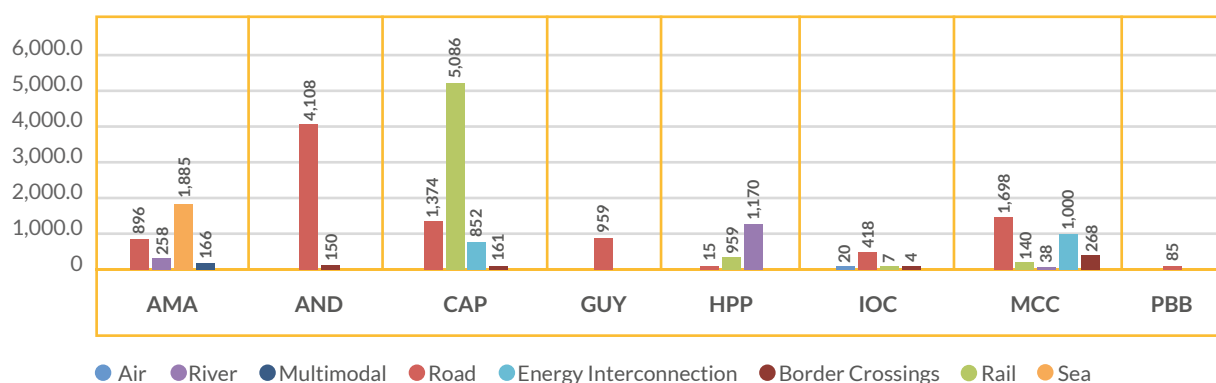


As already noted, the projects falling in the energy interconnection, rail, and road subsectors require comparatively great investments, while the river and border crossings subsectors demand smaller investments. Therefore, the share of each Hub in API in terms of estimated investment differs according to its number of projects and the subsectors involved.

ESTIMATED INVESTMENT BY SUBSECTOR AND HUB

* US\$ million

Sub-sector	AMA	AND	CAP	GUY	HPP	IOC	MCC	PBB
Air						20		
Road	896	4,108	1,374	959	15	418	1,698	85
Rail			5,086		377	7	140	
River	258				1,170		38	
Energy Interconnection			852				1,000	
Sea	1,885							
Multimodal	166							
Border Crossings		150	161			4	268	
Total	3,205	4,258	7,473	959	1,562	449	3,144	85



2.3 API Technical Characteristics

As part of the Work Plan 2014, the countries carried out specific actions intended to enhance the quality and standardization of the COSIPLAN Portfolio and API project data, and to better communicate their progress and outcomes. This resulted in the following: (i) the organization of the fields in the project files; (ii) specific descriptors by sector, subsector and type of works; (iii) results indicators for the projects already completed; (iv) the application of the Continuous Monitoring System (CMS) to the Project Portfolio; and (v) API progress indicators.

These descriptors help identify in standardized terms the objectives of each individual project, report important technical features in an aggregate manner, and produce project indicators by country, project group, or Integration and Development Hub. These new information fields are divided into “primary” and “secondary” and apply mainly to projects at the pre-execution and execution stages.

The technical information on the API projects drawn from the data entered by the countries in the COSIPLAN Project Information System is presented below.



AIR SUBSECTOR

Expansion of one freight and passenger airport



ROAD SUBSECTOR

Paving, rehabilitation, improvement and upgrade of more than **7,935 km of road corridors**
Construction of **two beltways**, one of them 8.5-km long and the other one 46.1 km-long
Construction of a **bypass** made up of a 18.65-km long four-lane road, two road interchanges, two grade-separated junctions, and two bridges
Upgrade of a **road interchange**
Construction of a **road junction and a roundabout**
Upgrade of urban streets for direct access to a port
Construction of **two tunnels**, one of which is binational and 13.9 km long
Construction, rehabilitation or improvement of **57 bridges**, including: a bimodal bridge, a 1,084-m long one, a 760-m long one, a 400-meter long one, an 80-m long one, a 71-meter long one, a 30-m long one, and one including a freight yard



RAIL SUBSECTOR

Construction and rehabilitation of **more than 7,154.4 km of rail corridors**



RIVER SUBSECTOR

Modernization and construction of **four river ports**
Construction of **two river port terminals**
Upgrade and/or construction of **12 docks**
Improvement of navigation conditions along **8,508 km of waterways**
Dredging works, upgrade of corridors and complementary works in **two lakes and their tributaries**
Implementation of a **water level prediction system**



SEA SUBSECTOR

Upgrade and expansion of **four sea ports**



MULTIMODAL SUBSECTOR

Construction of **six logistics transfer centers**, one with an area of 277 ha and another one with an area of 150 ha



BORDER CROSSINGS SUBSECTOR

Design of one management control system made up of interconnected management stations
Construction and improvement of **12 border control and border service centers**, including:

- One border center for integrated control operations in a single customs office and complementary works involving 1,031 m²
- Four border centers (with an area of 20 ha, 24.8 ha, 32 ha and 47 ha, respectively)
- Three binational centers



ENERGY INTERCONNECTION SUBSECTOR

Improvement of **two 500-kV transmission lines** running along **710.9 km**
Construction of a **1,500-km, 24-inch diameter trunk gas pipeline**

2.4 API Financing

The financing defined for the API projects is provided mostly by the public sector (75% of the total estimated investment), while the other investments in the works come from the private sector (15%) and public-private initiatives (10%).

TYPE OF FINANCING

* US\$ million

Type of financing	No. of Projects	% of Projects	Estimated Investment*	% of Investment
Private	19	18%	3,097.6	15%
Public	72	70%	15,857.3	75%
Public-private	12	12%	2,180.6	10%
Total	103	100%	21,135.5	100%

Regarding the sources of financing, it is worth noting the role played by the national treasuries. They finance 37% of the total works involved in API, which shows a great commitment of the countries in the region to the progress of South American physical integration.

Private initiatives, which support 17% of the works involved in API, rank second, while the remaining 36% of the projects have no source of financing allocated.

In addition, it is worth mentioning that the strategic importance of the API projects and the priority attached to them by the countries, by international organizations, and particularly by the CCT institutions (IDB, CAF and FONPLATA) are contributing to carrying out pre-investment studies and financing the works: taken together, the three institutions are financing the pre-execution or execution stage of 17 of the 31 API structured projects.

SOURCE OF FINANCING OF THE API PROJECTS

* US\$ million

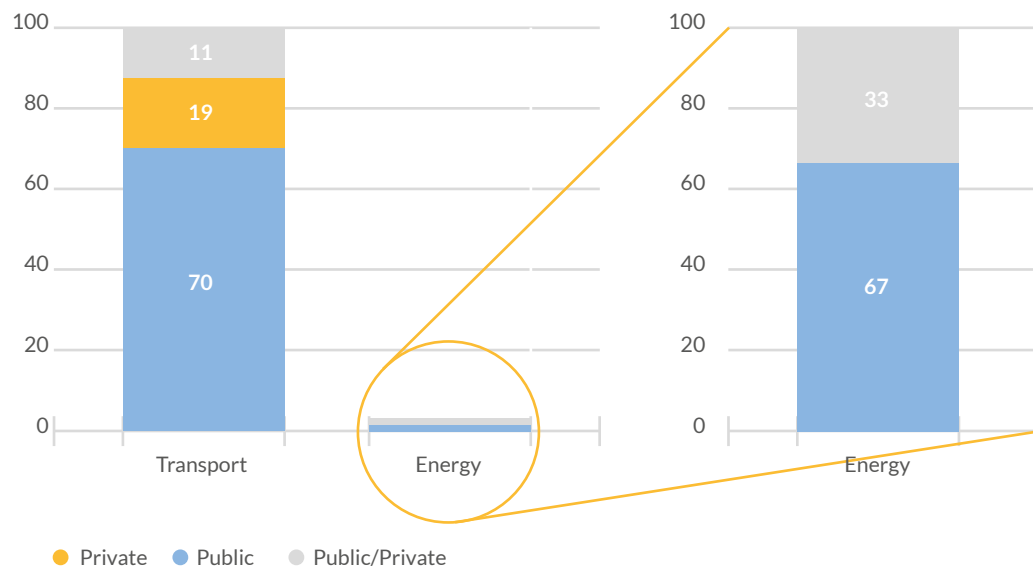
	Estimated Investment*	Investment Spent*
To be defined	7,606.5	
Private banks	18.0	
IDB	499.2	5.2
Binational	231.0	
CAF	388.3	
FOCEM	533.6	400.0
FONPLATA	2.4	
Chinese Government	400.0	
Private	3,582.0	302.0
National Treasury	7,444.6	161.1
Provincial Treasury	350.0	
Miscellaneous	79.8	
Total	21,135.5	868.3

Public financing predominates regardless of the sector. In the transport sector, it finances 75% of the projects.

Private participation prevails in transport projects, both in its strict sense or mixed with the public sector. Private-public initiatives also participate in the energy sector, though with much smaller amounts in absolute terms, as can be seen in the figures below.

TYPE OF FINANCING BY SECTOR

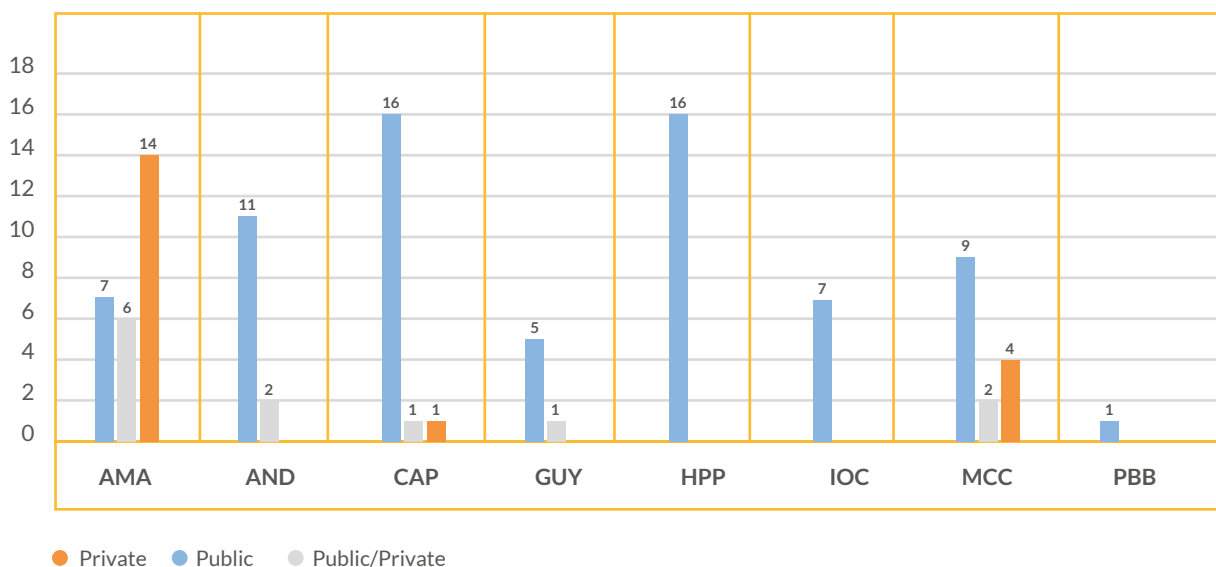
% of Projects



As regards the financing by Hub, the Amazon Hub, specifically Peruvian national projects in the river, sea, road and multimodal subsectors, receive the most private investment. The MERCOSUR-Chile Hub also hosts API works financed by the private sector, but for a much smaller estimated amount; 36% of the investments in this Hub come from public-private initiatives, which accounts for most of this type of investment in API as a whole.

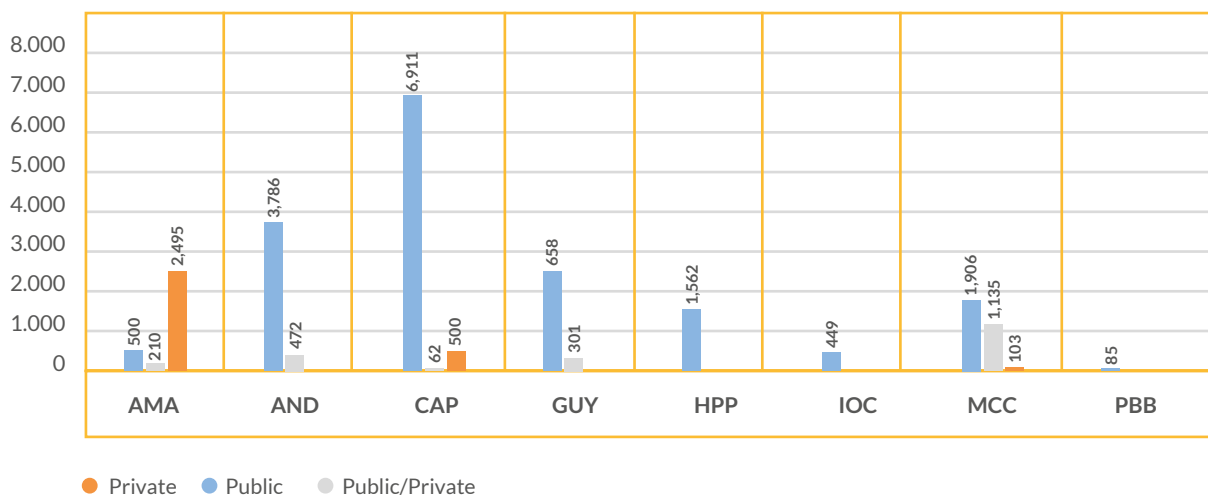
TYPE OF FINANCING BY HUB

No. of Individual Projects



TYPE OF FINANCING BY HUB

* US\$ million



2.5 The Projects with the Highest Estimated Investment

The ten API individual projects that require the most financing account for approximately 62% of the whole amount estimated for the works in the Agenda. Of the first five of them, two are located in the Capricorn Hub and two in the Andean Hub. Most of them are at the execution stage. Seven of the ten are publicly financed, two are financed with private funds, and only one is financed by public-private initiatives.

THE 10 API INDIVIDUAL PROJECTS WITH THE HIGHEST ESTIMATED INVESTMENT

* US\$ million

Code	Name	Type of Financing	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP29	CONSTRUCTION OF CIUDAD DEL ESTE - NEEMBUCÚ RAILWAY	PUBLIC		2,800.0	PY	Jan 2022
AND07	BOGOTÁ - BUENAVENTURA ROAD CORRIDOR	PUBLIC		1,791.0	CO	Aug 2026
MCC110	AGUA NEGRA BINATIONAL TUNNEL	PUBLIC		1,600.0	AR - CH	Dec 2022
AND05	BOGOTÁ - CÚCUTA ROAD CORRIDOR	PUBLIC		1,559.0	CO	Dec 2040
CAP53	BIOCEANIC RAILWAY CORRIDOR: PARANAGUÁ - CASCAVEL SECTION AND GUARAPUAVA - INGENIERO BLEY RAILWAY BYPASS	PUBLIC		1,500.0	BR	NA
MCC68	NORTHEASTERN ARGENTINA GAS PIPELINE	PUBLIC PRIVATE		1,000.0	AR	Dec 2022
AMA66	EL CALLAO MULTI-PURPOSE NORTHERN TERMINAL	PRIVATE		883.5	PE	Jan 2016
HPP19	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE TIETÉ RIVER	PUBLIC		800.0	BR	Feb 2017
AMA31	MODERNIZATION OF EL CALLAO PORT (NEW CONTAINER DOCK)	PRIVATE		704.8	PE	Mar 2018
CAP18	CONCESSION FOR THE IMPROVEMENT OF ROUTES No. 2 AND 7 (ASUNCIÓN - CIUDAD DEL ESTE)	PRIVATE		500.0	PY	Dec 2020
Total				13,138.3		

The Construction of the Ciudad del Este - Ñeembucú Railway is the API individual project with the highest investment amount. This project and the Bioceanic Railway Corridor: Paranaguá - Cascavel Section and Guarapuava - Ingeniero Bley Railway Bypass (the fifth individual project in terms of investment amount) belong to the Capricorn Hub and form part of one of the most challenging connectivity initiatives of API: the Paranaguá - Antofagasta Bioceanic Railway Corridor. This API project ranks first in terms of investment.

This rail corridor is intended to enable the movement of cargo across the continent, from the Brazilian Atlantic coast through Paraguay, Argentina and Bolivia, up to the Chilean Pacific coast.

The Bogotá - Buenaventura Road Corridor is the second API individual project in terms of investment amount. This project and the Bogotá - Cúcuta Road Corridor (fourth individual project in terms of investment amount) belong to the Andean Hub and form part of structured project Caracas - Bogotá - Buenaventura / Quito Road Corridor (US\$3,350 million), which is the second API project with the greatest investment.

This corridor, linked to waterways and multimodal projects, can connect the Pacific and Atlantic oceans, representing an alternative to the Panama Canal for the flow of goods.

The third API individual project with the greatest estimated investment is the Agua Negra Binational Tunnel, located in the MERCOSUR-Chile Hub.

In addition to being the only tunnel included in API, this is an important engineering undertaking on account of its technical solution (two parallel tunnels, one for each direction of traffic), its length (14 km), and its height above sea level (4.085 m).

The sixth individual project with the greatest estimated investment is also located in the MERCOSUR-Chile Hub: the Northeastern Argentina Gas Pipeline.

This large construction project is 1,500 km long, including the Trunk Pipeline and the Provincial Branches. The gas pipeline will strengthen Argentina's energy matrix by linking the gas reserves located in northern Argentina and in Bolivia to the country's areas where the demand is greater.

The projects ranking last among the 10 projects with the highest estimated investment include two projects located in the Amazon Hub and belonging to structured project Callao - La Oroya - Pucallpa Road, Ports, Logistics Centers and Waterways, which, with an investment estimated at US\$2,761 million, is the second API project with the greatest investment.

All the individual projects included in it are Peruvian. The purpose of this API project is to connect the Callao port with different destinations on the Pacific ocean and to enable access to Manaus (Brazil) and, further on, to the Atlantic ocean through the Amazon river.

THE FIVE API STRUCTURED PROJECTS WITH THE HIGHEST ESTIMATED INVESTMENT

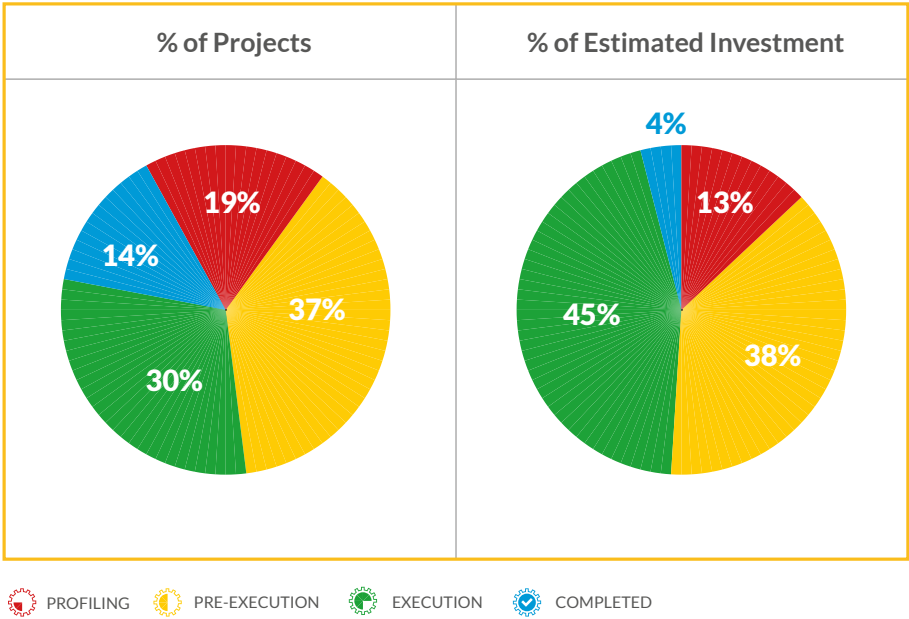
* US\$ million

API	Name	Hub	Estimated Investment*	Countries
11	PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR	CAP	5,325	AR - BR - CH - PY
4	CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR	AND	3,350	CO - EC - VE
2	CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS	AMA	2,762	PE
25	AGUA NEGRA BINATIONAL TUNNEL	MCC	1,600	AR - CH
17	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN	HPP	1,170	AR - BO - BR - PY - UY
26	NORTHEASTERN ARGENTINA GAS PIPELINE	MCC	1,000	AR - BO

2.6 API Implementation Status

Most API individual projects (37%) are at the pre-execution stage, while API estimated investment is concentrated in the projects at the execution stage (45%).

STAGES OF THE API INDIVIDUAL PROJECTS



The completed individual projects account for 14% of API and are distributed in all the Hubs, except for the Paraguay-Paraná Waterway and Peru-Brazil-Bolivia Hubs. The Hubs that received the greatest investment for completed individual projects since the creation of API are the Amazon and the Capricorn Hubs.

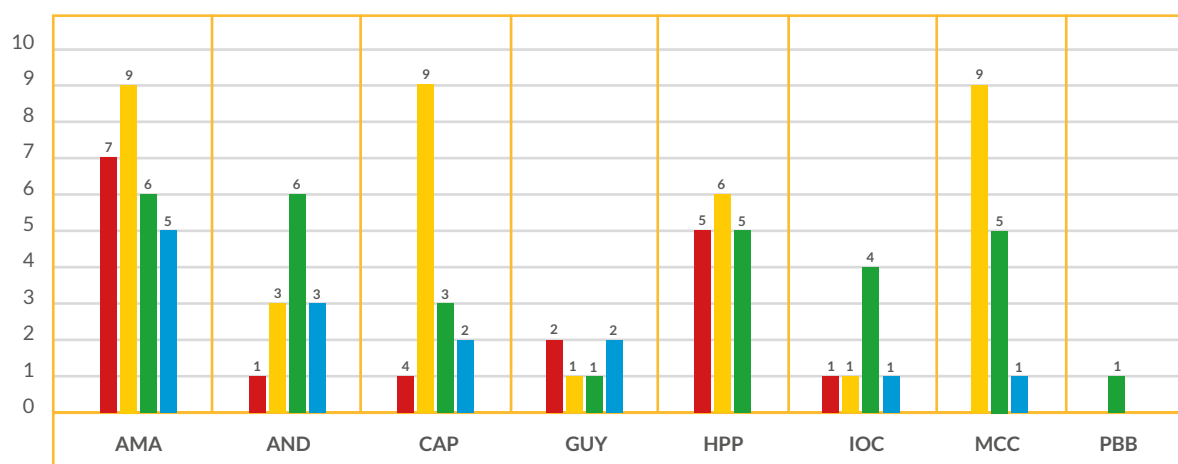
The Capricorn Hub hosts a great number of projects at the profiling and pre-execution stages that demand a high amount of estimated investment, followed by the MERCOSUR-Chile Hub.

At present, the Andean and Amazon Hubs are the ones with most projects in execution and investment made, followed by the MERCOSUR-Chile and the Paraguay-Paraná Waterway Hubs in terms of number of projects and, to a lesser extent, of estimated investment amounts.

The MERCOSUR-Chile and Peru-Brazil-Bolivia Hubs are the only ones that do not have any project at the profiling stage.

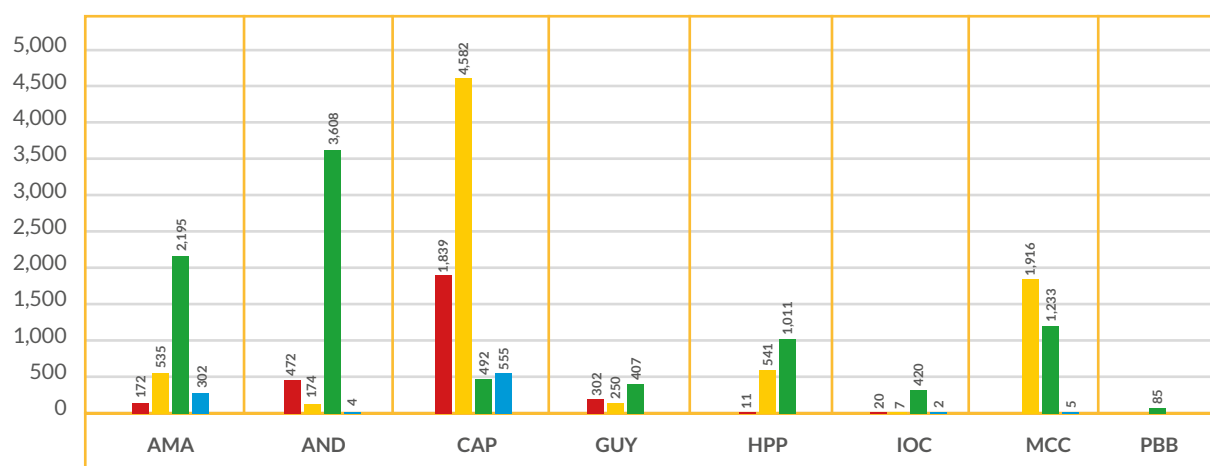
STAGES OF THE API INDIVIDUAL PROJECTS BY HUB

*US\$ million



PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

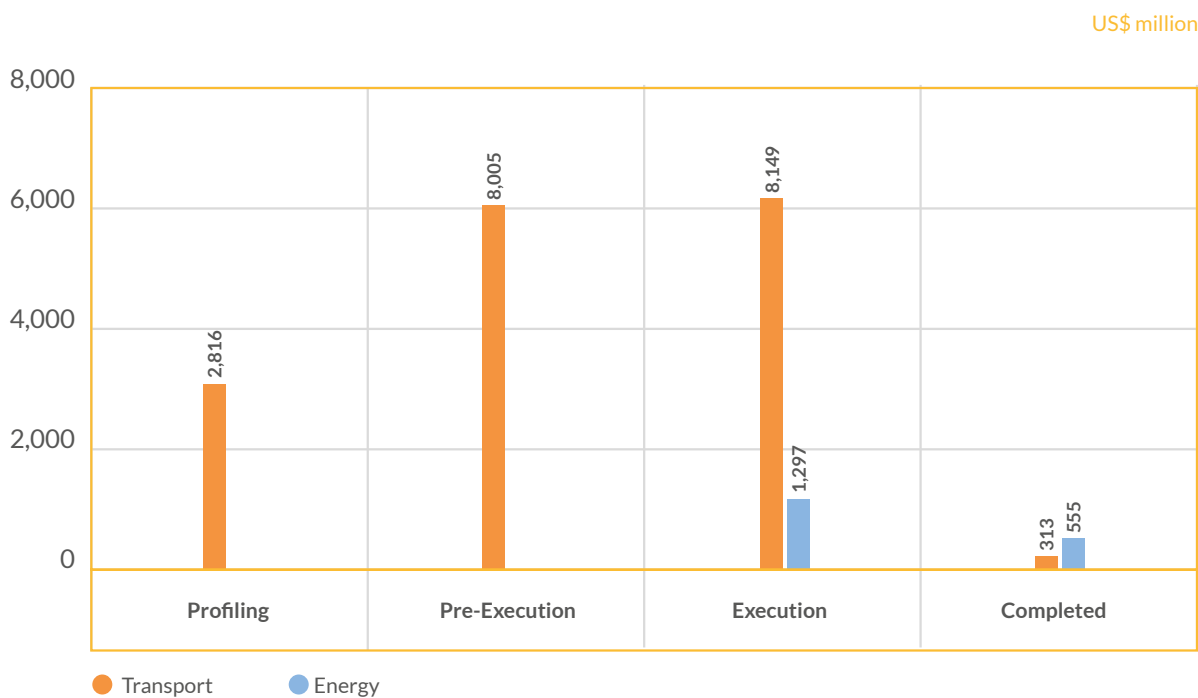
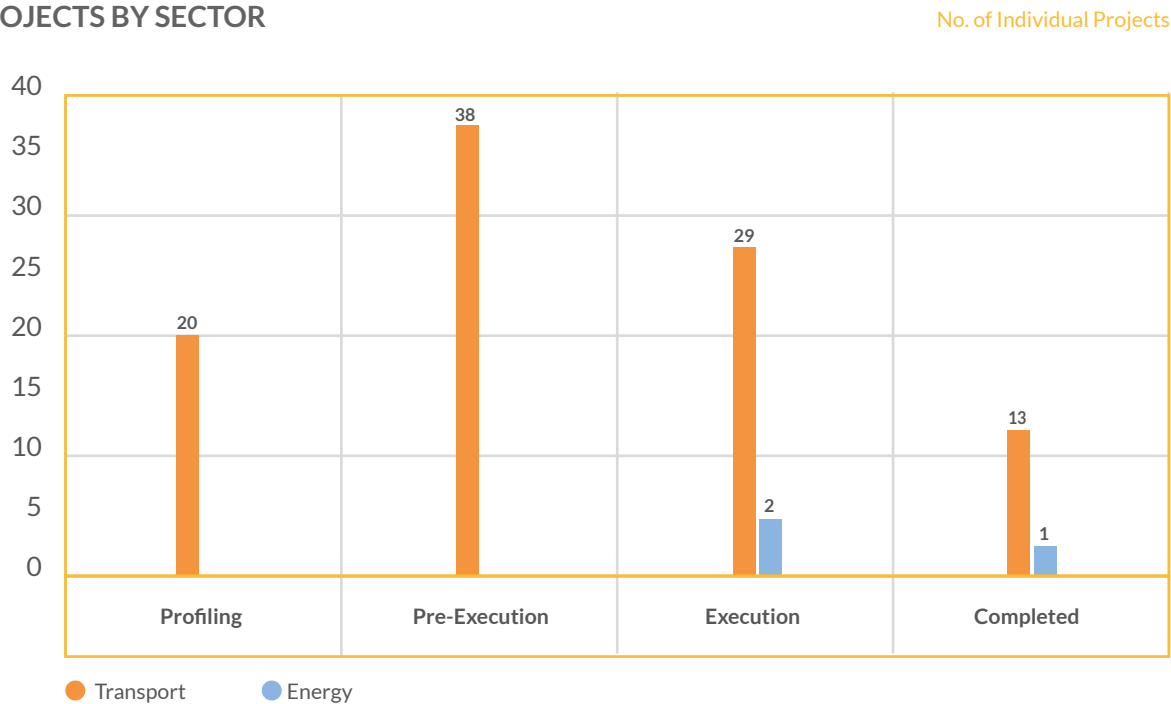
No. of Projects



PROFILING
 PRE-EXECUTION
 EXECUTION
 COMPLETED

An analysis of the evolution of API in terms of sectors reveals that energy projects are either at the execution stage or already completed.

STAGES OF THE API INDIVIDUAL PROJECTS BY SECTOR



On the basis of the distribution of the projects among each stage and of their degree of progress within each sub-stage, the following conclusions can be drawn:

- In the case of the pre-execution stage, 20 of the 38 projects shown in the next to last figure are at an advanced level as their studies have been completed and approved, the permits have been granted, and the financing for commencing the works has been secured.
- Four of the 31 projects at the execution stage are at an advanced level, i.e. more than half of the works involved have been completed.

	PROJECT STAGES AND SUB-STAGES										
	PROFILING	PRE-EXECUTION ⁽³⁾					EXECUTION				COMPLETED
	19%	37%					30%				14%
	20	38					31				14
	Initial status	Resources for studies	Studies underway	Approved studies	Permits granted	Resources for works	1° quarter of works	2° quarter of works	3° quarter of works	4° quarter of works	Works handed over
% and No. of Projects (schedule completed) ⁽¹⁾	60%	34%	13%	13%	16%	11%	55%	19%	3%	10%	64%
	12	13	5	5	6	4	17	6	1	3	9
% and No. of Projects (not scheduled) ⁽²⁾	40%	13%					13%				36%
	8	5					4				5

Notes

1 The values shown for each stage/sub-stage represent the percentage and number of the projects whose life cycle schedule has been completed. The total percentage (100%) is based on the total projects in each stage.

2 The values shown for each stage represent the percentage and number of the projects whose life cycle schedule has not been completed. The total percentage (100%) is based on the total projects in each stage.

3 According to the Project Life Cycle Scheduling Methodology (Chapter 4), the scope of the pre-execution sub-stages is as follows:

- Resources for studies: This sub-stage will be deemed completed when the financial resources needed to carry out the studies are available and all the institutional arrangements to start such studies (e.g. awarding them through tender processes) have been made.
- Studies underway: Studies will be considered to be completed when the study representing the maximum level required for the project concerned to move to the "approved studies" sub-stage has been completed.
- Approved studies: This sub-stage will be deemed completed upon approval of all the studies required by the project.
- Permits granted: This sub-stage will be deemed completed only when all permits have been granted and/or all the institutional formalities required for the project to move to the execution stage have been carried out.
- Resources for works: This sub-stage will be deemed completed when the project has been allocated the financial resources for executing the works and the required institutional formalities have been carried out.

2.7 Estimated Completion of the Projects

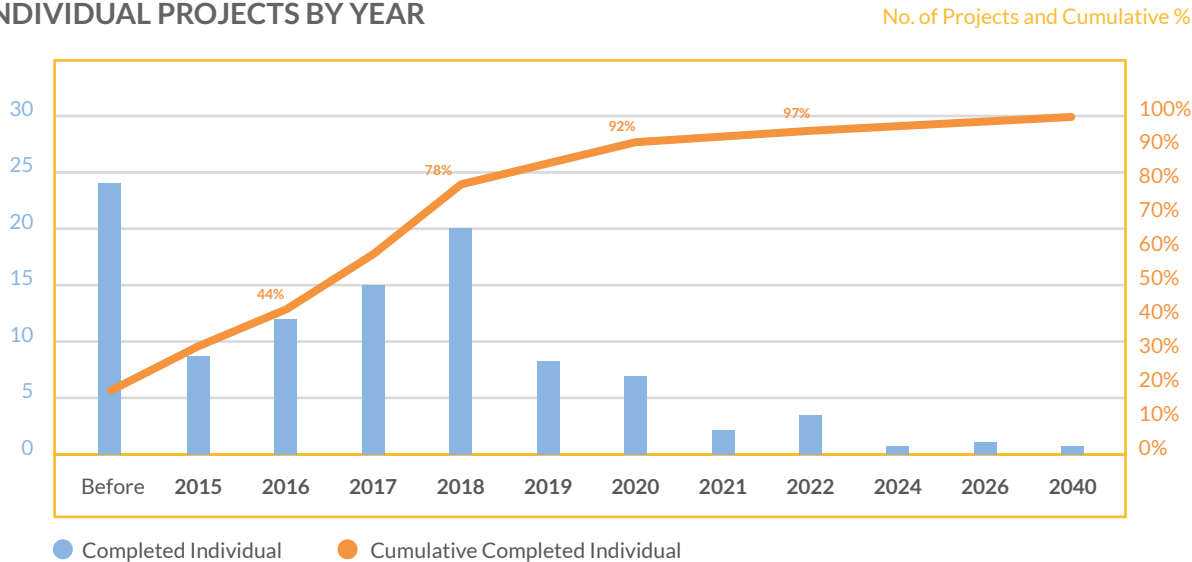
Infrastructure projects usually take many years from their commencement to the end of all the activities carried out to complete the works.

Of the 103 projects involved in API, there is information on the Life Cycle Schedule of 81,⁽²⁾ i.e. on their details and their expected progress schedule. On the basis of this information, projects remain, on average, one year at the profiling stage, almost four years at the pre-execution stage, and a little over three years at the works execution stage. This means that an average API project has a life cycle of eight years.

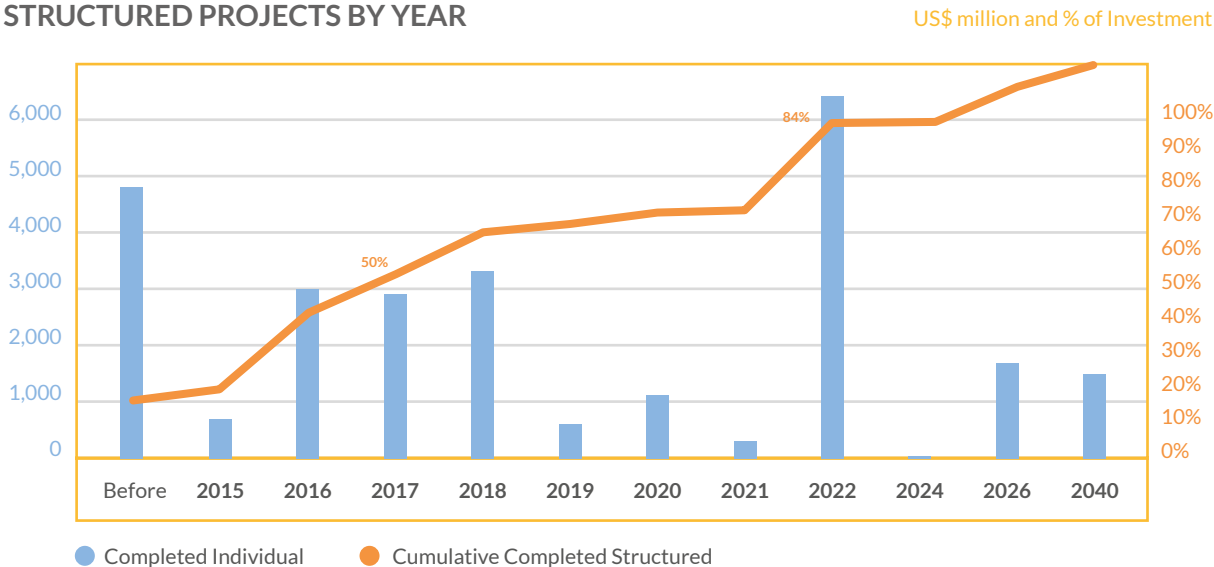
2 For more information on the Life Cycle Scheduling Methodology, see Chapter 4 in this Report.

When analyzing API in terms of its projection into the future, it should be noted that almost 80% of the individual projects will be completed by 2018, involving the implementation of 50% of the estimated investment amount. Most projects will be completed in 2022, which is the deadline established for API implementation, involving the expenditure of 84% of the investment estimated for the entire Agenda.

ESTIMATED COMPLETION OF THE INDIVIDUAL PROJECTS BY YEAR



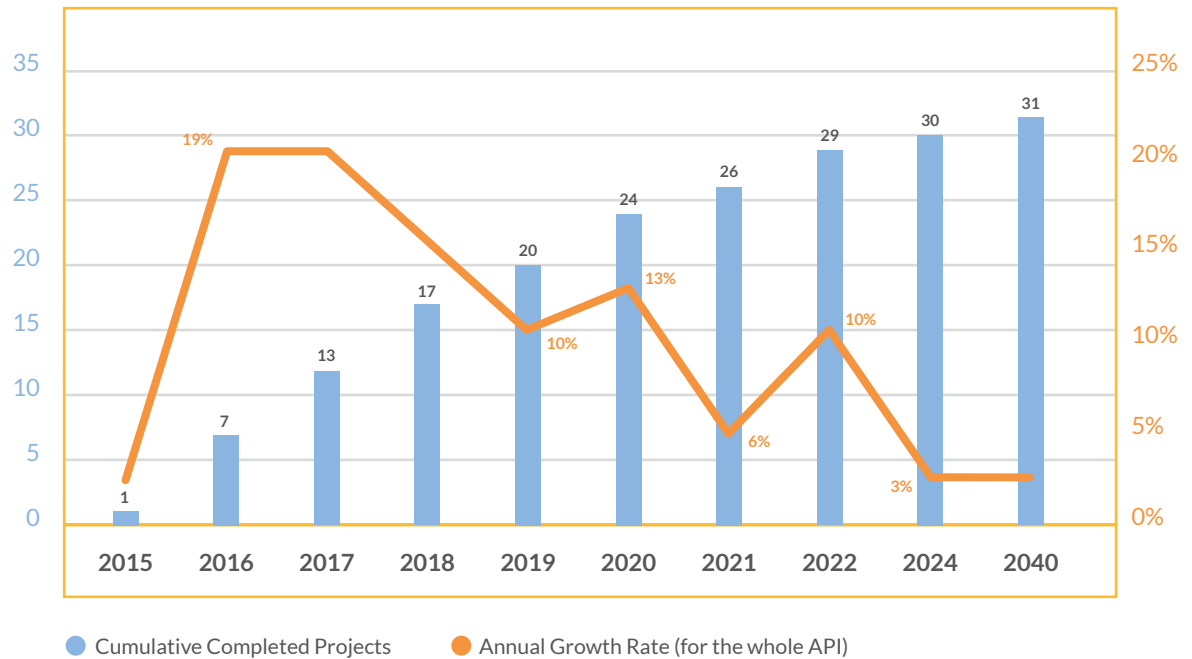
ESTIMATED COMPLETION OF THE API INDIVIDUAL AND STRUCTURED PROJECTS BY YEAR



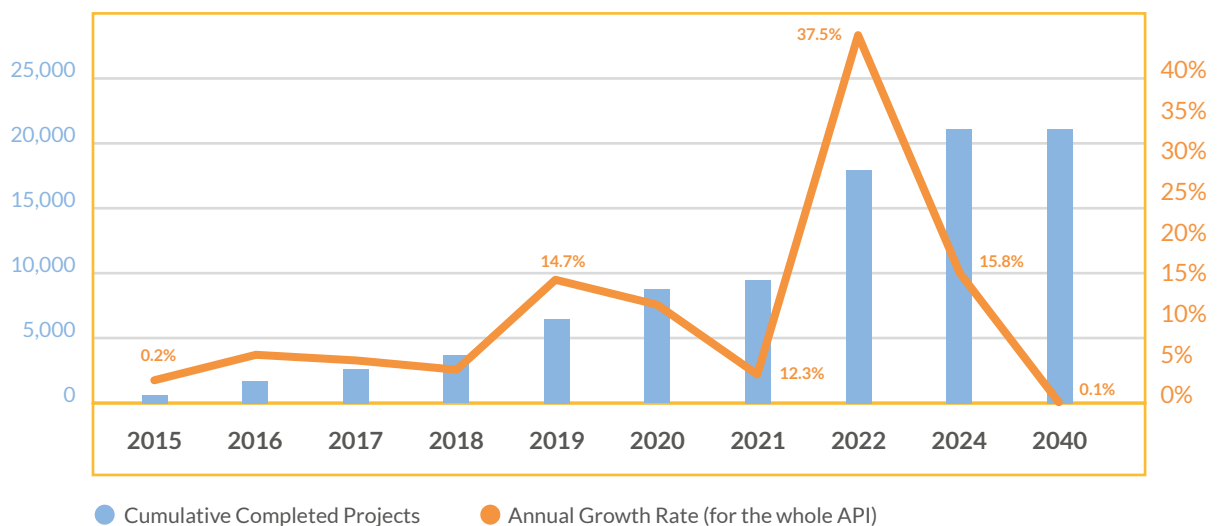
The first seven structured projects will be completed before 2016 for an investment estimated at US\$1,845 million, which accounts for 23% of the set of projects and for 9% of the investments planned in API. These projects will impact on the regional connectivity of the Andean, Central Interoceanic, Guianese Shield, and MERCOSUR-Chile Hubs.

EXPECTED ANNUAL GROWTH RATE OF THE COMPLETED API STRUCTURED PROJECTS

No. and % of Projects



US\$ million and % Growth of the Estimated Investment



2.8 Completed API Projects

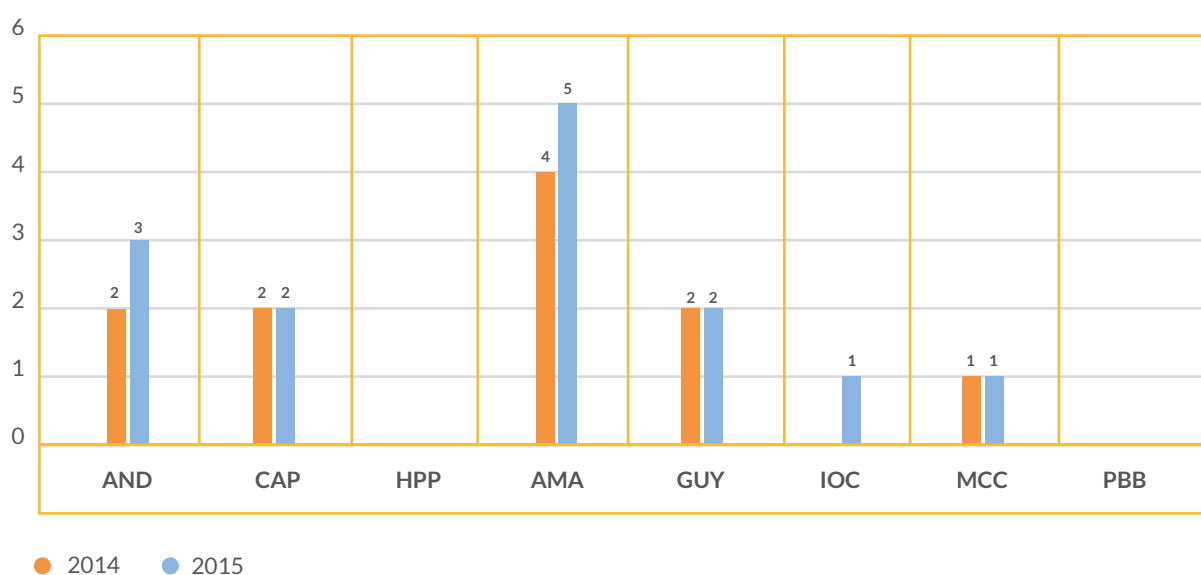
Some individual projects were included in API when they were already completed as they were important for the completion of the connectivity sought by the structured project.

API completed individual projects are 14, accounting for US\$868 million of the investment made, and are distributed in all the Hubs, except for the Paraguay-Paraná Waterway and the Peru-Brazil-Bolivia Hubs. Most completed projects are located in the Amazon Hub ⁽⁵⁾ and the Andean Hub ⁽³⁾.

In 2015, three projects falling in the Andean, Amazon, and Central Interoceanic Hubs were completed.

CHANGES IN THE COMPLETED INDIVIDUAL PROJECTS BY HUB (2014-2015)

No. of Projects



PROJECTS COMPLETED BETWEEN 2014 AND 2015

* US\$ million

Code	Name	Sector	Type of Financing	Investment Amount*	API Project	Countries
AND31	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT SAN MIGUEL	Transport	PUBLIC	0	COLOMBIA - ECUADOR BORDER INTERCONNECTION	CO EC
AMA39	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MORONA RIVER	Transport	PUBLIC	5.2	NORTHEASTERN ACCESS TO THE AMAZON RIVER	EC PE
IOC25	PUERTO SUÁREZ - CORUMBÁ INTEGRATED CONTROL AREA	Transport	PUBLIC	2.0	IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB	BO BR

Most completed projects were financed by the public sector (8), while three were financed by private initiatives and another three with public-private funds. In the case of the latter, all of which involve transportation works, the investment is not considered as it was made before the creation of API.

TYPE OF FINANCING OF THE INTEGRATION PRIORITY PROJECT AGENDA

US\$ million

	Public				Private				Public / Private			
SECTOR	N°	%	Investment Amount	% of Investment	N°	%	Investment Amount	% of Investment	N°	%	Investment Amount	% of Investment
Transport	7	87.5	11.34	4.5	3	100	302.0	100	3	100		100
Energy	1	12.5	555.0	95.5								
TOTAL	8	100	566.34	100	3	100	302.0	100	3	100		100

Only one of the completed projects involves energy works, which accounts for 64% of the investment made in the API completed projects. As for the other works, six are roads; the share of rail, sea, and border crossings works is smaller (two of each); and there is one river project.

It is worth noting that even though road works account for 43% of the completed projects, they represent less than 1% of the investment spent; this is due to the fact that, as mentioned above, five of the six projects involve works the investments of which were made before API was created and, for this reason, these investments are not included in the investment spent in the Agenda.

SUBSECTOR-BASED BREAKDOWN OF THE COMPLETED INDIVIDUAL PROJECTS

* US\$ million

	N°	%	Investment Amount*	% of Investment
Road	6	42.9	4.1	0.5
Rail	2	14.3	5.0	0.6
River	1	7.1	5.2	0.6
Sea	2	14.3	297.0	34.2
Border Crossings	2	14.3	2.0	0.2
Energy Interconnection	1	7.1	555.0	63.9
Total	14	100.0	868.3	100.0

Interestingly, of the 14 works completed, 36% are binational (5), which reveals the joint efforts made by the countries to improve infrastructure and, consequently, to further physical integration. Of these five projects, three were executed by Ecuador together with Colombia or Peru. Brazil also participated in two projects jointly with Bolivia and Uruguay, respectively.



AMAZONAS

INTEGRATION AND DEVELOPMENT HUB



Population: 141,453,273 inhabitants
Density: 44 inh./km²
Area: 3,216,623km²

GDP: US\$ 1,973,411 million

Services	75%
Industry	14%
Mines	
and quarries	6%
Agriculture	5%



BRAZIL



COLOMBIA



ECUADOR



PERÚ

Estimated investment

* US\$ million

3,205.2



92.7%
National

25

3.7%
Binational

1

3.7%
Multinational

1

Projects per Sector



Transport

27

3,205.2

Projects per Types of Financing



Public

14

2,494.6



Private

7

500.1



Public
Private

6

210.5

US\$ million



Number of projects



US\$ million




Number of projects

Projects per Subsectors



STRUCTURED PROJECTS OF THE HUB

* US\$ million

Code	Name	Stage	Estimated Investment*	Countries	Individual Projects	Estimated Completion Date
1	PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS		381.6	PE	10	Apr 2020
2	CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS		2,761.8	PE	11	Dec 2019
3	NORTHEASTERN ACCESS TO THE AMAZON RIVER		61.8	BR - CO - EC - PE	6	Dec 2019

Presentation of the AMAZONAS HUB

The Amazon Hub⁽¹⁾ includes Brazil's Amazon and northeastern regions and the states of Goiás and Tocantins; the central-southern area of Colombia; the entire continental territory of Ecuador, and the central-northern area of Peru.

This Hub is the largest of the nine Hubs of the Portfolio, its area —29% of which is under some type of environmental protection— being equivalent to 40% of that of the South American continent (8,059,085 km²).

Furthermore, this Hub ranks second in population and fifth in Gross Domestic Product (GDP), and accounts for 32% of the population (132,687,257 inhabitants) and 19% of the GDP of South America (US\$844,689 million).⁽²⁾

In this Hub, existing and planned infrastructure is marked by the presence of the Andes and the vast Amazon basin, the largest river basin in the world.

Thus, two rather different realities coexist. On the one hand, there is the territory framed between the Andes and the Pacific coast, where road transportation prevails, followed by a small proportion of railways, both of which enable a connection with a network of major ports located along the Pacific coast and shared by Colombia, Ecuador and Peru. On the other hand, there is the Amazon basin, which has its source in the eastern slopes of the Andes and finds its way to the Atlantic ocean through a vast network of navigable rivers.

MAP OF THE AREA OF INFLUENCE OF THE AMAZON HUB



1 See "Caracterización Socio-Económica y Ambiental del Eje del Amazonas," COSIPLAN-IIRSA, 2015. www.iirsa.org/amazonas.asp
2 At 2013 current prices

As regards infrastructure, the total length of the **road network** of the countries involved in the Amazon Hub is 2,012,551 km, 12% of which (some 238,414 km) are paved. The **rail network** is 36,984 km long. The **port system** of the Hub is made up of 40 major ports, nine of which handle more than 10 million tons of bulk cargo per year. Most **river transportation** activities in the region are carried out along the Amazon basin and its major tributaries, such as the Negro, Putumayo, Ucayali, Madeira, Juruá, Purus and Madeira rivers, among others. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power of about 147,186 MW.

The presence and diversity of **indigenous communities** is significant in the Hub, as there are more than 200 peoples living in the four countries, their relative share of the population

being different in each nation. Peru has the most important share, as native peoples account for 34% of its population. This figure is 7% in Ecuador, 3% in Colombia, and less than 1% in Brazil.

At present, there are more than two thousand territorial units in the Hub with some degree of **environmental protection**. In Brazil, the states of Pará and Amazonas stand out, with more than 1,400,000 km² of protected territory, which accounts for approximately 60% of the Hub's total protected area. The most frequent **natural hazards** in the Andean region are earthquakes, tsunamis and volcanic eruptions, whereas in the Amazon basin, in which the four countries are involved, the most recurring ones are large floods.

The countries involved in the Amazon Hub defined three API projects for the purpose of consolidating connectivity in their territories. They are made up of 27 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$3,205 million.

In relative terms, Ecuador contributes 91% of the Hub's GDP and Peru 73%. Brazil and Colombia are the countries that contribute less to the Hub's GDP: 24% and 17%, respectively. In absolute terms, Brazil accounts for 63% of the Hub's aggregate GDP, followed by Peru (18%), and by Ecuador and Colombia (11% and 8%, respectively).

A noticeable trend in the Hub's global economic performance is its growth rate in the

2007-2013 period, which reached an average of 5%, well above the growth rate of Latin America and the Caribbean in the same period, which was 3%.

The Hub shares some regions of its area of influence with other five Hubs: the Guianese Shield, the Paraguay-Paraná Waterway, the Peru-Brazil-Bolivia, the Andean, and the Central Interoceanic Hubs.

API Projects

AMAZONAS HUB

The API projects belonging to this Hub are intended to improve navigation conditions, logistics, and access by land regarding the connection of the following regions of the four countries (Brazil, Colombia, Ecuador, and Peru):

- The Peruvian coast, sierra and Amazon areas with Amazon regions in Brazil (Amazonas and Pará states)
- The southern region of Ecuador with the Amazon areas of Peru and Colombia, the state of Amazonas in Brazil, and the connections with the Atlantic and the Pacific oceans.

The Amazon Hub is the one with the greatest number of individual projects (27), and ranks third in terms of API estimated investment.

The API project with the greatest estimated investment in the Hub is Callao - La Oroya - Pucallpa Road, Ports, Logistics Centers and Waterways, involving US\$2,761 million, an amount that accounts for 86% of the investments planned for this Hub.

Furthermore, this structured project ranks third in terms of API investment, and the individual projects that make it up are Peruvian. The purpose of this structured project is to connect different destination markets of the Pacific ocean through the Callao port and to enable access to Manaus (Brazil) and to the Atlantic ocean through the Amazon river. It also seeks to contribute to local development by linking the coast, sierra and central rainforest regions of Peru, taking into account the complementary nature of the production and consumption patterns of these regions. Its aim in terms of connectivity is to further the movement of both tradable goods and passengers between the cities of Pucallpa and Iquitos as well as to facilitate access to border areas that can only be reached through the Amazon tributaries.

Project Paita - Tarapoto - Yurimaguas Road, Ports, Logistic Centers and Waterways is also made up by Peruvian individual projects and has similar objectives, although focused on the territories of Paita, Tarapoto and Yurimaguas. Actually, it seeks to ensure the viability of

international transport between Peru and Brazil and its extension to both the Pacific and Atlantic oceans. In addition, it aims at promoting the development of the northeastern region of Peru through the improvement of the links among its departments: the Paita-Yurimaguas road and the Huallaga, Marañón and Amazon waterways are the backbone of this macroregion. Three of the 10 individual projects comprised in this connectivity structured project are completed, the other ones being at the profiling or pre-execution stage on account of their complexity and scope.

Project Northeastern Access to the Amazon River involves all the countries in the Hub and falls exclusively in the river subsector. Ecuador and Peru participate in most of its individual projects, which are intended to improve navigation conditions on Ecuadorian, Colombian and Peruvian rivers, articulating with the Putumayo-Içá, Morona, and Napo rivers that connect farther on with the Solimões-Amazon river in the Brazilian territory, enhancing navigation on three waterways that are presently navigable only for limited draft vessels.



NORTHEASTERN ACCESS
TO THE AMAZON RIVER

CALLAO - LA OROYA - PUCALLPA
ROAD, PORTS, LOGISTICS CENTERS
AND WATERWAYS











PAÍTA - TARAPOTO - YURIMAGUAS
ROAD, PORTS, LOGISTICS CENTERS
AND WATERWAYS

API PROJECTS IN THE AMAZON HUB

Paíta - Tarapoto - Yurimaguas Road, Ports, Logistics Centers and Waterways












* US\$ million

Estimated Investment* | 381.6 Countries | PE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA16	TARAPOTO - YURIMAGUAS ROAD	G03		0.0	PE	Mar 31, 2009
AMA20	PAITA LOGISTICS CENTER	G03		47.7	PE	Nov 30, 2017
AMA21	YURIMAGUAS LOGISTICS CENTER	G03		15.0	PE	Dec 31, 2017
AMA24	PAITA PORT	G03		176.7	PE	Jun 30, 2014
AMA25	PAITA - TARAPOTO ROAD	G03		0.0	PE	Jun 30, 2011
AMA40	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE HUALLAGA RIVER WATERWAY, BETWEEN YURIMAGUAS AND THE CONFLUENCE WITH MARAÑÓN RIVER	G06		33.0	PE	Dec 31, 2017
AMA41	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MARAÑÓN RIVER WATERWAY, BETWEEN SARAMIRIZA AND THE CONFLUENCE WITH UCAYALI RIVER	G06		11.0	PE	Aug 31, 2018
AMA44	IQUITOS LOGISTICS CENTER	G06		15.0	PE	Dec 31, 2017
AMA56	MODERNIZATION OF IQUITOS PORT	G06		39.6	PE	Apr 30, 2020
AMA102	CONSTRUCTION OF NEW YURIMAGUAS PORT	G03		43.7	PE	Dec 31, 2016







Callao - La Oroya - Pucallpa Road, Ports, Logistics Centers and Waterways

Estimated Investment* | 2,761.8 Countries | PE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA26	IMPROVEMENT OF TINGO MARÍA PUCALLPA ROAD	G04		438.4	PE	Sep 30, 2016
AMA30	PUCALLPA INTERMODAL LOGISTICS CENTER	G04		15.0	PE	Jun 30, 2018
AMA31	MODERNIZATION OF EL CALLAO PORT (NEW CONTAINER DOCK)	G04		704.8	PE	Mar 31, 2018
AMA32	LIMA - RICARDO PALMA EXPRESSWAY	G04		242.0	PE	Dec 31, 2018
AMA43	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE UCAYALI RIVER WATERWAY, BETWEEN PUCALLPA AND THE CONFLUENCE WITH MARAÑÓN RIVER	G06		19.0	PE	May 31, 2018
AMA63	IIRSA CENTER, SECTION 2: RICARDO PALMA - LA OROYA - TURN OFF TO CERRO DE PASCO / LA OROYA - HUANCAYO	G04		100.0	PE	Jul 31, 2017
AMA64	IIRSA CENTER, SECTION 3: TURN-OFF TO CERRO DE PASCO - TINGO MARÍA	G04		115.6	PE	Dec 31, 2018
AMA65	EL CALLAO LOGISTICS ACTIVITIES ZONE (ZAL CALLAO)	G04		68.3	PE	Nov 30, 2017
AMA66	EL CALLAO MULTI-PURPOSE NORTHERN TERMINAL	G04		883.5	PE	Jan 31, 2016
AMA67	EL CALLAO MINERAL SHIPPING TERMINAL	G04		120.3	PE	Mar 31, 2014
AMA104	CONSTRUCTION OF NEW PUCALLPA PORT	G04		55.0	PE	Dec 31, 2017

Northeastern Access to the Amazon River

Estimated Investment* | 61.8 Countries | BR - CO - EC - PE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA38	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PUTUMAYO - IÇÁ RIVER	G06		15.0	BR - CO - EC - PE	Dec 31, 2019
AMA39	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MORONA RIVER	G06		5.2	EC - PE	Jul 29, 2015
AMA42	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (ECUADORIAN SECTION)	G06		5.8	EC	Sep 30, 2019
AMA45	MORONA FREIGHT TRANSFER PORT	G07		5.0	EC	NA
AMA71	PROVIDENCIA PORT	G02		25.0	EC	Aug 31, 2015
AMA106	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (PERUVIAN SECTION)	G06		5.8	PE	Sep 30, 2019

The three individual projects with the greatest estimated investment are El Callao Multi-Purpose Northern Terminal, Modernization of El Callao Port (New Container Dock), and Improvement of Tingo María - Pucallpa Road. Together, they account for 63% of all the estimated investment in the Hub. These three projects are Peruvian and belong to structured pro-

ject Callao - La Oroya - Pucallpa Road, Ports, Logistics Centers and Waterways. All of them are at the execution stage and would be completed in the next four years (2018). The first two fall in the sea subsector and are financed with private funds, while the third is a road project with a public source of investment.

Of the 22 projects under implementation, 17 would be completed in the next four years (up to 2018), four would be completed between 2019 and 2020, and there is no information available on the completion date of one.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



ROAD SUBSECTOR

Paving and rehabilitation of 3,075.7 km of roads



SEA SUBSECTOR

Modernization and expansion of four sea ports



MULTIMODAL SUBSECTOR

Construction of six logistics transfer centers, one with an area of 277 ha and another one with an area of 150 ha



RIVER SUBSECTOR

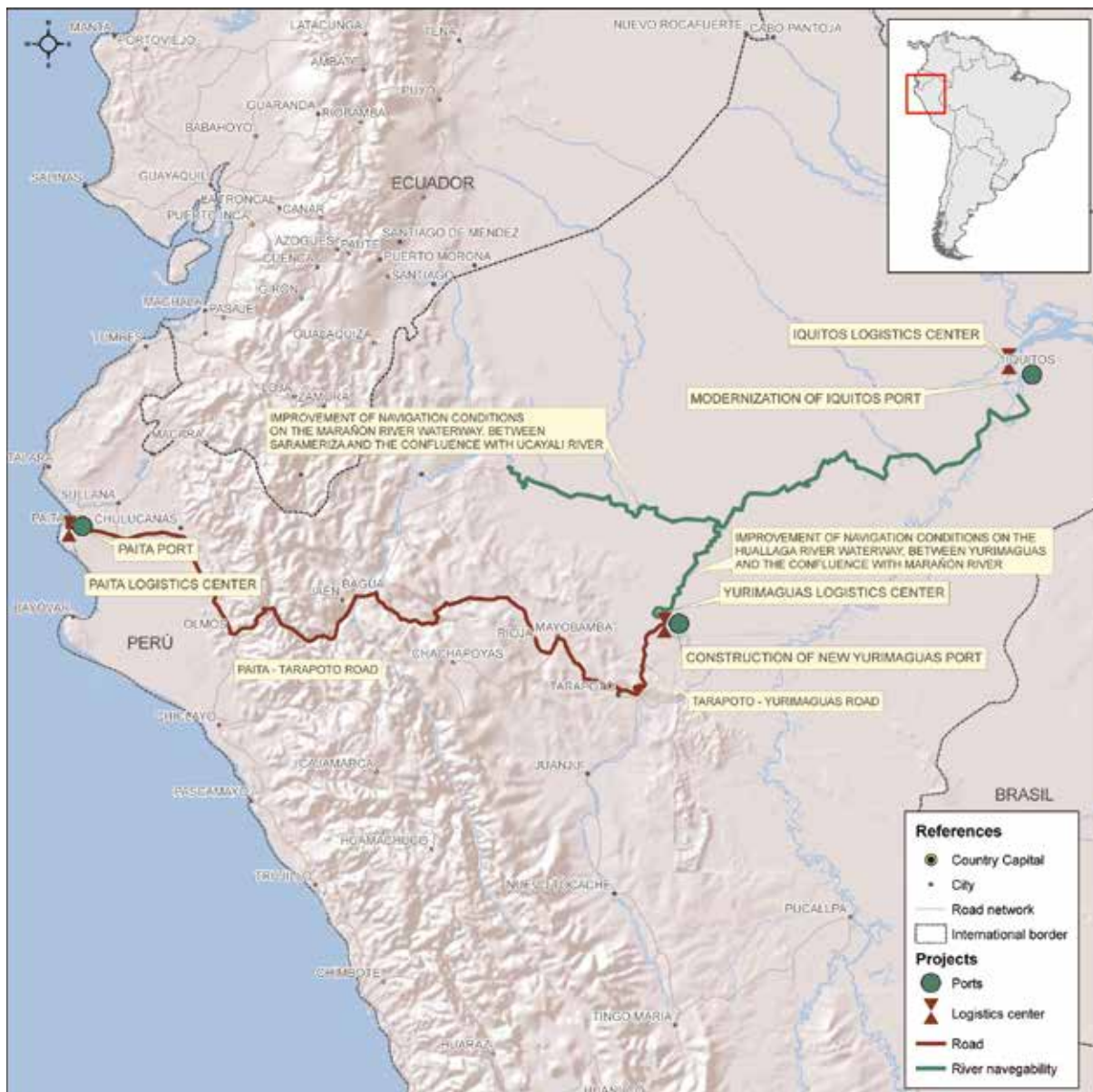
Modernization and construction of four river ports
Improvement of navigation conditions along 3,800 km of waterways
Upgrade and/or construction of 12 docks

PAITA - TARAPOTO - YURIMAGUAS ROAD, PORTS, LOGISTIC CENTERS AND WATERWAYS

Peru

Subsectors: River, road, multimodal, sea
Estimated investment: US\$381,592,000
Type of financing: Public-private
Project stage: Execution

Life cycle stage and number of projects:
 Profiling: 3
 Pre-execution: 3
 Execution: 1
 Completed: 3













RATIONALE

This project is structured to connect the coast, sierra and rainforest regions in the northern area of Peru with Brazil (Manaus) and, eventually, with the Atlantic ocean, with a view to promoting trade and complementarity among the different areas involved. The project is very significant since it is meant to streamline logistics in a large corridor that articulates densely populated areas such as the Piura region with emerging, low population density areas in the rainforest. All the most dynamic cities on the northern coast of Peru may be linked to this Northern Branch of the Amazon

Hub, which, in turn, connects the most densely populated department in the Peruvian sierra region (Cajamarca) with three departments located in the rainforest (Amazonas, San Martín, and Loreto).

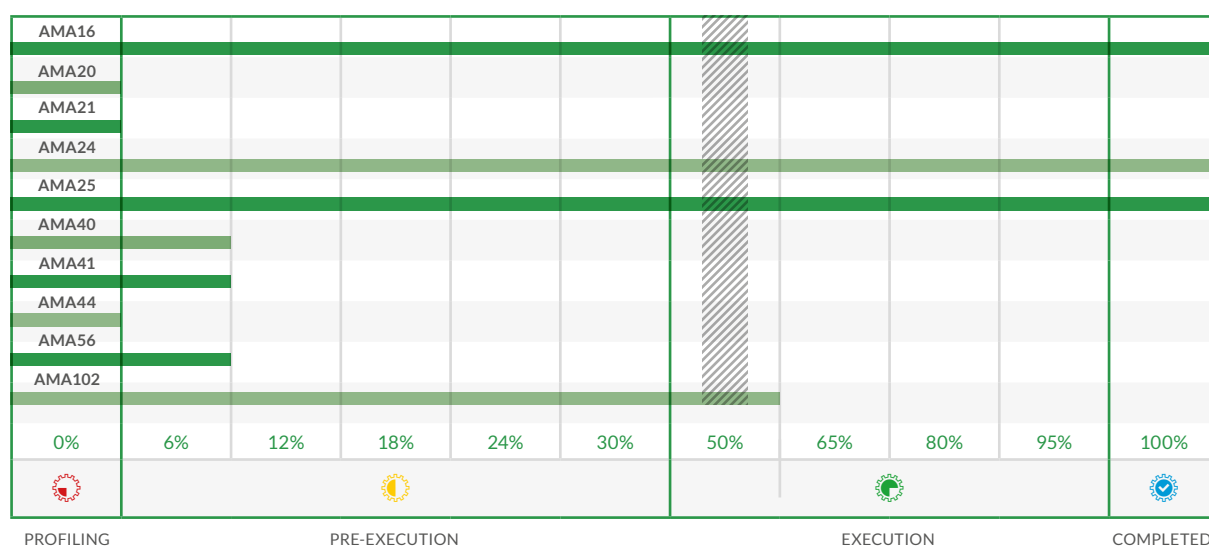
The goal is that this structured project will operate as a multimodal corridor for international transportation to and from Brazil along the Amazon river. In the right conditions, this flow should be sequential and complementary, ensuring orderly and free-flowing transportation.

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA16	TARAPOTO - YURIMAGUAS ROAD	G03		0.0	PE	Mar 31, 2009
AMA20	PAITA LOGISTICS CENTER	G03		47.7	PE	Nov 30, 2017
AMA21	YURIMAGUAS LOGISTICS CENTER	G03		15.0	PE	Dec 31, 2017
AMA24	PAITA PORT	G03		176.7	PE	Jun 30, 2014
AMA25	PAITA - TARAPOTO ROAD	G03		0.0	PE	Jun 30, 2011
AMA40	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE HUALLAGA RIVER WATERWAY, BETWEEN YURIMAGUAS AND THE CONFLUENCE WITH MARAÑÓN RIVER	G06		33.0	PE	Dec 31, 2017
AMA41	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MARAÑÓN RIVER WATERWAY, BETWEEN SARAMIRIZA AND THE CONFLUENCE WITH UCAYALI RIVER	G06		11.0	PE	Aug 31, 2018
AMA44	IQUITOS LOGISTICS CENTER	G06		15.0	PE	Dec 31, 2017
AMA56	MODERNIZATION OF IQUITOS PORT	G06		39.6	PE	Apr 30, 2020
AMA102	CONSTRUCTION OF NEW YURIMAGUAS PORT	G03		43.7	PE	Dec 31, 2016

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Paving and rehabilitation of 2,150 km of roads
- Construction of three logistics transfer centers, one with an area of 277 ha
- Modernization of one sea port
- Modernization and construction of two river ports
- Improvement of navigation conditions on a 2,600-km long waterway (shared with another structured project)

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

The first quarter of the works involved in project Construction of New Yurimaguas Port, which made about 20% progress, was completed.

The concession of project Improvement of Navigation Conditions on the Huallaga River Waterway, between Yurimaguas and the Confluence with Marañón River, as well as of project Improvement of Navigation Conditions on the Marañón River Waterway, between Saramiriza and the Confluence with Ucayali River, should have been awarded in the third quarter of 2015, but an injunction to stay the process until prior consultation takes place was requested. At present, the concession process is suspended, and arrangements are being made to comply with the prior consultation.

For more information, visit www.iirsa.org/api01.asp



CALLAO - LA OROYA - PUCALLPA ROAD, PORTS, LOGISTICS CENTERS AND WATERWAYS

Peru

Subsectors: River, road, multimodal, sea

Estimated investment: US\$2,761,836,668

Type of financing: Public-private

Project stage: Execution

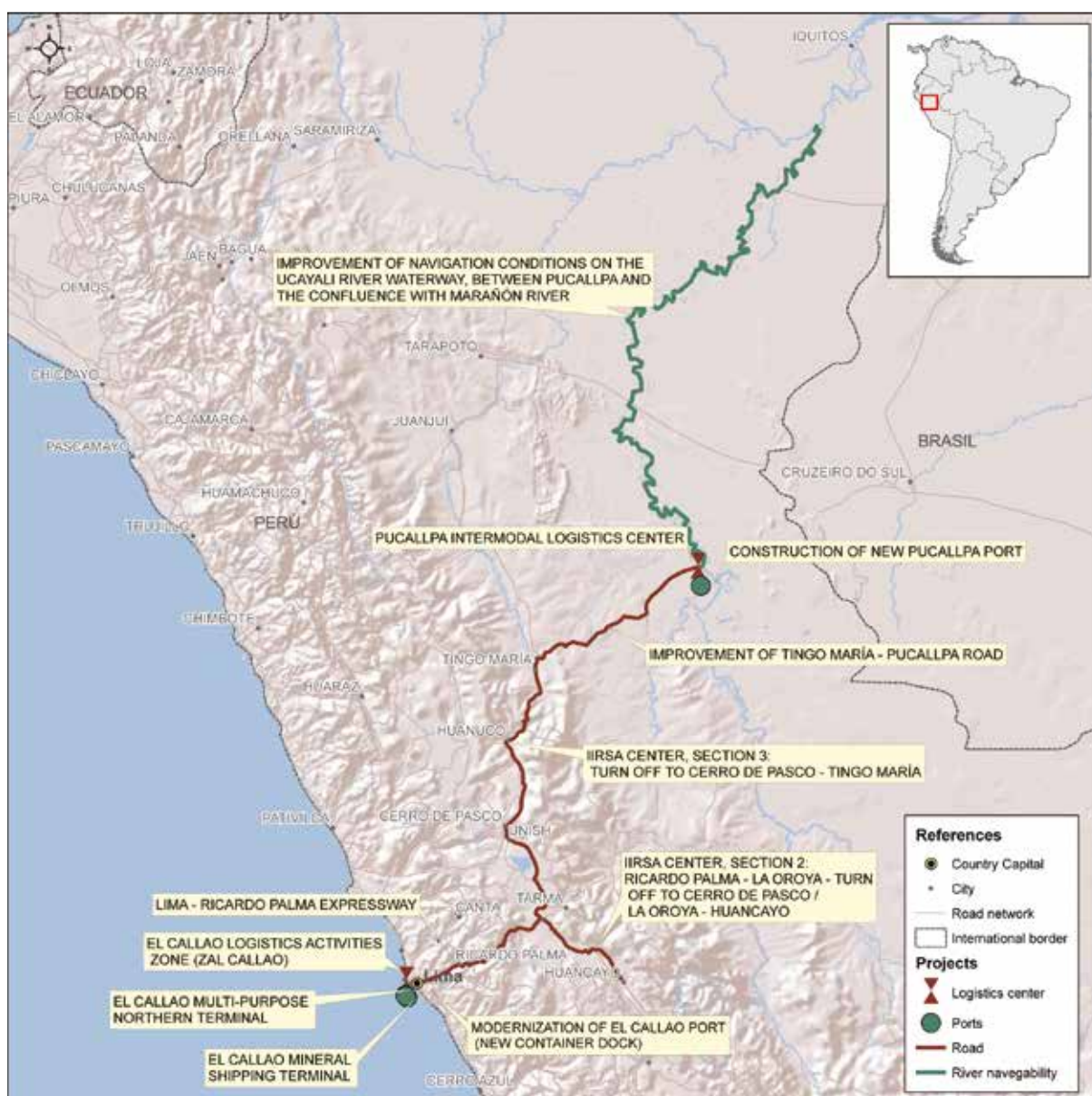
Life cycle stage and number of projects:

Profiling: 2

Pre-execution: 4

Execution: 4

Completed: 1














RATIONALE

This project, also known as “Central Branch of the Amazon Hub,” is structured in order to connect the coast, sierra and rainforest regions and to open up an access to Manaus (Brazil) and overseas markets, seeking to promote complementarity in the area of influence. Although the purpose of this structured project is to reach out to different destination markets of the Pacific basin through the Callao port as well as to Brazil and the Atlantic ocean through the Amazon river, it particularly seeks to connect the coast, sierra and central rainforest regions of Peru, taking into account the complementary nature of the production and consumption patterns of these regions.

The central rainforest and sierra supply forestry, fruit and agricultural products to Lima and Callao, from where processed goods are carried to such region.

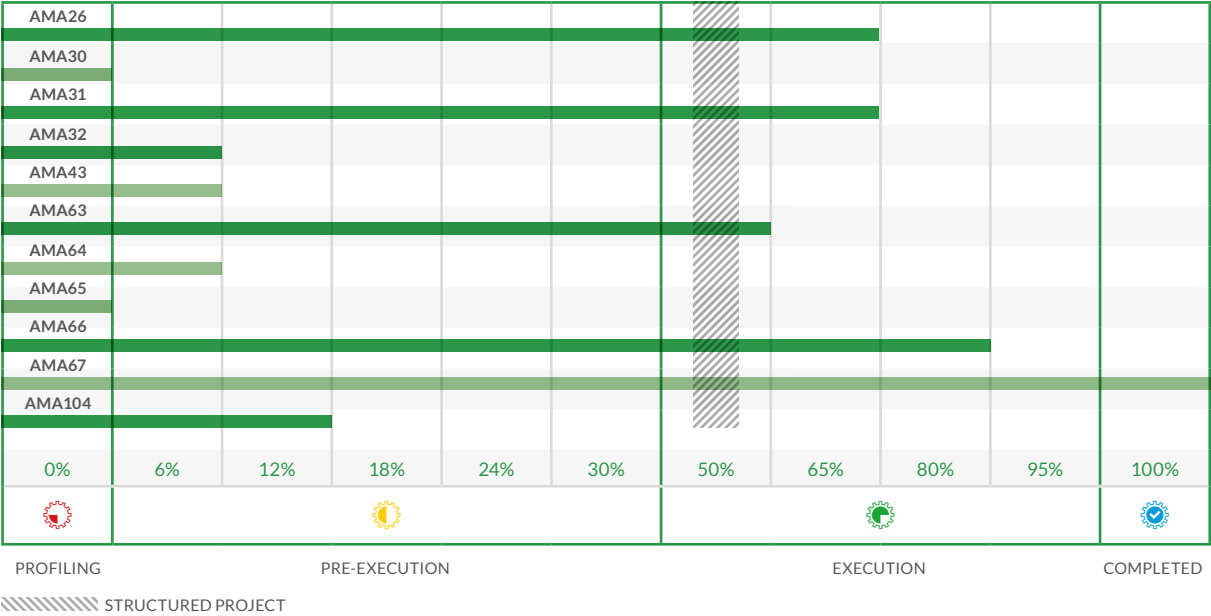
The improvement of navigation conditions on the Amazonian waterways will allow the movement of both tradable goods and passengers between the cities of Pucallpa and Iquitos as well as facilitate access to border areas that can only be reached through the Amazon tributaries. It will also be necessary to enhance transport services, mainly the vessels operating informally, so that they provide efficient and safe transportation.

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA26	IMPROVEMENT OF TINGO MARÍA PUCALLPA ROAD	G04		438.4	PE	Sep 30, 2016
AMA30	PUCALLPA INTERMODAL LOGISTICS CENTER	G04		15.0	PE	Jun 30, 2018
AMA31	MODERNIZATION OF EL CALLAO PORT (NEW CONTAINER DOCK)	G04		704.8	PE	Mar 31, 2018
AMA32	LIMA - RICARDO PALMA EXPRESSWAY	G04		242.0	PE	Dec 31, 2018
AMA43	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE UCAYALI RIVER WATERWAY, BETWEEN PUCALLPA AND THE CONFLUENCE WITH MARAÑÓN RIVER	G06		19.0	PE	May 31, 2018
AMA63	IIRSA CENTER, SECTION 2: RICARDO PALMA - LA OROYA - TURN OFF TO CERRO DE PASCO / LA OROYA - HUANCAYO	G04		100.0	PE	Jul 31, 2017
AMA64	IIRSA CENTER, SECTION 3: TURN-OFF TO CERRO DE PASCO - TINGO MARÍA	G04		115.6	PE	Dec 31, 2018
AMA65	EL CALLAO LOGISTICS ACTIVITIES ZONE (ZAL CALLAO)	G04		68.3	PE	Nov 30, 2017
AMA66	EL CALLAO MULTI-PURPOSE NORTHERN TERMINAL	G04		883.5	PE	Jan 31, 2016
AMA67	EL CALLAO MINERAL SHIPPING TERMINAL	G04		120.3	PE	Mar 31, 2014
AMA104	CONSTRUCTION OF NEW PUCALLPA PORT	G04		55.0	PE	Dec 31, 2017

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Paving and rehabilitation of 925.7 km of roads
- Construction of two logistics centers
- Expansion of three sea ports
- Improvement of navigation conditions on a 2,600-km long waterway (shared with another structured project)
- Construction of a river port

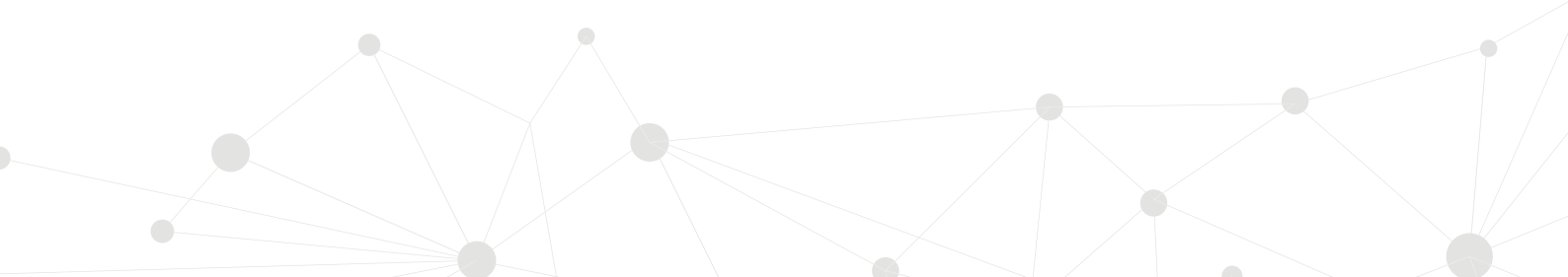
PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



THIS YEAR'S MAJOR DEVELOPMENTS

Half of the works involved in project Improvement of Tingo María - Pucallpa Road, which made about 15% progress, were completed.

For more information, visit www.iirsa.org/api02.asp





API 3

NORTHEASTERN ACCESS TO THE AMAZON RIVER

Estimation completion date
December 2019

Brazil – Colombia – Ecuador – Peru

Subsectors: River, multimodal

Estimated investment: US\$61,759,000

Type of financing: Public

Project stage: Execution

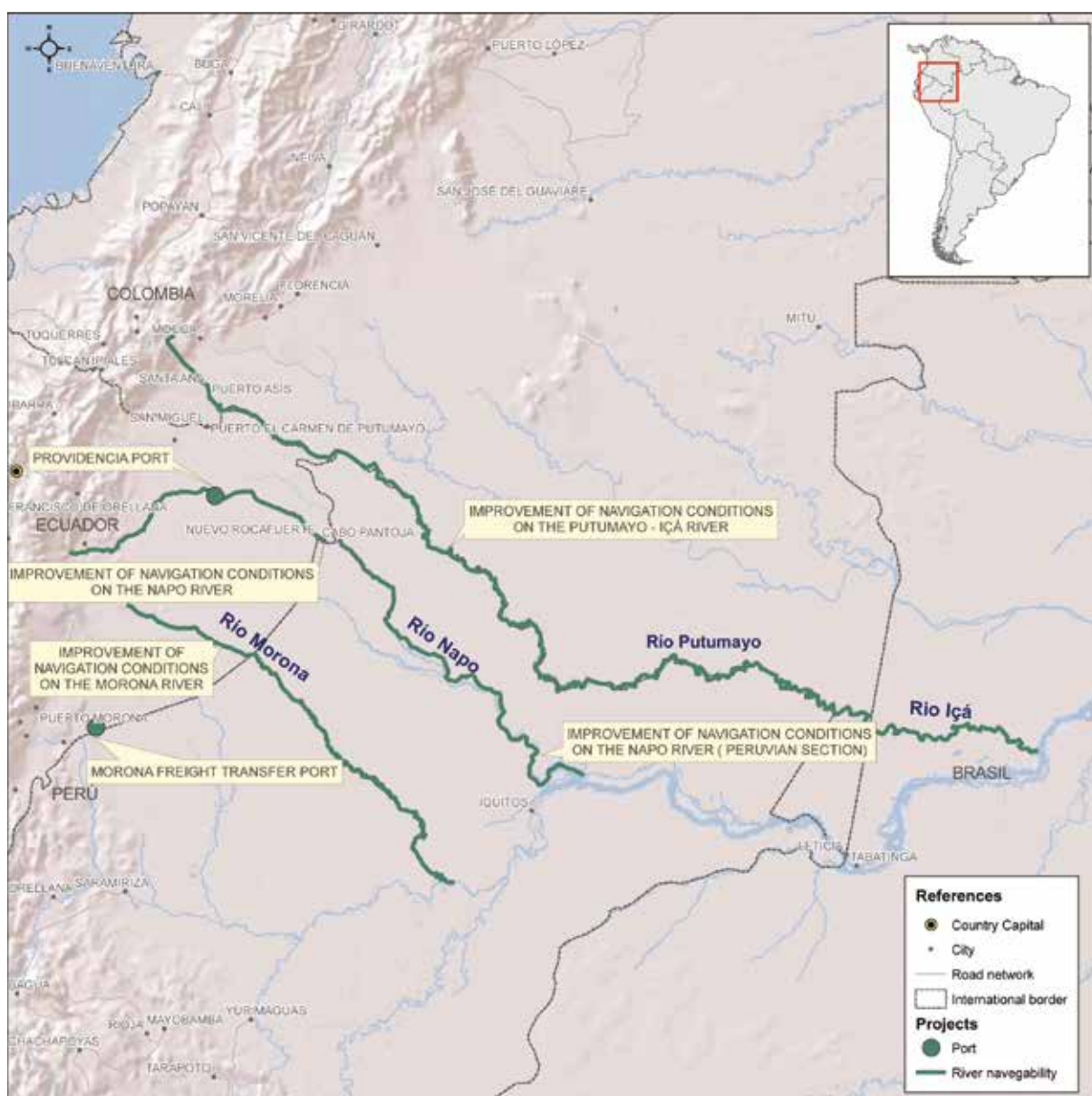
Life cycle stage and number of projects:

Profiling: 2

Pre-execution: 2

Execution: 1







Completed: 1



RATIONALE

This project seeks to tap into the complementarities of the different natural regions of Ecuador, Colombia, Peru and Brazil through the connection of the coast and Andean areas of Ecuador and Colombia with the vast Amazonia. The bimodal corridors resulting from the waterways being returned to navigable standards and the river terminals in operation aim at reaching the commercial market of the city of Manaus, without losing sight of the potential overseas markets. Manaus is the most important city of the Amazonia.





Moreover, the project will have a considerable impact on the communities living in its area of influence, as they have no other alternative in terms of transportation of goods and people. However, there is significant trade in products from the petroleum industry, which promotes trade. As for the transportation of other goods, mainly foodstuffs, building materials, and tools and utensils, an annual volume of 30.000 tons is estimated.

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AMA38	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PUTUMAYO - IÇÁ RIVER	G06		15.0	BR - CO - EC - PE	Dec 31, 2019
AMA39	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE MORONA RIVER	G06		5.2	EC - PE	Jan 31, 2017
AMA42	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (ECUADORIAN SECTION)	G06		5.8	EC	Sep 30, 2019
AMA45	MORONA FREIGHT TRANSFER PORT	G07		5.0	EC	NA
AMA71	PROVIDENCIA PORT	G02		25.0	EC	Aug 31, 2015
AMA106	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE NAPO RIVER (PERUVIAN SECTION)	G06		5.8	PE	Sep 30, 2019

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a logistics transfer center with an area of 150 ha
- Improvement of navigation conditions along 1,200 km of waterways
- Upgrade and/or construction of 12 docks
- Construction of a river port

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT

AMA38										
AMA39										
AMA42										
AMA45										
AMA71										
AMA106										
0%	6%	12%	18%	24%	30%	50%	65%	80%	95%	100%
										
PROFILING	PRE-EXECUTION					EXECUTION				COMPLETED

STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

Project Improvement of Navigation Conditions on the Morona River was completed. The last quarter of the works involved in project Providencia Port, which made about 45% progress, was completed.

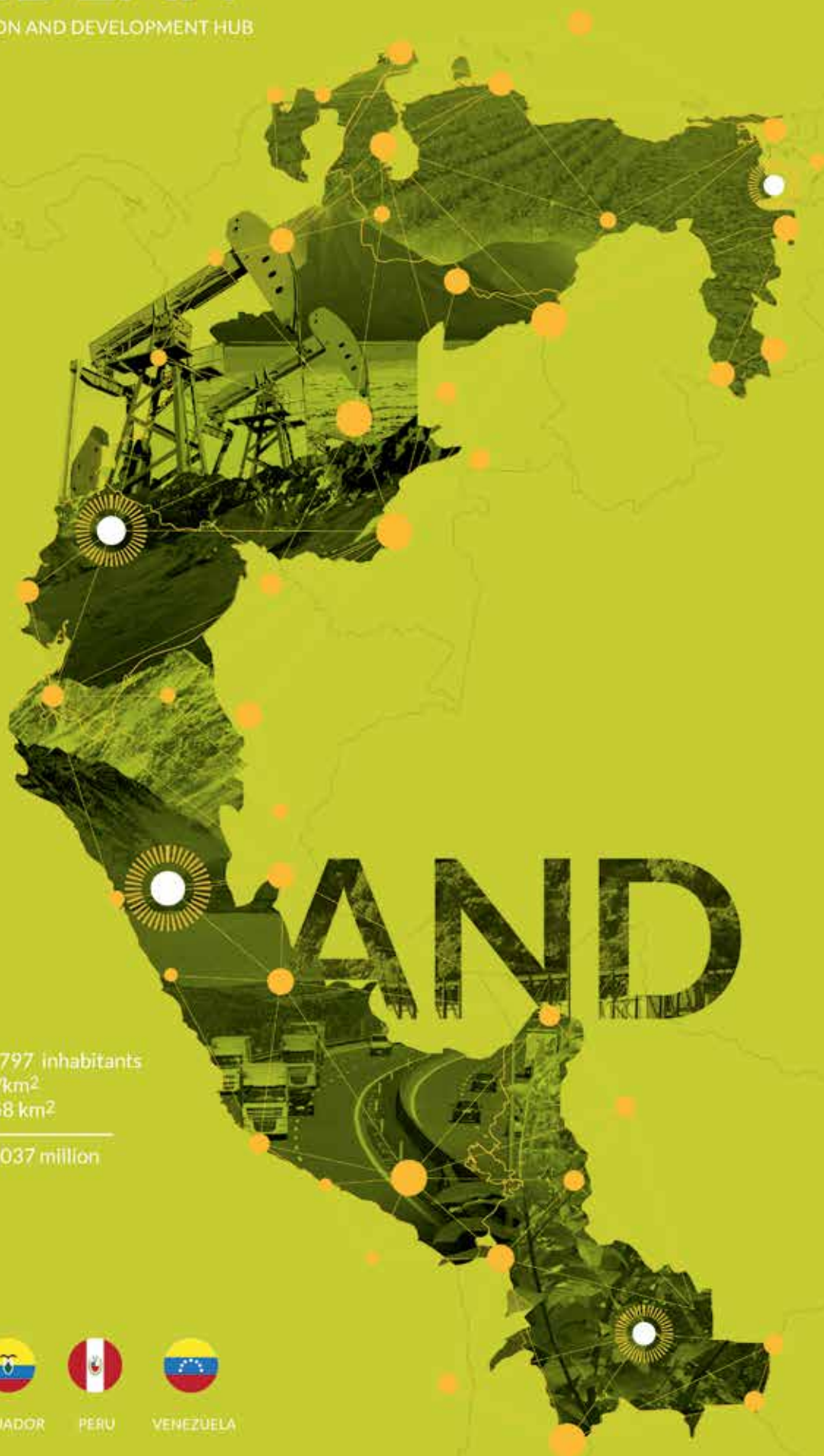
For more information, visit www.iirsa.org/api03.asp

 PROFILING
  PRE-EXECUTION
  EXECUTION
  COMPLETED



ANDEAN

INTEGRATION AND DEVELOPMENT HUB



Population: 111,195,797 inhabitants
Density: 39.1 inh./km²
Area: 2,845,658 km²

GDP: US\$ 857,037 million

Services	62.9%
Mines and quarries	16.8%
Industry	13.5%
Agriculture	6.8%



BOLIVIA



COLOMBIA



ECUADOR



PERU



VENEZUELA

Estimated investment

* US\$ million

4,258.2



61.5%
National

8

38.4%
Binational

5

Projects per Sector



Transport

13

4,258.2

Projects per Types of Financing



Public

11

3,758.8



Public
Private

2

472.4

* US\$ million



Number of Projects








Projects per Subsector



STRUCTURED PROJECTS OF THE HUB

* US\$ million

Code	Name	Stage	Estimated Investment*	Countries	Individual Projects	Estimated Completion Date
4	CARACAS - BOGOTÁ - BUENAVENTURA / QUITO ROAD CORRIDOR		3,350.0	CO - EC VE	2	Dec 2040
5	COLOMBIA - ECUADOR BORDER INTER-CONNECTION		287.8	CO - EC	4	Dec 2019
6	COLOMBIA - VENEZUELA BORDER CROSSINGS CONNECTIVITY SYSTEM		16.0	CO - VE	3	Dec 2017
7	DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)		29.9	BO - PE	1	Jun 2016
8	AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS)		574.5	PE	3	Jun 2016



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Presentation of the ANDEAN HUB

The Andean Hub⁽¹⁾ extends from the coasts of the Caribbean Sea in Venezuela and Colombia to the border in the south between Bolivia and Argentina, including the Andes in Colombia, Ecuador, Peru, and Bolivia, all the territory of Venezuela, with the exception of the state of Amazonas, as well as the Pacific coasts of Colombia, Ecuador and Peru.

The Hub accounts for 14% of the South American territory (2,845,658 km²) and 28% of its population (111,195,797 inhabitants), i.e. it is the second more densely populated Hub after the MERCOSUR-Chile Hub. Furthermore, it contributes 19% to the GDP of the region (US\$857,037 million).⁽²⁾

MAP OF THE AREA OF INFLUENCE OF THE ANDEAN HUB



1 See "Caracterización Socio-Económica y Ambiental del Eje Andino," COSIPLAN-IIRSA, 2014. www.iirsa.org/andino.asp

2 At 2012 current prices.

The Hub's infrastructure is determined by the presence of the Andes, a monumental geographic accident, which gives rise to two distinct territorial spaces.

On the one hand, the western side of the Andes along the Pacific coast and the Caribbean sea has a vast infrastructure network made up of 30 sea ports, and a great number of roads connecting them with one another and with the interior of the countries. The national capital cities, other important cities and

centers of economic activity are located here.

On the other hand, the eastern side of the Andes extends up to the Amazon basin and, in general, features administrative units with limited infrastructure in terms of land connectivity, lower population density, and less economic development.

The matrix of pre-existing and planned connectivity infrastructure focuses mainly on the road and, to a lesser extent, the rail subsectors.

Although river transportation is present in the Hub, it is not significant enough, as the tributaries of the Amazon basin are at their source and, therefore, are not deep enough for vessel draft. Thus, when the river depth so allows it, deeper draft vessels that navigate regularly are in the area of influence of the Amazon Hub.

The Hub is also characterized by the presence of a great number of ports distributed along the Pacific and Atlantic coasts, which determines that the transportation of goods is mainly carried out by sea given its lower costs and better operational facilities.

The Andean Hub features the two large north-south road corridors that connect the main cities of the countries that make it up (Bolivia, Colombia, Ecuador, Peru and Venezuela): the Pan-American Highway, and the Marginal Highway of the Jungle. These longitudinal corridors are crossed by various transversal corridors (roads and rivers) that connect them with the Guianese Shield, Amazon, Peru-Brazil-Bolivia and Central Interoceanic Hubs.

The entire **road** network of the countries that make up the Hub covers 443,588 km, 16% of which are paved (about 69,986 km). The **railway** network totals 11,216 km, 75% of which are active lines. The **sea port** system of the Andean Hub features 30 major ports, most of them located on the Pacific ocean, except for those on the Caribbean coasts of Venezuela and Colombia. Most **river transportation**

activities in the region are carried out along the Orinoco, Magdalena and Amazon basins and its tributaries. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power of about 53,747 MW.

The presence and diversity of **indigenous communities** is significant in the Hub, as there are approximately 270 peoples living in the five countries that make it up, reaching a total population of about 7,000,000 inhabitants. This situation is very important in many subnational administrative units, where the population accounts for more than 70% of the total.

Regarding the **protected areas** in the Hub, there are more than six hundred administrative units with some degree of environmental protection, totaling approximately 774,000 km², which accounts for 27% of the Hub's total area. Many of these administrative units are inhabited by native communities and are characterized by their high biological diversity, a low degree of human intervention and the presence of high flora and fauna endemism rates.

Of the **natural hazards** affecting the Hub, four global and/or regional hazards have been considered, namely: earthquakes, volcanoes, tsunamis, and floods of large basins. In addition, in the Cordilleran areas, a localized though frequent and damaging hazard, as are landslides, is considered.

The countries involved in the Amazon Hub defined five API projects for the purpose of consolidating connectivity in their territories. They are made up of 13 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$4,258 million.

Ecuador contributes almost 95% to the Hub's GDP, and Peru almost 90%, Venezuela approximately 80%, Colombia 76% and Bolivia 54%. In absolute terms, Venezuela and Colombia contribute 35% and 33%, respectively, to the Hub's aggregate GDP. Peru accounts for 21%, while Ecuador and Bolivia for only 9% and 2%, respectively.

A noteworthy trend in the Hub's global economic performance is its growth rate in the 2008-2012 period, which reached an average of 4%. The Hub shares some regions of its area of influence with other six Hubs: the Amazon, the Guianese Shield, the Peru-Brazil-Bolivia, the Central Interoceanic, the Paraguay-Paraná Waterway, and the Capricorn Hubs.



API PROJECTS

ANDEAN HUB

The API projects belonging to this Hub seek to consolidate the socioeconomic and tourism relations at both the regional and international levels.

The investments involved amount to US\$4,258 million, which makes the Andean Hub rank second in API in terms of estimated investment, surpassed only by the Capricorn Hub.

The structured projects are intended to improve connectivity —through road corridors, border infrastructure, and bridges— between the following countries:

- Colombia – Venezuela
- Ecuador – Colombia – Venezuela
- Peru – Ecuador
- Colombia – Ecuador
- Peru – Bolivia

The structured project with the greatest estimated investment planned for this Hub is the Caracas - Bogotá - Buenaventura / Quito Road Corridor (US\$3,350 million), which is also the second API project with the highest investment.

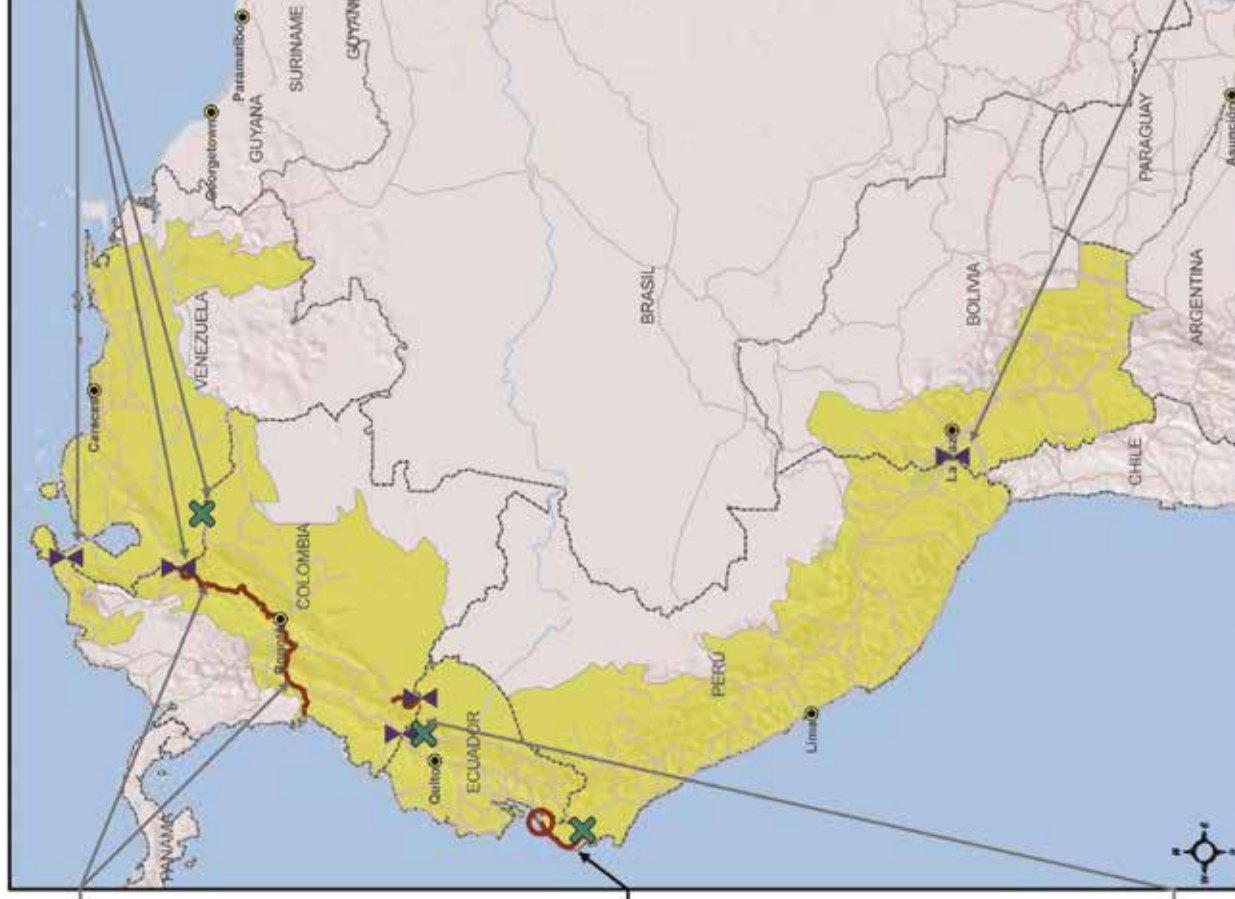
This project is made up of two individual projects, one of them —the Bogotá - Buenaventura Road Corridor (US\$1,791 million)— being the second API individual project in terms of investment amount. This corridor, linked to waterways and multimodal projects, can connect the Pacific and Atlantic oceans, representing an alternative to the Panama Canal for the flow of goods. For this reason, it forms part of two project groups of the COSIPLAN Portfolio and falls in the category of

“hinge projects.”

As regards the other projects, most of them focus on border complexes to contribute to binational connectivity (Colombia-Ecuador, Colombia-Venezuela, Bolivia-Peru). There is also one national Peruvian project consisting in a road corridor that joins Peru's coastal areas with Ecuador and with the Colombian southern Pacific coast.

COLOMBIA - VENEZUELA
BORDER CROSSINGS
CONNECTIVITY SYSTEM

DESAGUADERO
BINATIONAL BORDER
SERVICE CENTER (CEBAF)



CARACAS - BOGOTÁ -
BUENAVENTURA / QUITO
ROAD CORRIDOR

AUTOPISTA DEL SOL
EXPRESSWAY:
IMPROVEMENT AND
REHABILITATION OF THE
SULLANA - AGUAS VERDES
SECTION (INCLUDING
TUMBES BYPASS)



COLOMBIA - ECUADOR
BORDER
INTERCONNECTION

API PROJECTS IN THE ANDEAN HUB

Caracas - Bogotá - Buenaventura / Quito Road Corridor

* US\$ million





Estimated Investment* | 3,350.0 Countries | CO - EC - VE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND05	BOGOTÁ - CÚCUTA ROAD CORRIDOR	G02		1,559.0	CO	Dec 31, 2040
AND07	BOGOTÁ - BUENAVENTURA ROAD CORRIDOR	G02		1,791.0	CO	Aug 31, 2026

Colombia - Ecuador Border Interconnection

* US\$ million




Estimated Investment* | 287.8 Countries | CO - EC

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND31	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT SAN MIGUEL	G06		0.0	CO - EC	Jul 29, 2015
AND79	IMPROVEMENT AND PAVING OF THE MOCOA - SANTA ANA - SAN MIGUEL ROAD SECTION	G06		179.0	CO	Dec 31, 2016
AND82	IMPLEMENTATION OF THE BINATIONAL BORDER SERVICE CENTER (CEBAF) AT THE TULCÁN - IPIALES (RUMICHACA) BORDER CROSSING	G02		104.7	CO - EC	Dec 31, 2019
AND91	CONSTRUCTION OF THE NEW INTERNATIONAL RUMICHACA BRIDGE AND IMPROVEMENT OF THE EXISTING BRIDGE	G02		4.1	CO - EC	Nov 30, 2013

Colombia - Venezuela Border Crossings Connectivity System

* US\$ million

Estimated Investment* | 16.0 Countries | CO - VE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND02	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT PARAGUACHÓN	G01		2.0	VE	NA
AND13	IMPROVEMENT OF JOSÉ ANTONIO PÁEZ BRIDGE	G03		0.0	CO	Aug 31, 2005
AND81	IMPROVEMENT OF THE BORDER CROSSINGS IN THE NORTHERN DEPARTMENT OF SANTANDER AND THE TÁCHIRA STATE	G02		14.0	CO - VE	Dec 31, 2017

Desaguadero Binational Border Service Center (CEBAF)

* US\$ million




Estimated Investment* | 29.9 Countries | BO - PE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND47	DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)	G08		29.9	BO - PE	Jan 31, 2016

Autopista del Sol Expressway: Improvement and Rehabilitation of the Sullana - Aguas Verdes Section (including Tumbes Bypass)

* US\$ million

Estimated Investment* | 574.5 Countries | PE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND99	UPGRADE OF SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD TO A FOUR-LANE ROAD	G05		472.4	PE	NA
AND100	REHABILITATION AND CONSTRUCTION OF BRIDGES ALONG THE SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD	G05		47.2	PE	Jun 30, 2016
AND101	CONSTRUCTION OF TUMBES BYPASS	G05		54.9	PE	NA

Almost all the individual projects are financed with public funds, except for a completed project and for project Upgrade of Sullana - Tumbes - Turn-off to the International Bypass Road to a Four-lane Road, financed with public-private funds.

The two individual projects with the greatest estimated investment are part of the same structured project, Caracas - Bogotá - Buenaventura / Quito Road Corridor, amounting to US\$1,791 million and

US\$1,559 million, respectively. Both are at the execution stage, are national Colombian projects, and are publicly financed.

The third individual project in terms of estimated investment is Upgrade of Sullana - Tumbes - Turn-off to the International Bypass Road to a Four-lane Road, which involves an amount estimated at US\$472 million.

Only 10 of the 13 individual projects have a known completion date (three of them are already completed). Five individual projects would be completed before the next five-year period (2019), while the two projects with the greatest estimated investment would be completed in 2026 and 2040, respectively, thus exceeding the deadline set for API.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



ROAD SUBSECTOR

Paving, upgrade to four lanes, and rehabilitation of 1,168.5 km of roads, including tunnels and bridges
 Improvement and paving of 180 km of roads
 Upgrade to four lanes of a 260-km long road, building of road interchanges and pedestrian bridges, and traffic signing, road marking and complementary works
 Construction of a bypass including an 18.65-km long four-lane road, two road interchanges, two grade-separated junctions, and two bridges
 Construction of a 71.2-m long bridge
 Improvement of two bridges (80-m and 167.1-m long)
 Construction and rehabilitation of 45 bridges



BORDER CROSSINGS SUBSECTOR

Construction of three binational border service centers
 Improvement works in some border crossings

 PROFILING  PRE-EXECUTION  EXECUTION  COMPLETED



CARACAS - BOGOTÁ - BUENAVENTURA QUITO ROAD CORRIDOR

Colombia – Ecuador – Venezuela

Subsector: Road

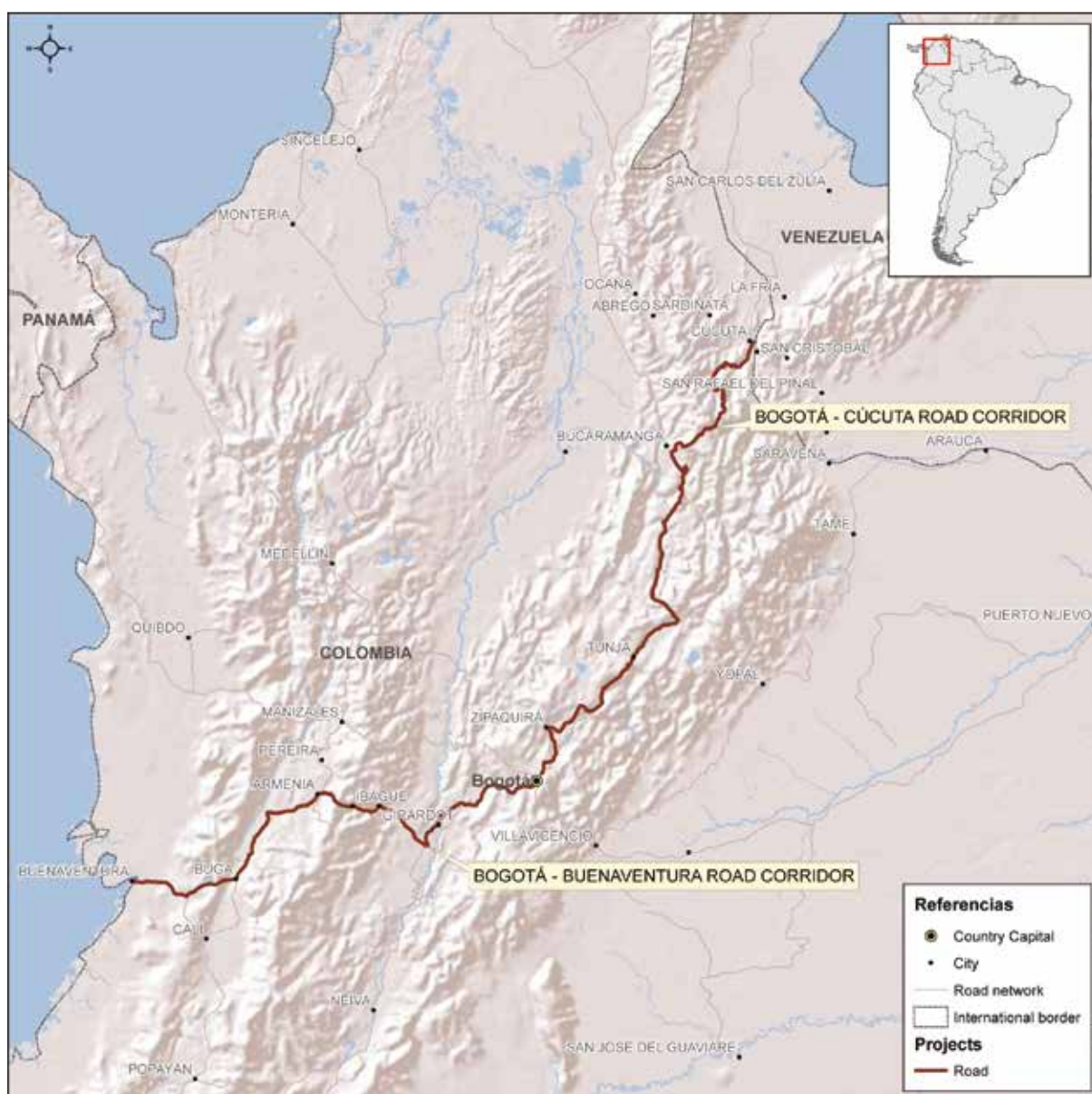
Estimated investment: US\$3,350,000,000

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects:

Execution: 2





RATIONALE

This structured project articulates the largest urban centers of Colombia, Ecuador, and Venezuela, and strengthens the main international road trade flows in the Andean Hub. In addition, this project as well as the Colombia - Venezuela Border Crossings Connectivity System project create important benefits and cross-border synergies, and strengthen

regional connectivity networks. Moreover, the main complementary action identified for the Buenaventura port is the Logistics Activity Zone, while in the case of the Cúcuta-Bucaramanga road, some complementary actions in its area of influence have been proposed in order to mitigate the social and environmental impact.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND05	BOGOTÁ - CÚCUTA ROAD CORRIDOR	G02		1,559.0	CO	Dec 31, 2040
AND07	BOGOTÁ - BUENAVENTURA ROAD CORRIDOR	G02		1,791.0	CO	Aug 31, 2026

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Paving, upgrade to four lanes, and rehabilitation of 1,168.5 km of roads, including tunnels and bridges

THIS YEAR'S MAJOR DEVELOPMENTS

As for the Bogotá-Cúcuta Road Corridor, progress was made in some of its sections:

- Bogotá-Bucaramanga: This section is under a short-term concession contract that was in effect as from September 10, 2014, and will expire in 2016.
- Bucaramanga-Pamplona: Works are planned to be completed on September 22, 2015.
- New projects: As of July 2015, the structure of the Bucaramanga-Pamplona, Pamplona-Cúcuta, and Barbosa-Bucaramanga sections was already defined.

Regarding the Bogotá-Buenaventura Road Corridor, progress in the following sections as of March 2015 was as follows:

- Bogotá-Girardot: The upgrade to four lanes of 124.55 km of the road was completed.
- Girardot-Cajamarca: The upgrade to four lanes of 60.96 km of the 62.6 km awarded by contract was completed, 52.17 km of which are already operational, and the 88.3 km under a contract for rehabilitation works were completed.
- In January 2015, the upgrade of the Ibagué-Cajamarca section to a four-lane road was awarded as a private initiative PPP project.
- Buga-Loboguerrero: The construction progress was 66%.

For more information, visit www.iirsa.org/api04.asp

COLOMBIA - ECUADOR BORDER INTERCONNECTION

Colombia - Ecuador

Subsectors: Road, border crossings

Estimated investment: US\$287,775,535

Type of financing: Public

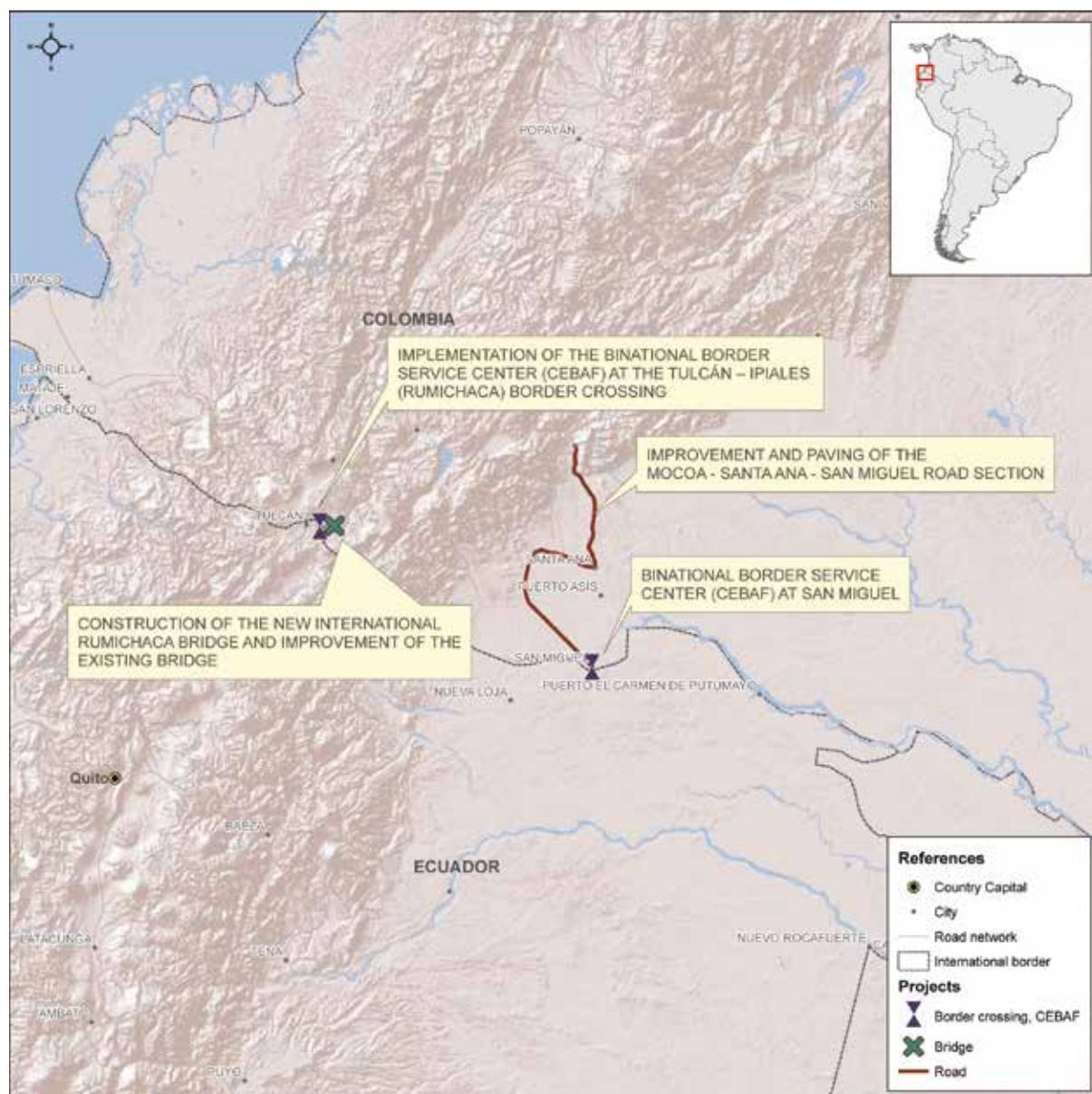
Project stage: Execution

Life cycle stage and number of projects:

Pre-execution: 1

Execution: 1

Completed: 2



RATIONALE

This structured project is highly significant, as trade between Ecuador and Colombia ranks second in international trade by road within the Andean Hub; furthermore, the project helps complete the missing links in the corridor known as the “Low-Altitude Corridor” or “Alternative Corridor,” linking Bogotá and Quito, and solves pending issues in the Ecuador-Colombia border crossings. The structured project will reinforce the connectivity networks between southern Colombia and the most important cities of Ecuador, creating significant benefits and

cross-border synergies. In addition, an important opportunity for the development of logistics and production integration processes is identified.

One of the major conclusions that can be drawn from the bilateral trade balance is that if a solution is found to the issues that slow down trade, such as cargo transfer activities, the potential for growth and complementarity of both economies will bring about a remarkable level of economic integration.

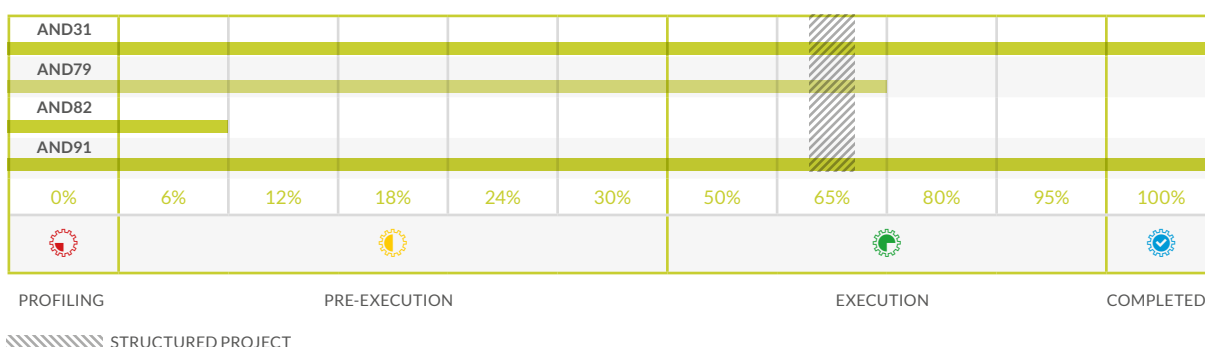
* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND31	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT SAN MIGUEL	G06		0.0	CO - EC	Jul 29, 2015
AND79	IMPROVEMENT AND PAVING OF THE MOCOA - SANTA ANA - SAN MIGUEL ROAD SECTION	G06		179.0	CO	Dec 31, 2016
AND82	IMPLEMENTATION OF THE BINATIONAL BORDER SERVICE CENTER (CEBAF) AT THE TULCÁN - IPIALES (RUMICHACA) BORDER CROSSING	G02		104.7	CO - EC	Dec 31, 2019
AND91	CONSTRUCTION OF THE NEW INTERNATIONAL RUMICHACA BRIDGE AND IMPROVEMENT OF THE EXISTING BRIDGE	G02		4.1	CO - EC	Nov 30, 2013

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of two binational border service centers
- Improvement and paving of 180 km of roads
- Construction of a 71.2-m long bridge
- Improvement of an 80-m long bridge

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



THIS YEAR'S MAJOR DEVELOPMENTS

As of June 2015, the contract for project Improvement and Paving of the Mocoa - Santa Ana - San Miguel Road Section was awarded, and as of the date of this report, it is being formalized.

The contract for project Implementation of the Binational Border Service Center (CEBAF) at the Tulcán - Ipiales (Rumichaca) Border Crossing was awarded in April 2015 and entered into in May 2015. A first meeting of Ecuador, Colombia and the consulting firm will be held to set the initial guidelines.

For more information, visit www.iirsa.org/api05.asp

COLOMBIA - VENEZUELA BORDER CROSSINGS CONNECTIVITY SYSTEM

Colombia, Venezuela

Subsectors: Border Crossings, road

Estimated investment: US\$16,000,000

Type of financing: Public-private

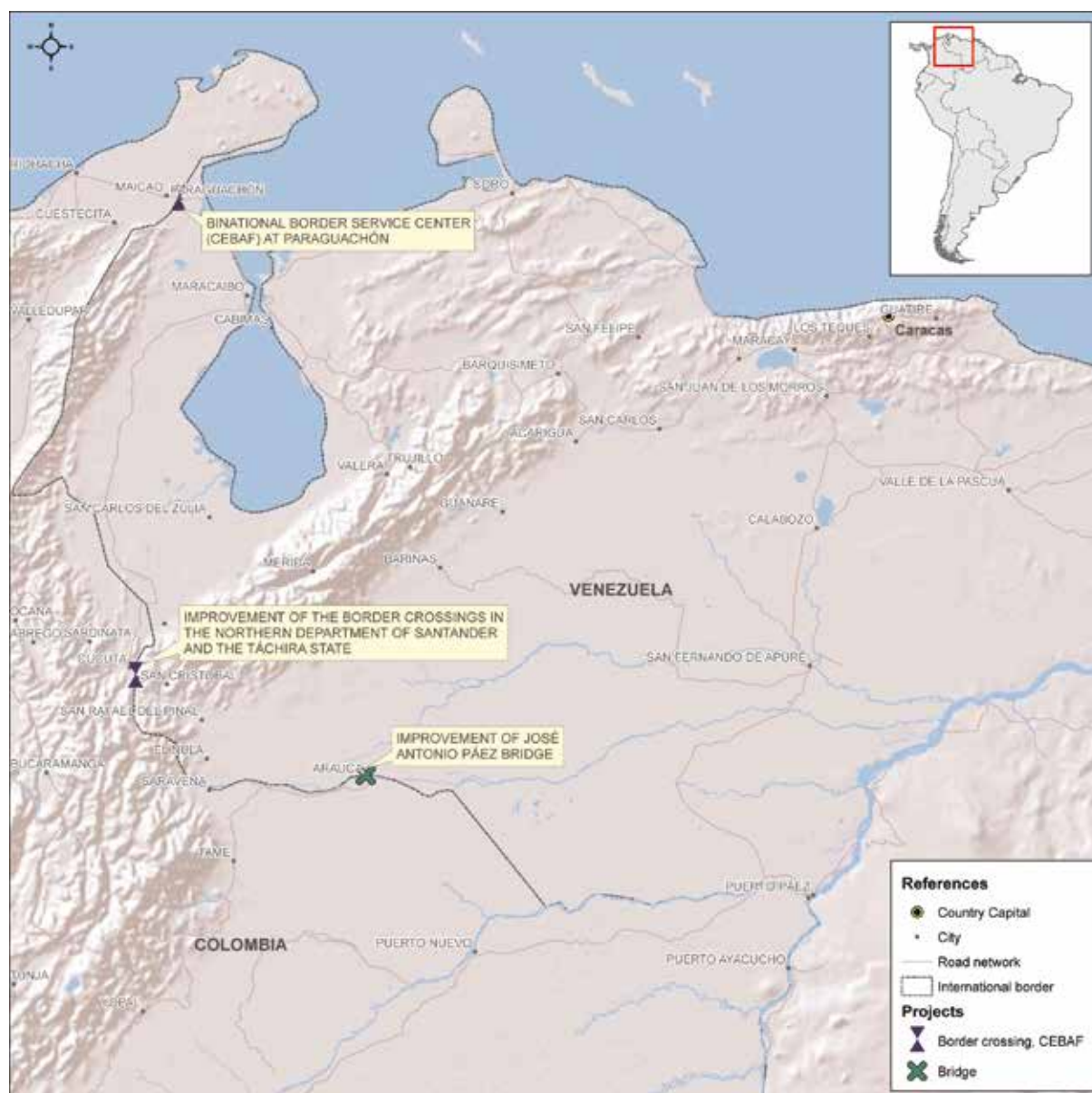
Project stage: Execution

Life cycle stage and number of projects:

Pre-execution: 1

Execution: 1

Completed: 1



RATIONALE

This structured project is designed to address existing problems, missing links and bottlenecks in the most important border crossings between Colombia and Venezuela, which concentrate the largest international trade flows by road in the Andean Hub. The project includes the design of a development plan to implement the actions and in-

frastructure works involved.

The challenges to this structured project are basically institutional, as great convergence efforts are required to implement integrated controls in the entire land connection system between Colombia and Venezuela.

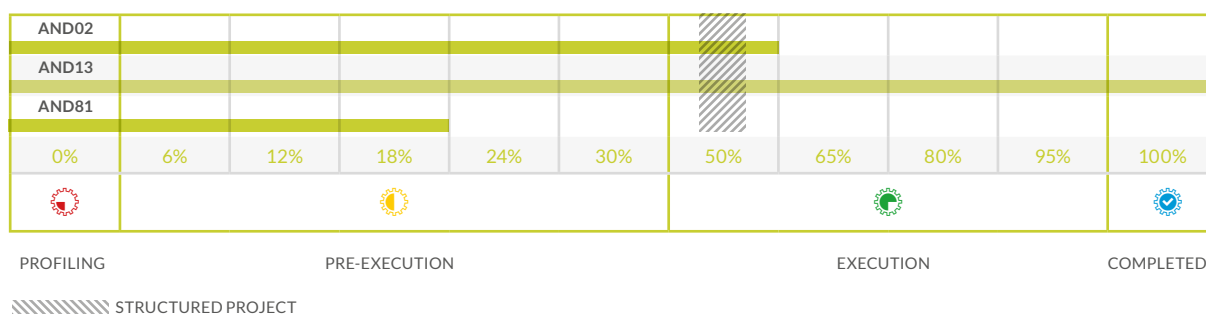
* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND02	BINATIONAL BORDER SERVICE CENTER (CEBAF) AT PARAGUACHÓN	G01		2.0	VE	NA
AND13	IMPROVEMENT OF JOSÉ ANTONIO PÁEZ BRIDGE	G03		0.0	CO	Aug 31, 2005
AND81	IMPROVEMENT OF THE BORDER CROSSINGS IN THE NORTHERN DEPARTMENT OF SANTANDER AND THE TÁCHIRA STATE	G02		14.0	CO - VE	Dec 31, 2017

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a binational border service center with four stations
- Improvement of a 167.1-m long bridge
- Improvement of some border crossings

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



THIS YEAR'S MAJOR DEVELOPMENTS

The pre-feasibility studies for project Improvement of the Border Crossings in the Northern Department of Santander and the Táchira State, which made 6% progress, were approved.

For more information, visit www.iirsa.org/api06.asp

DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)

Bolivia – Peru

Subsector: Border crossings

Estimated investment: US\$29,941,511

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects:

Execution: 1



RATIONALE

The purpose of the project is to facilitate the flow of people, vehicles and goods, fostering bilateral as well as regional trade. In addition, complementary actions associated with the regulatory frameworks and with binationally-integrated border control operations have been identified. Border controls are currently performed in provisional facilities located in an easement area. These rudimentary conditions pose obstacles to smooth bilateral trade and tourism.

The opening of the new international bridge and the expected gradual closing of the “old” one has put on the agenda the urgent need for both countries to address the social issue in the town of Desaguadero on both sides, as the startup of the CEBAF has raised concerns among local residents as to the possibility that their way of life and border trade be destroyed. It is worth mentioning that the Desaguadero border crossing is the most important one for trade between Peru and Bolivia.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND47	DESAGUADERO BINATIONAL BORDER SERVICE CENTER (CEBAF)	G08		29.9	BO - PE	Jan 31, 2016

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a binational border service center

THIS YEAR'S MAJOR DEVELOPMENTS

The first quarter of the works involved in project Desaguadero Binational Border Service Center, which made 20% progress, was completed.

For more information, visit www.iirsa.org/api07.asp

AUTOPISTA DEL SOL EXPRESSWAY: IMPROVEMENT AND REHABILITATION OF THE SULLANA - AGUAS VERDES SECTION (INCLUDING TUMBES BYPASS)

Peru

Subsector: Road

Estimated investment: US\$574,502,950

Type of financing: Public-private

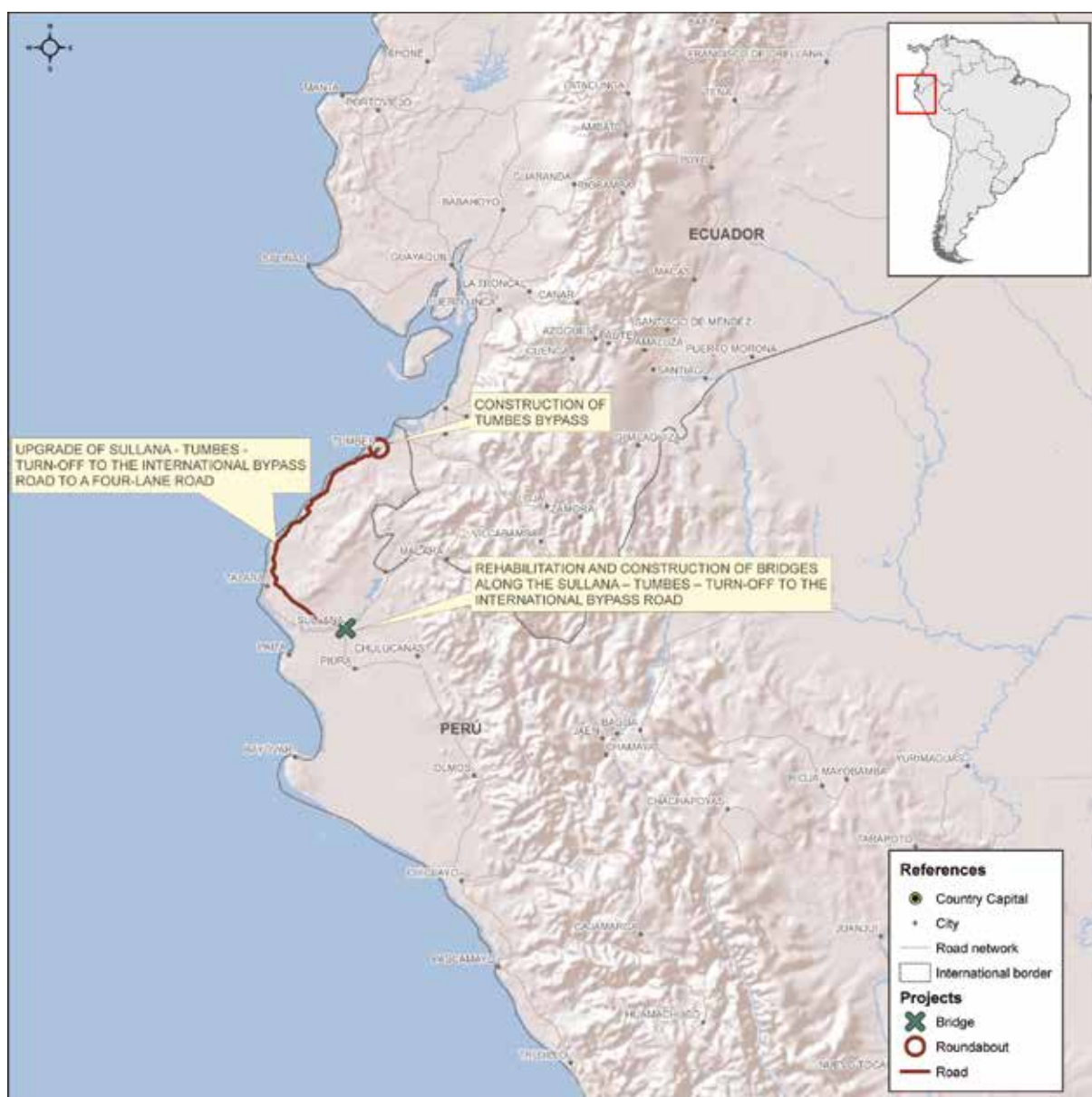
Project stage: Execution

Life cycle stage and number of projects:

Profiling: 1

Pre-execution: 1

Execution: 1






RATIONALE

This structured project is located on the most dynamic section of the most widely used road corridor of Peru, i.e. the North Pan-American Highway, which forms part of the structuring logistics corridor and is linked to one of the most important border crossings. This project is the most important one for connecting by land the north of Peru and the south of Ecuador in terms of trade; thus, it consolidates and enhances the regional connectivity network, creating significant cross-border synergies. Additionally, actions intended to harmonize transport-related standards are identified since there are still cargo transfer deficiencies at the border.

Within the framework of the Binational Plan, both Peru and Ecuador have been implementing various multisectoral actions at the bilateral level to facilitate services and increase trade and tourism flows on the common border —with the purpose of enhancing living conditions in the border region— as well as to improve the road network and border control. Some of the most important projects included in the Binational Plan involve five bilateral road axes; their objective is to create a land inter-connection network that will serve as a basis for development in the common border area.

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
AND99	UPGRADE OF SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD TO A FOUR-LANE ROAD	G05		472.4	PE	NA
AND100	REHABILITATION AND CONSTRUCTION OF BRIDGES ALONG THE SULLANA - TUMBES - TURN-OFF TO THE INTERNATIONAL BYPASS ROAD	G05		47.2	PE	Jun 30, 2016
AND101	CONSTRUCTION OF TUMBES BYPASS	G05		54.9	PE	NA

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Upgrade to four lanes of a 260-km long road, building of road interchanges and pedestrian bridges, and traffic signing, road marking and complementary works
- Construction of a bypass including a 18.65-km long four-lane road, two road interchanges, two grade-separated junctions, and two bridges
- Construction and rehabilitation of 45 bridges

THIS YEAR'S MAJOR DEVELOPMENTS

The first quarter of the works involved in project Rehabilitation and Construction of Bridges along the Sullana - Tumbes - Turn-Off to the International Bypass Road, which made 20% progress, was completed.

Regarding the Construction of Tumbes Bypass project, a pre-investment study at the profiling level was approved on April 30, 2015, authorizing its movement to the feasibility level. Furthermore, an invitation to tender in a single package is being prepared for the final feasibility study.

As for the Upgrade of Sullana - Tumbes - Turn-Off to the International Bypass Road to a Four-lane Road project, the road was under a maintenance service level agreement up to April 2015, and Peru is coordinating the extension of the agreement for one year.

For more information, visit www.iirsa.org/api08.asp



CAPRICORN

INTEGRATION AND DEVELOPMENT HUB



Population: 53,509,280 inhabitants
Density: 19.7 inh./km²
Area: 2,722,534 km²

GDP: US\$ 575,422 million

Services: 75.0%
Industry: 13.9%
Agriculture: 5.9%
Mines and quarries: 5.2%



ARGENTINA



BOLIVIA



BRAZIL



CHILE



PARAGUAY

Estimated investment

* US\$ million

7,473.4



66.7%
National

33.3%
Binational

12

6

Projects per Sector



Transport

16

6,621.4



Energy

2

852

Projects per Types of Financing



Public

16

6,911.4



Private

1

500



Public
Private

1

62

* US\$ million



Number of Projects



* US\$ million

Number of Projects

Projects per Subsector

Transport



Energy



STRUCTURED PROJECTS OF THE HUB

* US\$ million

Code	Name	Stage	Estimated Investment*	Countries	Individual Projects	Estimated Completion Date
9	CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER		45.0	AR - BO	1	Dec 2017
10	ARGENTINA - BOLIVIA WEST CONNECTION		477.0	AR - BO	4	Aug 2016
11	PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR		5,325.2	AR - BR - CH - PY	1	Aug 2016
12	FOZ DO IGUAÇU - CIUDAD DEL ESTE - ASUNCIÓN - CLORINDA ROAD CONNECTION		774.2	AR - BR - PY	1	Jun 2024
13	ITAIPU - ASUNCIÓN - YACYRETÁ 500-KV TRANSMISSION LINE		852.0	BR - PY	1	Jul 2024

Presentation of CAPRICORN HUB

The Capricorn Hub⁽¹⁾ runs along the Pacific coast of Chile, the Andean region of Bolivia, the north of Argentina, the whole territory of Paraguay, and the Brazilian states on the Atlantic coast (Rio Grande do Sul, Santa Catarina, Paraná, and part of Matto Grosso do Sul). It accounts for 14% of the territory (2,722,534 km²), 14% of the population (53,509,280 inhabitants), and 13% of the Gross Domestic Product (GDP) of South America, amounting to US\$575,422 million.⁽²⁾

The Capricorn Hub ranks sixth in terms of the population, territory, and GDP of South America.

AREA OF INFLUENCE OF THE CAPRICORN HUB



The **road network** of the countries involved in the Hub covers a total length of 2,117,539 km, of which only 15% are paved. There are several road corridors connecting agricultural production areas and mineral extraction centers located in the central region of the Hub with ports on the Paraguay and Paraná rivers as well as ports located on the Brazilian Atlantic coastline. The **railway network** covers 61,424 km, of which approximately 87% are operational. There are important railway connections in different degree of preservation and condition for operation running mostly from east to west, connecting the ports on both oceans with the interior of the countries. However, it is necessary to extend the existing sections in order to connect the

ports of Paranaguá on the Atlantic and Antofagasta on the Pacific. The **sea and river port system** is made up of 25 major ports —four of which handle more than 10,000,000 tons— that are located mainly on the coasts of the Atlantic ocean and along the Paraná and Paraguay rivers, to which the Chilean ports on the Pacific should be added. Most **river transportation** activities in the region are carried out along the Paraná and Paraguay rivers, which jointly make up the major river communication route in the region and which are vitally important for Paraguayan and Bolivian agricultural production to reach the sea ports. The **airport system** features 39 major airports, 17 of which are international. Passenger service is adequate, with good airport infrastructure and

1 See "Caracterización Socio-Económica y Ambiental del Eje de Capricornio," COSIPLAN-IIRSA, 2014. www.iirsa.org/capricornio.asp

2 At 2013 current prices.

several connections to the main cities in the interior of the countries. Cargo transportation by air is very limited and is mainly concerned with the import of industrial manufactures from countries other than those included in the Hub. As for **electricity generation**, as of 2013 the countries involved in the Hub had a joint installed power of about 184,656 MW.

The presence of **indigenous communities** in the territory of the Capricorn Hub is very significant, particularly in Bolivia and the northern area of Argentina and, to a lesser extent, in the eastern region of Paraguay, whereas their presence is limited in Brazil and Chile.

The countries involved in the Capricorn Hub defined five API projects for the purpose of consolidating connectivity in their territories. They are made up of 18 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$7,473 million.

Paraguay contributes 100% of its economy, whereas the other countries contribute about 14% and 17% of their GDP to the Hub. In absolute terms, Brazil contributes 68% to the Hub's aggregate GDP, followed by Argentina (19%), Chile (7%), and Paraguay and Bolivia (4% and 1%, respectively).

Brazil and Argentina account for more than 74% of the trade among the countries in the Hub. In particular, Brazil is the main destination of the other

At present, there are approximately four hundred **administrative units with some degree of environmental protection**, totaling about 162.1 km², accounting for 6% of the total area of the Hub.

The **natural hazards** affecting the Capricorn Hub include seismic movements in the form of earthquakes, volcanoes, tsunamis, and floods of large basins. Landslides are also considered, which though localized, are frequent and highly damaging.

four countries' exports, receiving more than 60% of their foreign trade. The main destination of Brazilian exports within the Hub is Argentina, accounting for 68% of its total export operations.

The Hub shares some regions of its area of influence with the MERCOSUR-Chile, Central Interoceanic, and Paraguay-Paraná Waterway Hubs.

API PROJECTS

CAPRICORN HUB

The API projects belonging to the Capricorn Hub seek to promote the socioeconomic development of the Argentine, Brazilian, Chilean and Paraguayan areas involved by means of production integration and logistics; further traffic of bulk cargo from the region; the increase of alternative outlets to overseas markets for the Hub's products; reduced costs and greater security for the movement of people and trade in goods and services; the organization of territorial dynamics and the reduction of its environmental impact; and taking profit from the complementary opportunities for tourism.

The Capricorn Hub ranks first in terms of API estimated investment, with more than double of the amount planned to be invested in the second-ranking Hub (the Amazon Hub). Furthermore, it ranks second to the Amazon Hub in number of API projects (18 and 27, respectively).

The Capricorn Hub is home to one of the most challenging connectivity routes in API: the Paranaguá - Antofagasta Bioceanic Railway Corridor, a project intended to allow the movement of cargo across the continent, from the Brazilian coast on the Atlantic, through Paraguay, Argentina and Bolivia, up to the Chilean coast on the Pacific.

This structured project is made up of nine individual projects aimed at rehabilitating rail lines, building missing stretches of track, and strengthening or upgrading bridges and freight yards, for an amount of US\$5,325 million, which accounts for 71% of the investments planned for the API projects located in this Hub.

The investment amount in this corridor is high because it includes the two individual projects with the greatest estimated investment in the Capricorn Hub: Construction of Ciudad del Este - Ñeembucú Railway (US\$2,800 million), and Bioceanic Railway Corridor: Paranaguá - Cascavel Section and Guarapuava - Ingeniero Bley Railway Bypass (US\$1,500 million). The nine individual projects included in this struc-

tured project, which involves the four countries in the Hub, seeks to strengthen a connectivity network with a regional scope by integrating existing rail networks and consolidating them as a physical and operational single unit. In addition, it is intended to reduce medium- and long-distance logistics costs, encourage trade, and increase the use of more efficient transportation modes. The corridor will enable the transport of the increasing flows of imports and exports from and to South America, either through the Atlantic or the Pacific ocean. This access facilitation will have a positive impact on the integration of logistics and production chains, especially those related to grain, meat and mineral processing.

Construction of Ciudad del Este - Ñeembucú Railway is also the API individual project with the greatest investment.

Another two structured projects seek to strengthen connectivity between Argentina and Bolivia by promoting cross-border development, which involve different subsectors: a rail corridor, two international road bridges, and paving of a highway. There is one structured project intended to fur-

ther land connectivity between Argentina, Brazil and Paraguay by means of road and border crossing projects. The last structured project —the only Hub's project falling in the energy sector— involves the implementation of a 500-kV transmission line between Itaipu, Asunción and Yacretá with the objective of enhancing power supply security in Paraguay and facilitating electricity exchange with Argentina through improved service quality and supply reliability.

API PROJECTS IN THE CAPRICORN HUB

Construction of the Salvador Mazza - Yacuiba Binational Bridge and Border Center

* US\$ million




Estimated Investment * I 45.0 Countries I AR - BO

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP10	CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER	G02		45.0	AR - BO	Dec 31, 2018

Argentina - Bolivia West Connection

* US\$ million










Estimated Investment * I 477.0 Countries I AR - BO

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP11	REHABILITATION OF JUJUY - LA QUIACA RAILWAY	G02		62.0	AR	Dec 31, 2020
CAP50	PAVING OF NATIONAL ROUTE No. 40, MINING CORRIDOR PATH (BORDER WITH BOLIVIA)	G02		400.0	AR	Dec 31, 2018
CAP81	LA QUIACA - VILLAZÓN BRIDGE AND BORDER CENTER	G02		15.0	AR - BO	Dec 31, 2021

Paranáguá - Antofagasta Bioceanic Railway Corridor

* US\$ million




Estimated Investment * I 5,325.2 Countries I AR - BR - CH - PY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP20	CASCABEL - FOZ DO IGUAÇU BIOCEANIC RAILWAY CORRIDOR	G03		324.0	BR	NA
CAP23	STUDY FOR THE OPTIMIZATION OF THE NEEMBUCÚ - BERMEJO NODE	G04		301,2	AR - PY	Mar 31, 2020
CAP29	CONSTRUCTION OF CIUDAD DEL ESTE - NEEMBUCÚ RAILWAY	G04		2,800.0	PY	Jan 31, /2022
CAP37	REHABILITATION OF THE C3 RAILWAY BRANCH LINE: RESISTENCIA - AVIA TERAI - PINEDO	G01		100.0	AR	Dec 31, 2018
CAP38	REHABILITATION OF THE C12 RAILWAY BRANCH LINE: AVIA TERAI - METÁN	G01		200.0	AR	Dec 31, 2018
CAP39	REHABILITATION OF THE C14 RAILWAY BRANCH LINE: SALTA - SOCOMPA	G01		100.0	AR	Dec 31, 2018
CAP52	RAILWAY BRIDGE WITH FREIGHT YARD (CIUDAD DEL ESTE - FOZ DO IGUAÇU)	G03		0.0	BR - PY	NA
CAP53	BIOCEANIC RAILWAY CORRIDOR: PARANAGUÁ - CASCABEL SECTION AND GUARAPUAVA - INGENIERO BLEY RAILWAY BYPASS	G03		1,500.0	BR	NA
CAP91	BIOCEANIC RAILWAY CORRIDOR, CHILEAN SECTION (ANTOFAGASTA - SOCOMPA)	G01		0.0	CH	Dec 31, 1947

Foz do Iguaçu - Ciudad del Este - Asunción - Clorinda Road Connection

* US\$ million



Estimated Investment * I 774.2 Countries I AR - BR - PY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP07	OPTIMIZATION OF THE CLORINDA - ASUNCIÓN NODE	G01		101.2	AR - PY	Dec 31, 2020
CAP14	NEW PUERTO PRESIDENTE FRANCO - PORTO MEIRA BRIDGE, WITH A PARAGUAY - BRAZIL INTEGRATED CONTROL AREA	G03		173.0	BR - PY	Dec 31, 2017
CAP18	CONCESSION FOR THE IMPROVEMENT OF ROUTES No. 2 AND 7 (ASUNCIÓN - CIUDAD DEL ESTE)	G03		500.0	PY	Dec 31, 2020

Itaipu - Asunción - Yacyretá 500-kV Transmission Line

* US\$ million

Estimated Investment * I 852.0 Countries I BR - PY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP67	500-KV TRANSMISSION LINE (ITAIPU - VILLA HAYES)	G03		555.0	PY	Oct 29, 2013
CAP68	500-KV TRANSMISSION LINE (YACYRETÁ - VILLA HAYES)	G03		297.0	PY	Aug 31, 2017

As regards the estimated investment in the individual projects, the 500-kV Transmission Line (Itaipu - Villa Hayes), related to energy connectivity within the Hub, ranks third after the two railways, with a

significantly lower investment amount. This project was completed in 2013. The three projects are publicly financed and national in scope: two belong to Paraguay and one to Brazil.

It is estimated that seven of the 16 active individual projects will be completed in the next four years (up to 2018) and six between 2019 and 2022, there being no information available on the other three of them.

TECHNICAL SPECIFICATION OF THE HUB'S PROJECTS



ROAD SUBSECTOR

Paving and improvement of 580 km of roads
Construction of 9.7 km of approach roads
Upgrade of a road interchange
Construction of four bridges: a 30-m long one, a 760-m long one, and a bridge with a freight yard
Improvement of a bimodal bridge



BORDER CROSSINGS SUBSECTOR

Construction of two border centers, one of them with an area of 24.8 ha



RAIL SUBSECTOR

Construction and rehabilitation of 3,026.4 km of railroads



ENERGY INTERCONNECTION SUBSECTOR

Improvement of two 500-kV transmission lines running along 710.9 km

CONSTRUCTION OF THE SALVADOR MAZZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER

Argentina - Bolivia

Subsector: Border crossings

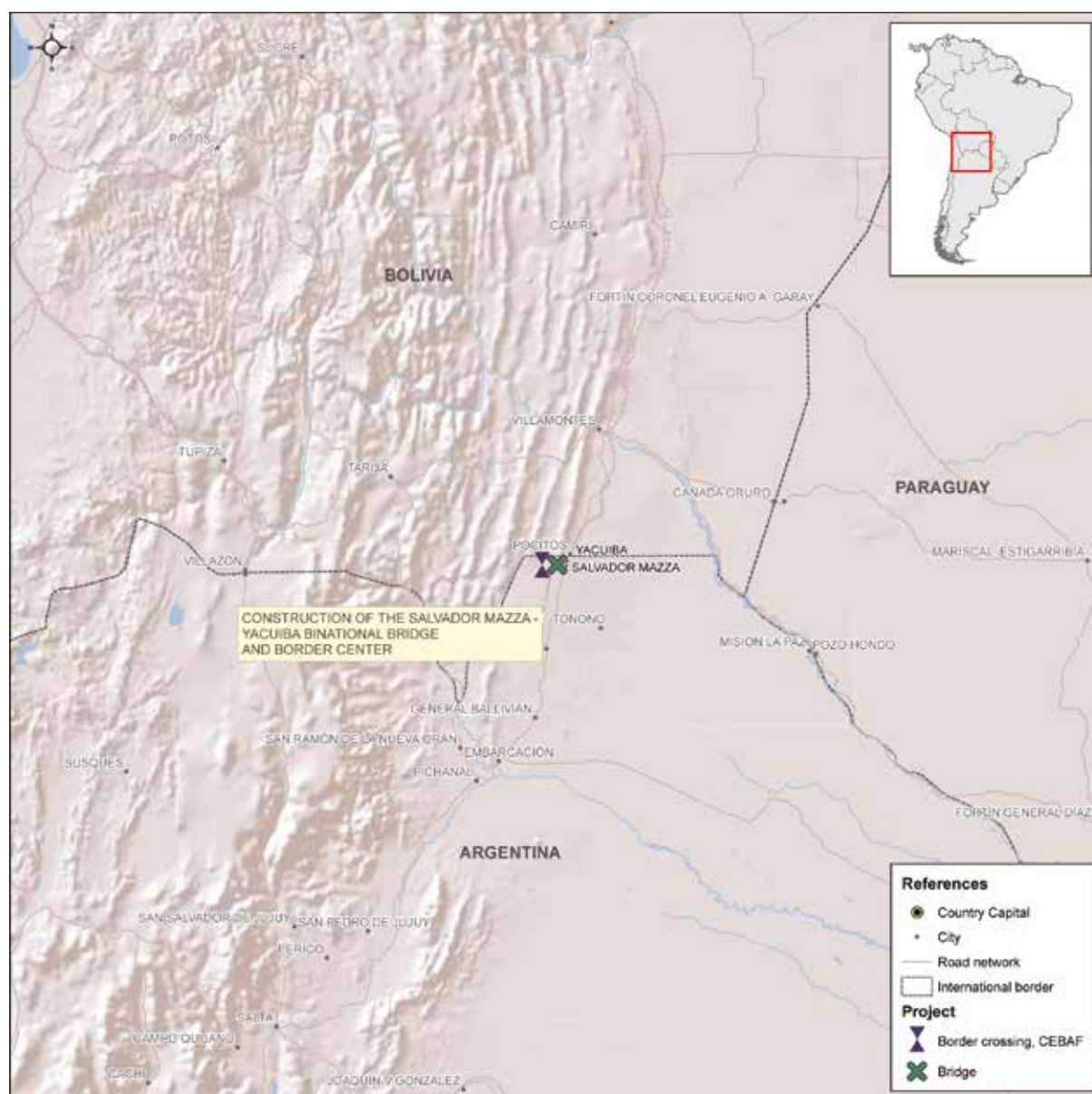
Estimated investment: US\$45,000,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 1



RATIONALE

This structured project consolidates the regional networks and favors cross-border synergies between Argentina and Bolivia. The construction of a new bridge seeks to come up with a solution to the existing serious difficulties at the border crossing between both countries and to ensure the smooth

flow of international freight and passenger traffic as well as of pedestrians. The problem is that the current bridge is an urban road used for both local border traffic and international traffic.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP10	CONSTRUCTION OF THE SALVADOR MAZ- ZA - YACUIBA BINATIONAL BRIDGE AND BORDER CENTER	G02		45.0	AR - BO	Dec 31, 2018

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a 30-m long bridge
- Construction of a 24.8-ha border center
- Construction of 9.7 km of approach roads

THIS YEAR'S MAJOR DEVELOPMENTS

The pre-feasibility studies for this project, which made 6% progress, were completed.

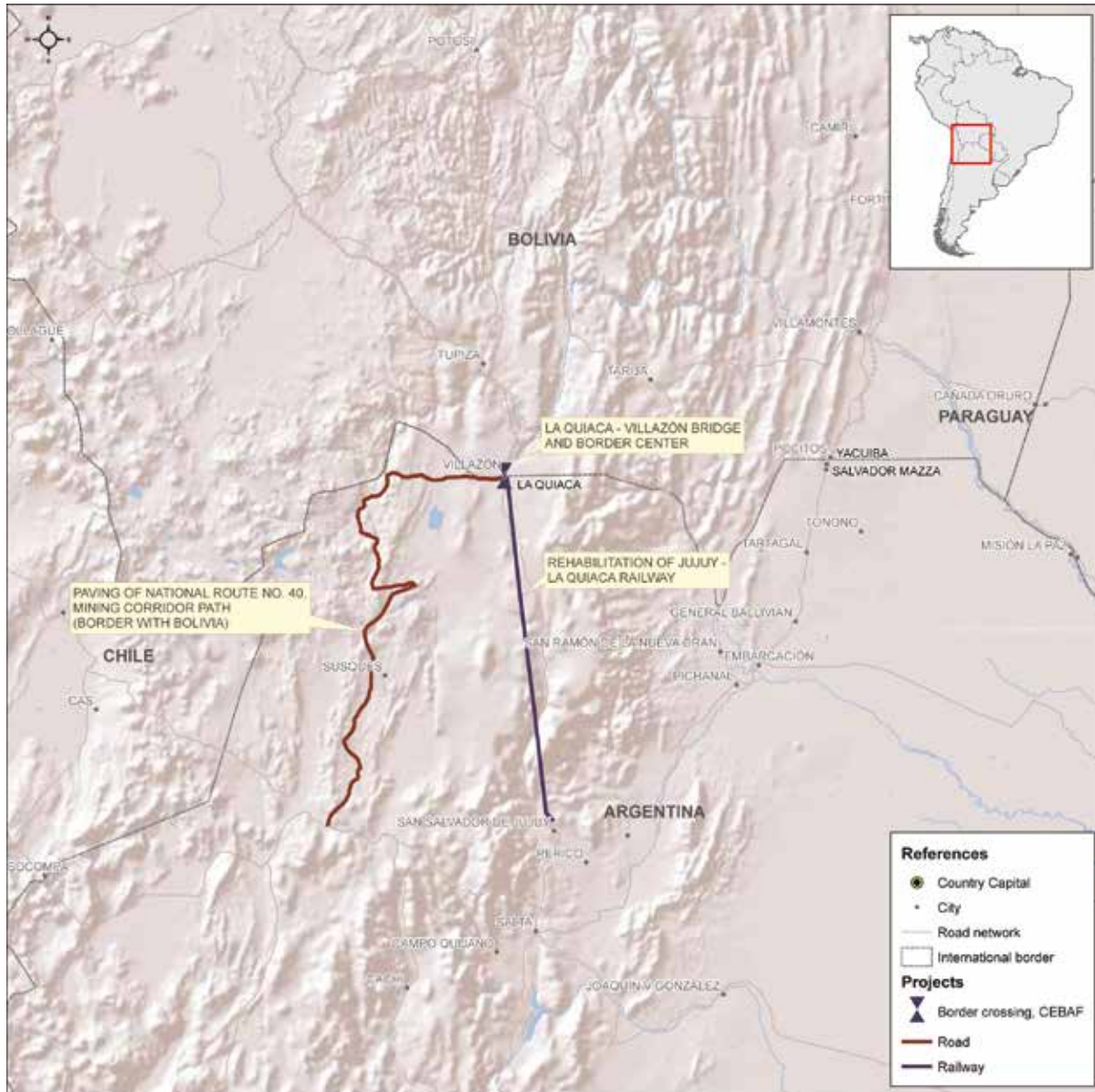
For more information, visit www.iirsa.org/api09.asp

ARGENTINA - BOLIVIA WEST CONNECTION

Argentina - Bolivia

Subsectors: Road, rail, border crossings
Estimated investment: US\$477,000,000
Type of financing: Public-private
Project stage: Pre-execution

Life cycle stage and number of projects:
 Profiling: 1
 Pre-execution: 2



RATIONALE




The objective of this structured project is to solve the lack of efficient connectivity in the region, as the existing infrastructure has become a gridlock. The purpose is to turn the area into an integration node with a multimodal configuration, articulating and planning the use of the land, promoting the growth of production activities, and ordering traffic flows, thus preventing international freight trucks from entering border cities and towns.

The project will create significant synergies in terms of binational integration through the implementation of the individual projects included, covering a territorial strip that goes from

the province of Jujuy in Argentina to the city of Oruro in Bolivia.

The implementation of this project will result in a smoother connection between the countries and shorter wait times on both sides of the border for freight and passenger traffic. Thus, the new alignment of National Route No. 40 in Argentina, the construction of a new bridge, the establishment of a border center, and the rehabilitation of the Jujuy-La Quiaca railway will help reverse the sprawl of the cities and towns adjacent to the current border crossing and alleviate vehicular and pedestrian traffic.





* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP11	REHABILITATION OF JUJUY - LA QUIACA RAILWAY	G02		62.0	AR	Dec 31, 2020
CAP50	PAVING OF NATIONAL ROUTE No. 40, MINING CORRIDOR PATH (BORDER WITH BOLIVIA)	G02		400.0	AR	Dec 31, 2018
CAP81	LA QUIACA - VILLAZÓN BRIDGE AND BORDER CENTER	G02		15.0	AR - BO	Dec 31, 2021

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Rehabilitation of 284 km of rail tracks
- Paving of 300 km of roads
- Construction of a bridge and a border center

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT

CAP11											
CAP50											
CAP81											
0%	6%	12%	18%	24%	30%	50%	65%	80%	95%	100%	
											
PROFILING	PRE-EXECUTION					EXECUTION				COMPLETED	

STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

Regarding project La Quiaca - Villazón Bridge and Border Center, a meeting between the two countries involved will be held in the second half of 2015 to agree upon the terms of reference of the comprehensive study, to be financed by FONPLATA.⁽³⁾

For more information, visit www.iirsa.org/api10.asp

 PROFILING  PRE-EXECUTION  EXECUTION  COMPLETED

PARANAGUÁ - ANTOFAGASTA BIOCEANIC RAILWAY CORRIDOR

Argentina - Brazil - Chile - Paraguay

Subsectors: Road, rail

Estimated investment: US\$5,325,206,392

Type of financing: Public

Project stage: Execution

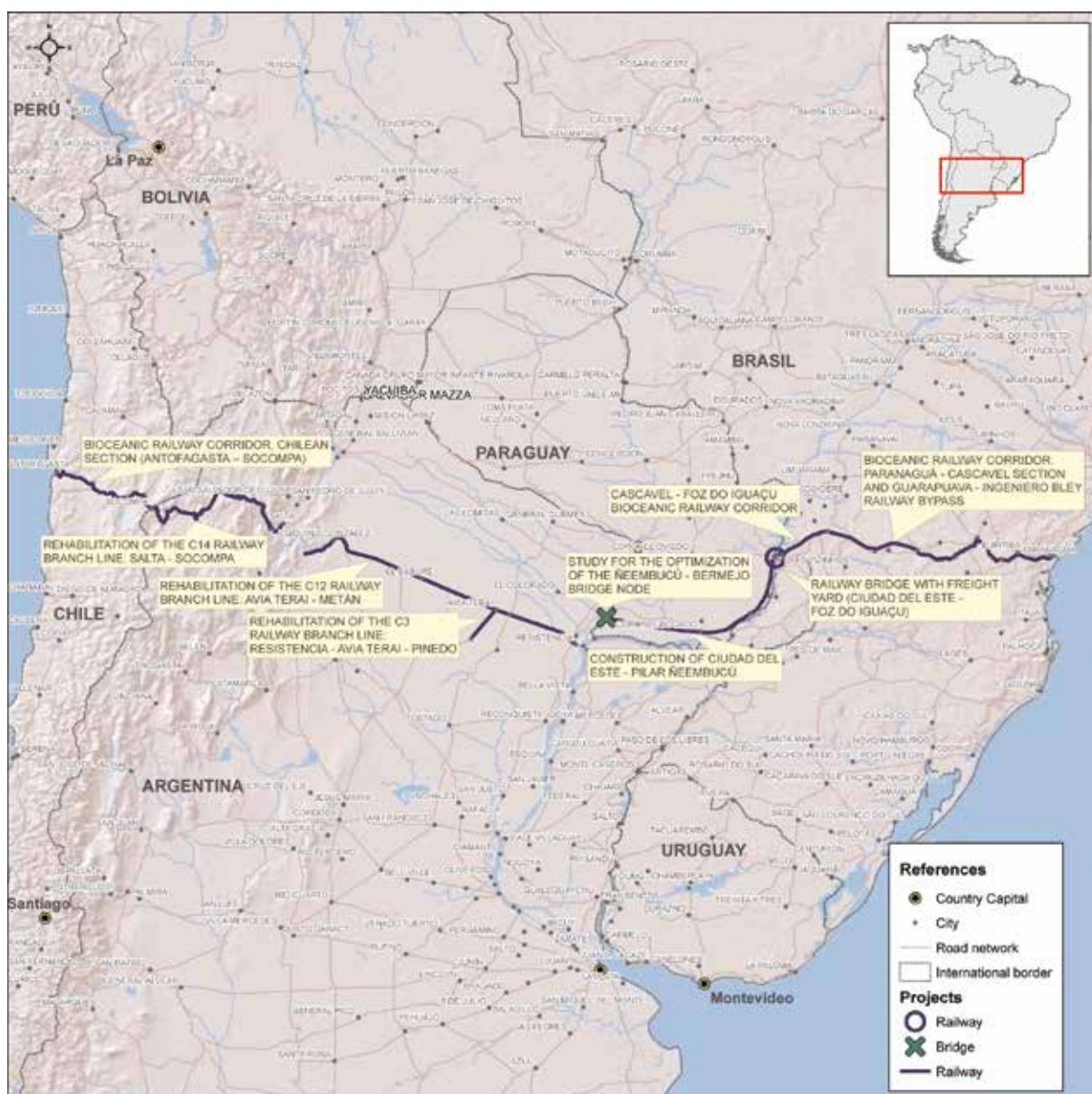
Life cycle stage and number of projects:

Profiling: 3

Pre-execution: 3

Execution: 2

Completed: 1



RATIONALE

This project aims at strengthening a connectivity network with a regional scope by integrating existing multilateral rail networks for cargo transportation in the Capricorn Hub, linking the countries concerned from the Antofagasta port, in Chile, through the northern area of Argentina, Paraguay and the Brazilian territory, up to the Paranaguá port in Brazil.

The bioceanic corridor seeks to reduce the medium- and long-distance logistics costs; encourage trade

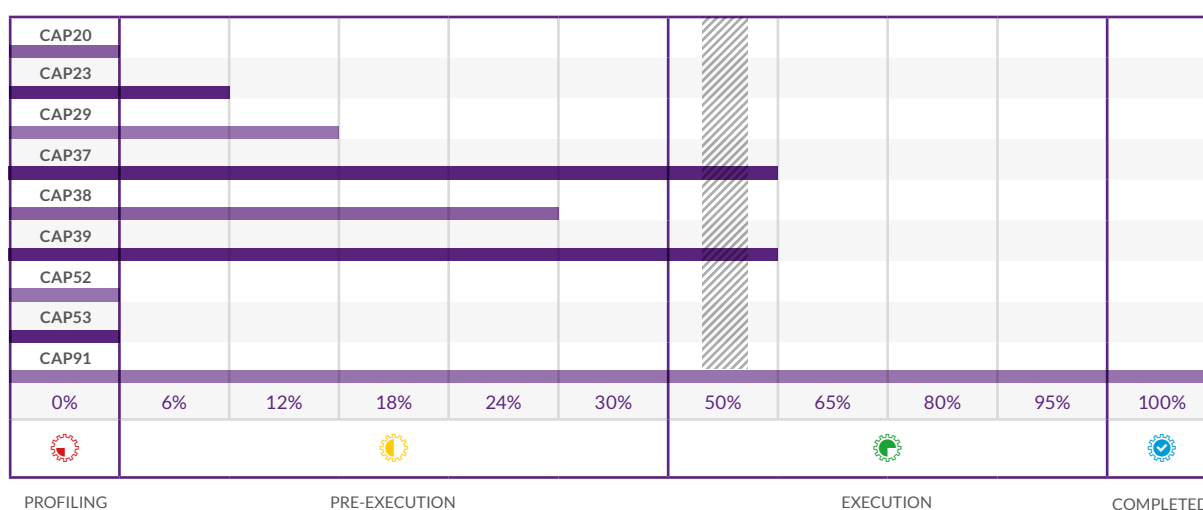
between the eastern and western coasts of the continent by enabling the transport of the increasing flows of imports and exports from and to South America, either through the Atlantic or the Pacific ocean; and have a positive impact on the integration of logistics and production chains, especially those related to grain, meat and mineral processing.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP20	CASCABEL - FOZ DO IGUAÇU BIOCEANIC RAILWAY CORRIDOR	G03		324.0	BR	NA
CAP23	STUDY FOR THE OPTIMIZATION OF THE NEEMBUCÚ - BERMEJO NODE	G04		301.2	AR - PY	Mar 31, 2020
CAP29	CONSTRUCTION OF CIUDAD DEL ESTE - NEEMBUCÚ RAILWAY	G04		2,800.0	PY	Jan 31, 2022
CAP37	REHABILITATION OF THE C3 RAILWAY BRANCH LINE: RESISTENCIA - AVIA TERAI - PINEDO	G01		100.0	AR	Dec 31, 2018
CAP38	REHABILITATION OF THE C12 RAILWAY BRANCH LINE: AVIA TERAI - METÁN	G01		200.0	AR	Dec 31, 2018
CAP39	REHABILITATION OF THE C14 RAILWAY BRANCH LINE: SALTA - SOCOMPA	G01		100.0	AR	Dec 31, 2018
CAP52	RAILWAY BRIDGE WITH FREIGHT YARD (CIUDAD DEL ESTE - FOZ DO IGUAÇU)	G03		0.0	BR - PY	NA
CAP53	BIOCEANIC RAILWAY CORRIDOR: PARANAGUA - CASCABEL SECTION AND GUARAPUAVA - INGENIERO BLEY RAILWAY BYPASS	G03		1,500.0	BR	NA
CAP91	BIOCEANIC RAILWAY CORRIDOR, CHILEAN SECTION (ANTOFAGASTA - SOCOMPA)	G01		0.0	CH	Dec 31, 1947

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Rehabilitation of four railway branch lines running along a total of 1,543.4 km
- Construction of three rail corridors running along a total of 1,199 km
- Improvement of a bimodal bridge
- Construction of a bridge with a freight yard



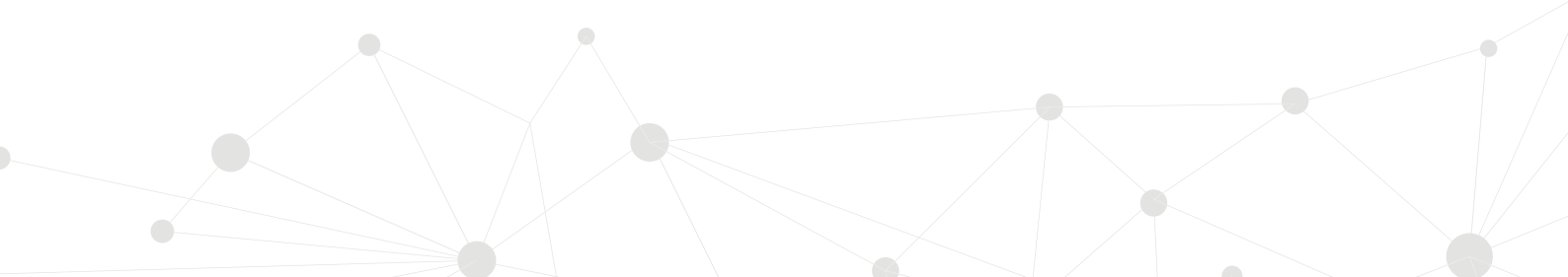
THIS YEAR'S MAJOR DEVELOPMENTS

Project Rehabilitation of the C3 Railway Branch Line: Resistencia - Avia Terai - Pinedo made 6% progress; resources for the works were secured; and the first quarter of the works commenced.

Project Rehabilitation of the C12 Railway Branch Line: Avia Terai - Metán made 6% progress, and the necessary permits were granted.

Project Rehabilitation of the C14 Railway Branch Line: Salta - Socompa made 10% progress, and the first quarter of the works commenced.

For more information, visit www.iirsa.org/api11.asp



FOZ DO IGUAÇU - CIUDAD DEL ESTE - ASUNCIÓN - CLORINDA ROAD CONNECTION

Argentina - Brazil - Paraguay

Subsectors: Road, border crossings

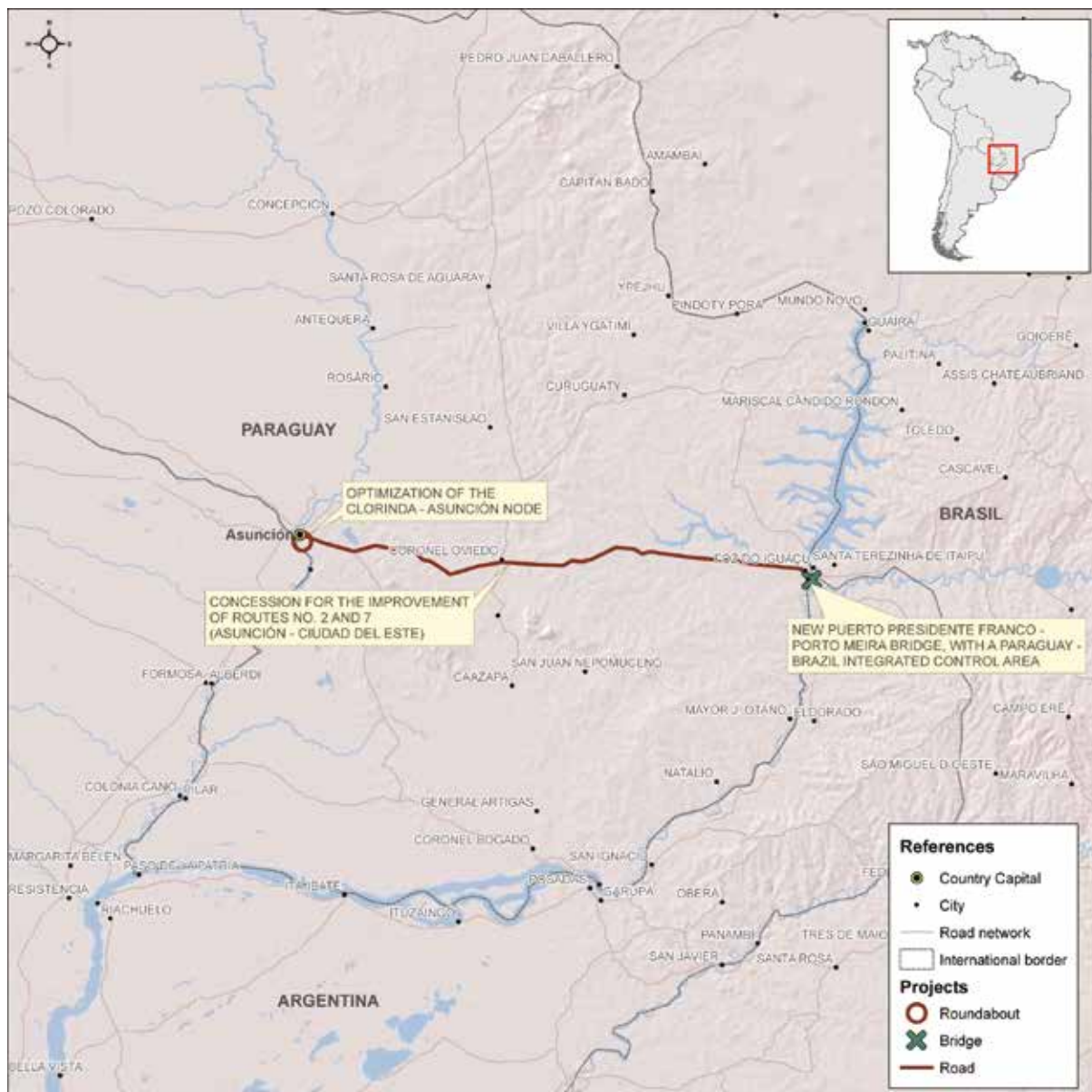
Estimated investment: US\$774,206,392

Type of financing: Public-private

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 3






RATIONALE

This structured project is fundamental to boost the economic activities between the metropolitan capital of Paraguay through the so-called Triple Frontier (Foz do Iguazú, Ciudad del Este, Puerto Iguazú) up to the city of Clorinda, in Argentina.

It therefore strengthens networks that are regional in scope and is instrumental in fostering regional connectivity and logistics and production integration to improve the quality of life of the population in the countries involved.





* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP07	OPTIMIZATION OF THE CLORINDA - ASUNCIÓN NODE	G01		101.2	AR - PY	Dec 31, 2020
CAP14	NEW PUERTO PRESIDENTE FRANCO - PORTO MEIRA BRIDGE, WITH A PARAGUAY - BRAZIL INTEGRATED CONTROL AREA	G03		173.0	BR - PY	Dec 31, 2017
CAP18	CONCESSION FOR THE IMPROVEMENT OF ROUTES No. 2 AND 7 (ASUNCIÓN - CIUDAD DEL ESTE)	G03		500.0	PY	Dec 31, 2020

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Upgrade of a road interchange
- Construction of a 760-m long bridge
- Improvement of two routes along 280 km

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT

CAP07											
CAP14											
CAP18											
0%	6%	12%	18%	24%	30%	50%	65%	80%	95%	100%	
											
PROFILING	PRE-EXECUTION					EXECUTION				COMPLETED	

STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

The pre-feasibility studies for project Concession for the Improvement of Routes No. 2 and 7 (Asunción - Ciudad del Este), which made 12% progress, were approved.

For more information, visit www.iirsa.org/api12.asp

ITAIPU - ASUNCIÓN - YACYRETÁ 500-KV TRANSMISSION LINE

Brazil - Paraguay

Subsector: Energy interconnection

Estimated investment: US\$852,000,000

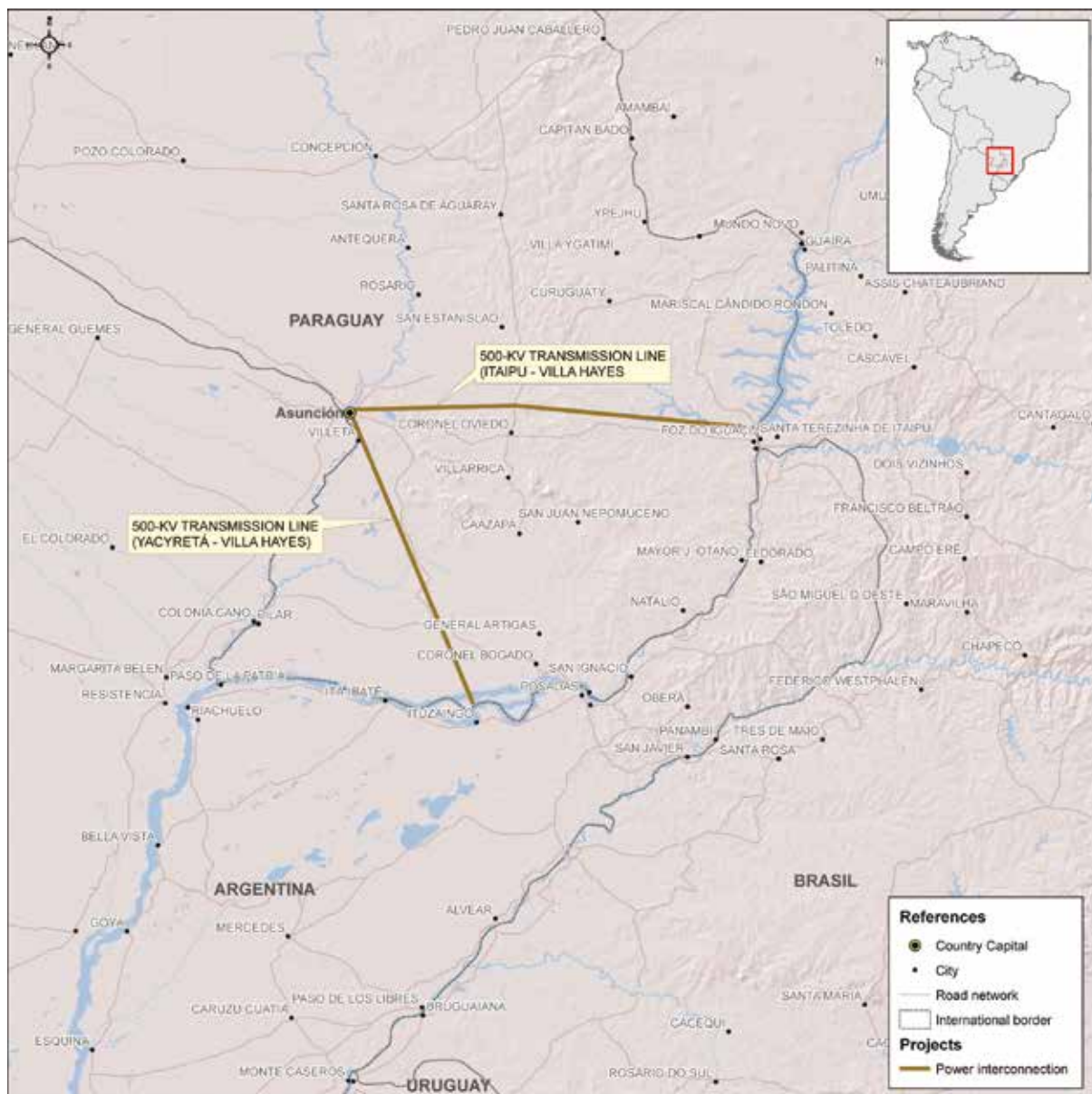
Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects:

Execution: 1

Completed: 1





RATIONALE

This structured project supports networks with a regional scope, since it will substantially enhance power supply security in Paraguay as well as facilitate electricity exchange with Argentina through the 220-kV interconnection already in place between the cities of Clorinda (Argentina) and Guarambaré (Paraguay). Furthermore, the need for complementary actions in the regulatory field has been pointed out, with a view to facilitating trade in electric power between Argentina and Paraguay.

The purpose of the 500-kV Transmission Line (Itaipu - Villa Hayes) project is to improve service quality and supply reliability, providing a solution to the low voltage of the grid that supplies the city of Asunción, and to reduce the significant technical losses in trans-

mission, which can be as high as 10% during peak hours. The transmission lines are currently operating at more than 85% of their capacity, and the power transformers of the interconnection with the Itaipu dam were already operating at full capacity in 2011. The purpose of the 500-kV Transmission Line (Yacyretá - Villa Hayes) project is to improve service quality and supply reliability by coming up with a solution to the low voltage of the grid, which will help reduce technical losses as high as 10% during peak hours. At present, the transmission lines are operating at more than 70% of their capacity, and the transformers are being used at almost full capacity.





* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
CAP67	500-KV TRANSMISSION LINE (ITAIPU - VILLA HAYES)	G03		555.0	PY	Oct 29, 2013
CAP68	500-KV TRANSMISSION LINE (YACYRETÁ - VILLA HAYES)	G03		297.0	PY	Aug 31, 2017

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Two 500-kV transmission lines along 710.9 km

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT

CAP67										
CAP68										
0%	6%	12%	18%	24%	30%	50%	65%	80%	95%	100%
										
PROFILING		PRE-EXECUTION					EXECUTION			COMPLETED

STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

In April 2015, a call for tender was issued for the construction of the works, which is planned to commence this year.⁽⁴⁾

For more information, visit www.iirsa.org/api13.asp

GUY

GUIANESE SHIELD

INTEGRATION AND DEVELOPMENT HUB



Population: 17,100,505 inhabitants
Density: 17 inh./km²
Area: 1,603,643 km²

GDP: US\$ 333,851 million

Services	76.7%
Industry	11.2%
Mines and quarries	6.5%
Agriculture	5.6%



BRAZIL



GUYANA



SURINAME



VENEZUELA

Estimated investment

* US\$ million

958.8



50%
National

33.3%
Binational

16.7%
Multinational

3

2

1

Projects per Sector



Transport

6

958.8

Projects per Types of Financing



Public

5

658



Public
Private

1

300.8

* US\$ million



Number of Projects



* US\$ million

Number of Projects

Projects per Subsector



STRUCTURED PROJECTS OF THE HUB

* US\$ million

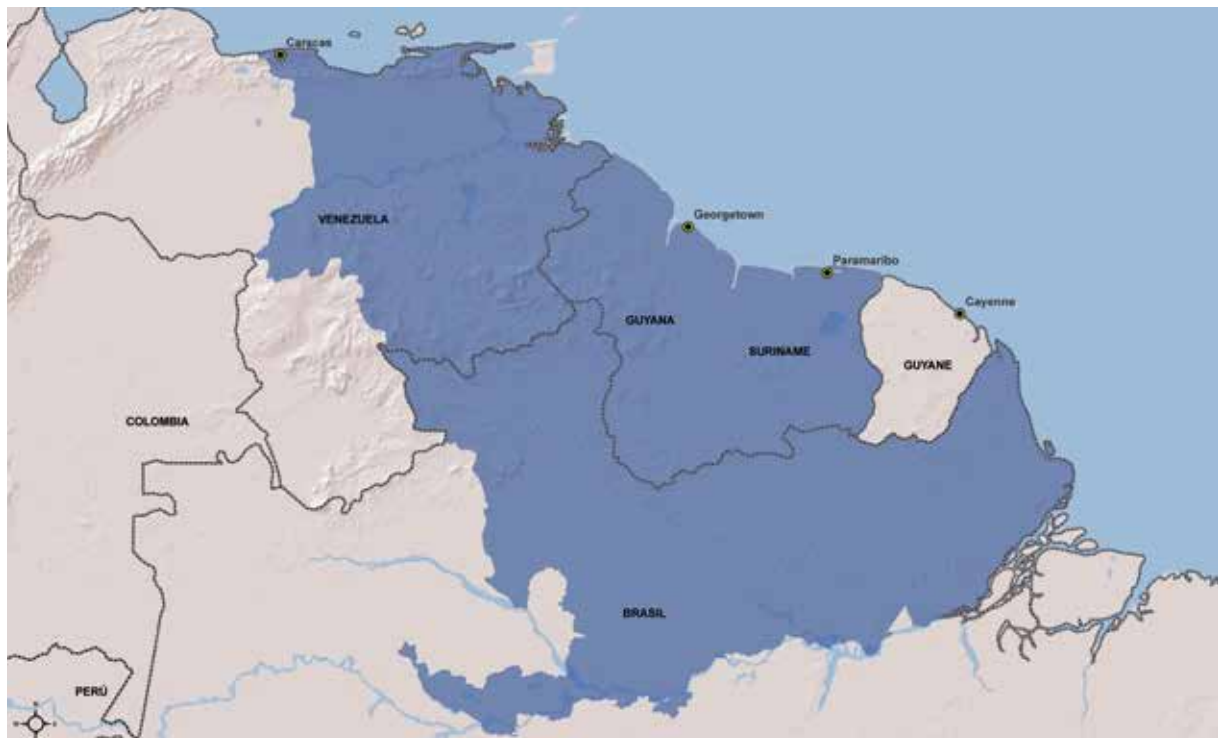
Code	Name	Stage	Estimated Investment*	Countries	Individual Projects	Estimated Completion Date
14	REHABILITACIÓN DE LA CARRETERA CARACAS - MANAOS		407.0	BR - VE	1	Dec 2015
15	RUTA BOA VISTA - BONFIM - LETHEN - LINDEN - GEORGETOWN		250.0	BR - GU	3	Oct 2021
16	RUTAS DE CONEXIÓN ENTRE VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (SOUTH DRAIN - APURA - ZANDERIJ - MOENGO - ALBINA), INCLUYENDO LA CONSTRUCCIÓN DEL PUENTE SOBRE EL RÍO CORENTINE		301.8	GU - SU - VE	2	Sep 2018

Presentation of the GUIANESE SHIELD HUB

The Guianese Shield Hub⁽¹⁾ covers the eastern region of Venezuela (the states of Anzoátegui, Bolívar, Delta Amacuro, the Capital District, Nueva Esparta, Guárico, Miranda, Monagas, Sucre and Vargas), Brazil's northern arc (the states of Amapá, Roraima, Amazonas and Pará) and all of the territory of Guyana and Suriname.

The Hub accounts for 8% of the territory (1,603,643 km²) and 4% of the population (17,100,505 inhabitants) of South America, thus being the Hub with the lowest population density, fewer than 11 inhabitants per km². The GDP of the countries that make up the Hub accounts for 7% of the region's GDP (US\$333,851 million).⁽²⁾

AREA OF INFLUENCE OF THE GUIANESE SHIELD HUB



1 See "Caracterización Socio-Económica y Ambiental del Eje del Escudo Guayanés," COSIPLAN-IIRSA, 2015. www.iirsa.org/escudo-guayanes.asp

2 At 2014 current prices.

With regard to infrastructure, the **road network** of the countries involved in the Guianese Shield Hub covers a total length of 1,705,747 km, 25% of which are paved. The **rail network** is 30,608 km long. The **port system** of the Hub is made up of 28 major ports, three of which handle more than three million tons per year, and Porto Trombetas stands out as it handles more than 17 million tons in Brazil. Most **river transportation** activities in the region are carried out along the Amazon river basin and the

rivers that flow into the Atlantic ocean.

The **airport system** features 30 airports, 15 of which are located in the Venezuelan territory. Of these 30 airports, nine are international and 21 are domestic. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power capacity of about 249,541 MW, 51% of which was contributed by Venezuela and 49% by Brazil.

The countries involved in the Guianese Shield Hub defined three API projects for the purpose of consolidating connectivity in their territories. They are made up of six individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$ 959 million.

Guyana and Suriname contribute 100% of their economies to the Hub, Venezuela 40%, and Brazil 4.1%. In absolute terms, Venezuela contributes 68.6% to the Hub's aggregate GDP, Brazil 28.8%,

Suriname 1.7%, and Guyana 0.9%.

The Hub shares some regions of its area of influence with the Amazon and Andean Hubs.

API Projects

GUIANESE SHIELD HUB

The API projects belonging to this Hub aim at the development of three interconnected large road corridors linking cities and capitals located on the Atlantic coast (Caracas, Georgetown and Paramaribo) between them and to the inland of the continent.

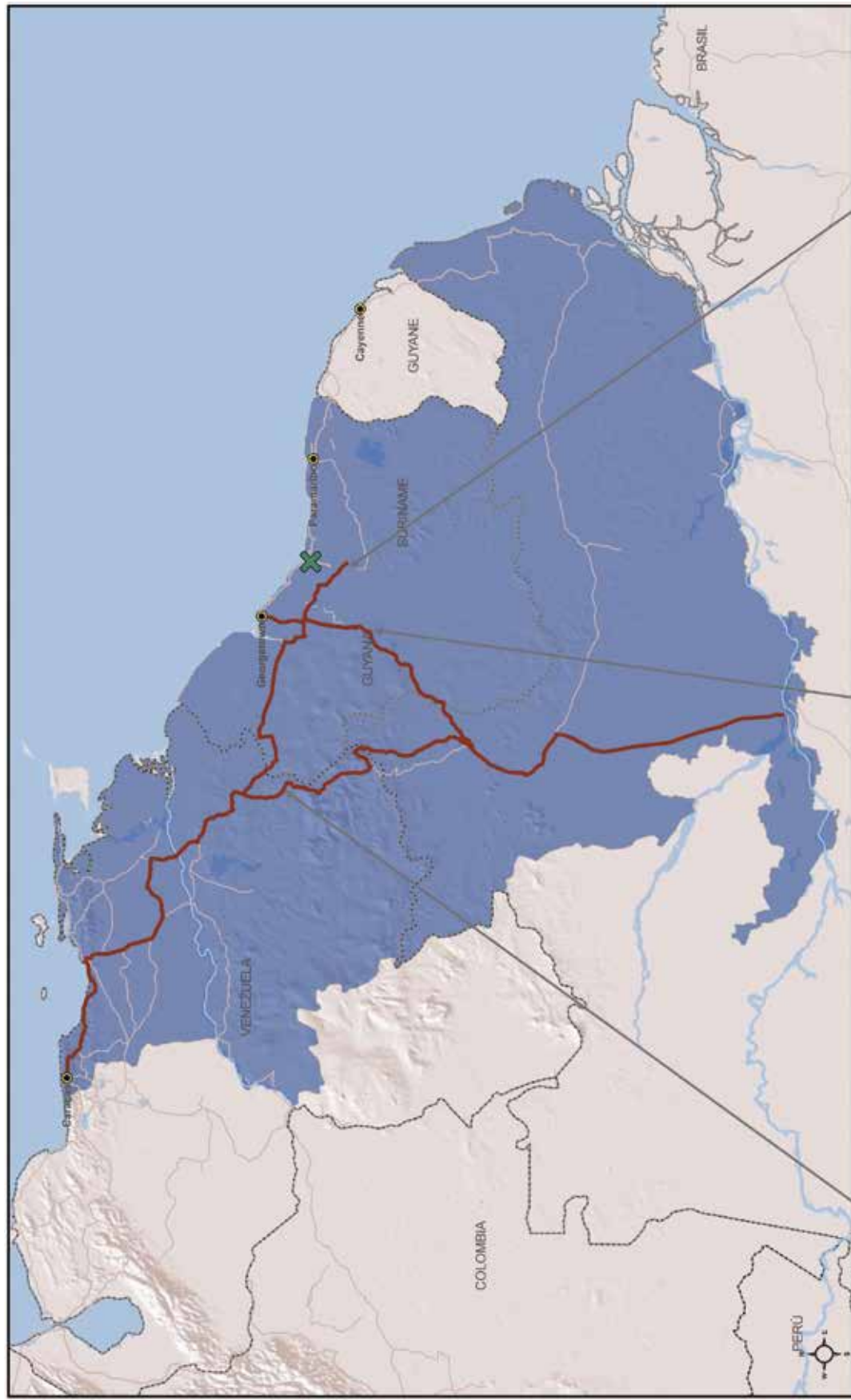
The API project with the greatest estimated investment in this Hub is the Rehabilitation of the Caracas - Manaus Road, involving US\$407 million, i.e. 42% of the investments planned in the Hub.

Furthermore, this structured project ranks twelfth in terms of API investments. Its purpose is to restore the condition of the only land connection between Venezuela and Brazil along almost a thousand kilometers. Guyana and Suriname will be able to access this corridor after completion of the other two ones.

The project concerned with routes interconnecting Venezuela, Guyana and y Suriname involves the construction of a paved road between the cities of Guayana, Georgetown, South Drain, Apura, Zanderij, Moengo, and Albina. This road, together with the already existing ones and the construction of a bridge over the Corentyne river,

will make up a road corridor to facilitate integration along the coastal axis.

The Boa Vista - Bonfim - Lethem - Linden - Georgetown Road is the most important north-south connection in Guyana and the only land connection with Brazil. Two sections of this structured project are completed, and a third stretch, consisting in the paving of the Lethem-Linden segment in the territory of Guyana, is at the pre-execution stage. This corridor will reduce by 800 km the distance that goods have to travel by land between Manaus and the Caribbean.



ROUTES INTERCONNECTING VENEZUELA
(CIUDAD GUAYANA) - GUYANA
(GEORGETOWN) - SURINAME (SOUTH DRAIN -
APURA - ZANDERIJ - MOENGO - ALBINA).
INCLUDING CONSTRUCTION OF THE BRIDGE
OVER THE CORENTYNE RIVER

BOA VISTA - BONFIM - LETHEM -
LINDEN - GEORGETOWN ROAD


REHABILITATION OF THE
CARACAS - MANAUS ROAD

API PROJECTS IN THE GUIANESE SHIELD HUB

Rehabilitation of the Caracas - Manaus Road

* US\$ million




Estimated Investment* | 407.0 Countries | BR - VE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY01	REHABILITATION OF THE CARACAS - MANAUS ROAD	G01		407.0	BR - VE	Dec 31, 2015

Boa Vista - Bonfim - Lethem - Linden - Georgetown Road

* US\$ million



Estimated Investment* | 250.0 Countries | BR - GU

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY09	LETHEM - LINDEN ROAD	G02		250.0	GU	Oct 31, 2021
GUY42	BOA VISTA - BONFIM ROAD	G02		0.0	BR	Dec 31, 2004
GUY43	LINDEN - GEORGETOWN ROAD	G02		0.0	GU	Jun 30, 1970

Routes Interconnecting Venezuela (Ciudad Guayana) - Guyana (Georgetown) - Suriname (South Drain - Apura - Zanderij - Moengo - Albina), including Construction of the Bridge over the Corentyne River

* US\$ million

Estimated Investment* | 301.8 Countries | GU - SU - VE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY18	ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (APURA - ZANDERIJ - PARAMARIBO)	G03		300.8	GU - SU - VE	Sep 30, 2018
GUY24	CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER	G03		1.0	GU - SU	NA

All the individual projects fall in the transport sector and road subsector and are publicly financed.

Project Routes Interconnecting Venezuela (Ciudad Guayana) - Guyana (Georgetown) - Suriname (South Drain - Apura - Zanderij - Moengo - Albina) is one of the 20 Portfolio projects with the greatest estimated investment, and is estimated to be completed in 2018. This project and the project known as Rehabilitation of the Caracas - Manaus Road involve 73% of the investments estimated to be made in the Hub.

Two of the six individual projects are completed. Of the other four, two are expected to be completed before 2019, and another one in 2021. The project concerned with the bridge over the Corentyne river is at the profiling stage, and there is no information available on its completion date.

Two of the six individual projects are completed. Of the other four, two are expected to be completed before 2019, and another one in 2021. The project concerned with the bridge over the Corentyne river is at the profiling stage, and there is no information available on its completion date.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



ROAD SUBSECTOR

Rehabilitation of two road corridors, one of which is 975 km long
Paving of 646.7 km of roads
Construction of a bridge

REHABILITATION OF THE CARACAS - MANAUS ROAD

BRAZIL - VENEZUELA

Brazil - Venezuela

Subsector: Road

Estimated investment: US\$407,000,000

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects:

Execution: 1



RATIONALE

This project is significant on account of the importance of the Caracas-Manaus connection, as this is the only link between Venezuela and Brazil, running along the Brazilian federal longitudinal highway BR-174/AM/RR. The territorial, socioeconomic and commercial development of the region will benefit from the construction of this road, which will facilitate the movement of goods from/to their origin/destination, the mobility of people previously living in a quite isolated area, and a reduction in travel times and distances resulting in lower transport costs.

Thus, the works that need to be carried out in connection with the above-mentioned road are of major importance in the national and regional context, as the corridor will induce sustainable development in this peculiar geographical area of the Amazonia, helping improve the quality of life of people living in its cities, towns and villages and stimulate their respective production centers.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY01	REHABILITATION OF THE CARACAS - MANAUS ROAD	G01		407.0	BR - VE	Dec 31, 2015

STRUCTURED PROJECT TECHNICAL SPECIFICATION

- Rehabilitation of a 975-km long road corridor

For more information, visit www.iirsa.org/api14.asp

BOA VISTA - BONFIM - LETHEM - LINDEN - GEORGETOWN ROAD

Brazil – Guyana

Subsector: Road

Estimated investment: US\$250,000,000

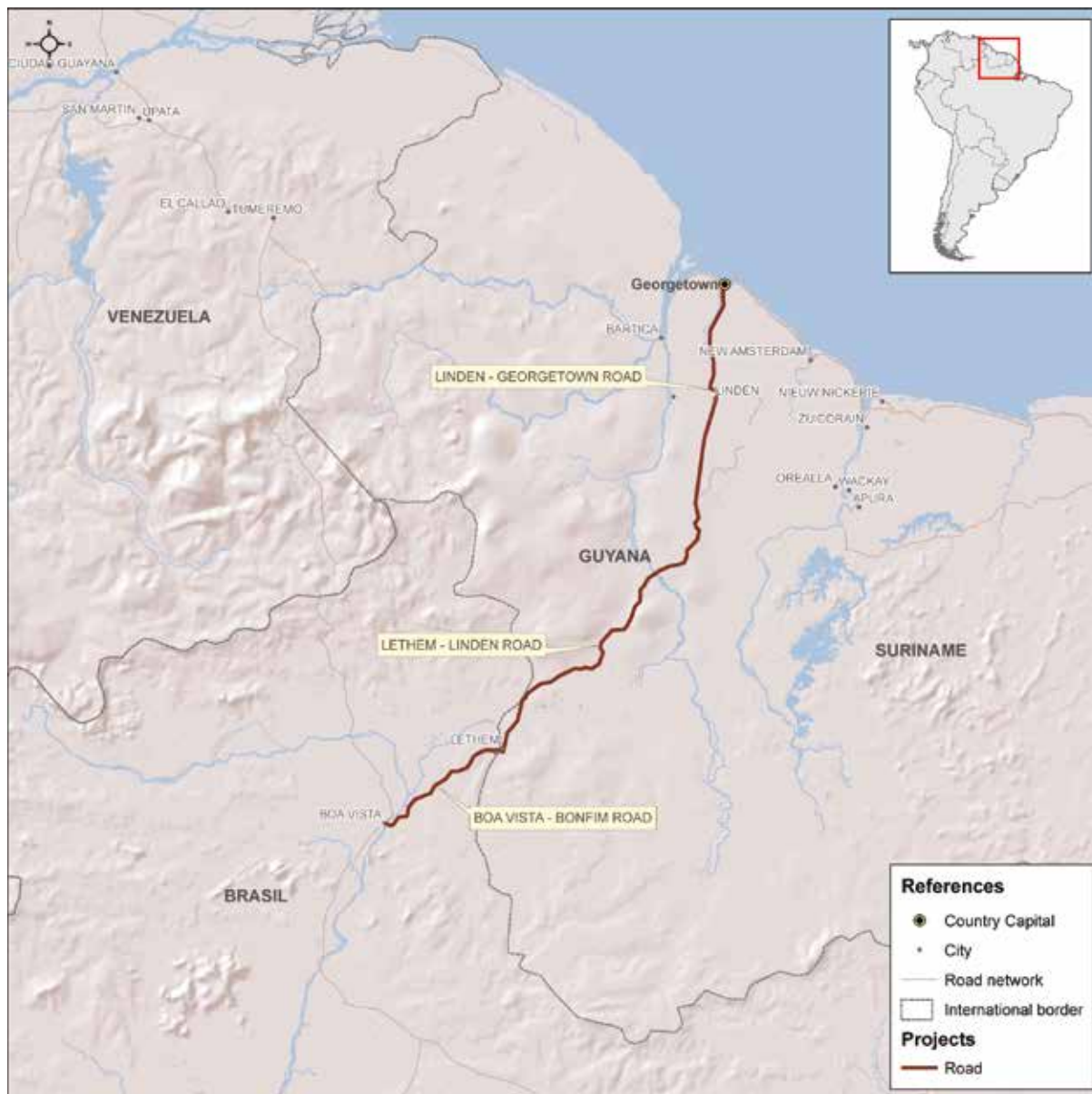
Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects:

Pre-execution: 1

Completed: 2






RATIONALE

This project links the city of Boa Vista, in Brazil, with Georgetown, the capital of Guyana, and its completion will result in the most important north-south connection in Guyana, creating synergies with the initiatives aimed at implementing east-west links among Venezuela, Guyana and Suriname. Paving of the Lethem-Linden section will contribute to the integration of Brazil and Guyana, since this road is the only connection between both countries. Works on the Boa Vista-Bonfim (Brazil) and Linden-Georgetown (Guyana) sections as well as the bridge linking Bonfim and Lethem are already completed.

Complementarily, the execution of this project is expected to attract greater trade with the Caribbean, the United States, Europe and Asia, as this road will be the shortest alternative route: the distance between Manaus and the Caribbean will be reduced by some 800 km. Furthermore, complementary actions are required concerning environmental preservation and the development of production and logistics integration. As regards the environment, it should be borne in mind that the road runs across environmentally sensitive areas, such as the rainforest and the Rupununi savannah. As for production and logistics integration, more detailed studies identifying the opportunities opened up by the paving of the section need to be conducted.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY09	LETHEM - LINDEN ROAD	G02		250.0	GU	Oct 31, 2021
GUY42	BOA VISTA - BONFIM ROAD	G02		0.0	BR	Dec 31, 2004
GUY43	LINDEN - GEORGETOWN ROAD	G02		0.0	GU	Jun 30, 1970

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Paving of 646.7 km of roads

For more information, visit www.iirsa.org/api15.asp

ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (SOUTH DRAIN - APURA - ZANDERIJ - MOENGO - ALBINA), INCLUDING CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER

Guyana – Suriname - Venezuela

Subsector: Road

Estimated investment: US\$301,800,000

Type of financing: Public-private

Project stage: Profiling

Life cycle stage and number of projects:

Profiling: 2





RATIONALE

This structured project is made up of two complementary individual projects for the development of a road corridor to facilitate integration along the coastal axis stretching from Ciudad Guayana, in Venezuela, to Paramaribo, in Suriname. The project will help link the markets in the eastern region of Venezuela with those in Guyana and Suriname, which also will be connected with the state of Amapá through French Guiana. Additionally, such regions will have access to the Ven-

ezuelan market through Venezuela's road network and, consequently, to the Andean markets. Furthermore, completion of the project will provide a connection with its area of influence in Brazil (the state of Roraima and the Manaus Free Trade Zone) via the Manaus-Boa Vista-Santa Elena de Uairén-Puerto Ordaz existing road corridor. Therefore, this project will have a highly favorable impact on regional integration and on building synergies for development at the borders.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
GUY18	ROUTES INTERCONNECTING VENEZUELA (CIUDAD GUAYANA) - GUYANA (GEORGETOWN) - SURINAME (APURA - ZANDERIJ - PARAMARIBO)	G03		300.8	GU - SU - VE	Sep 30, 2018
GUY24	CONSTRUCTION OF THE BRIDGE OVER THE CORENTYNE RIVER	G03		1.0	GU - SU	NA

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a road corridor
- Construction of a bridge

For more information, visit www.iirsa.org/api16.asp

HPP

PARAGUAY PARANÁ WATERWAY HUB

INTEGRATION AND DEVELOPMENT HUB



Population: 119,035,634 inhabitants
Density: 29.5 inh./km²
Area: 4,036,541 km²

GDP: US\$ 1,539,355 million

Services	75.5 %
Industry	14.1 %
Agriculture	6.2 %
Mines and quarries	4.2 %



ARGENTINA



BOLIVIA



BRAZIL



PARAGUAY



URUGUAY

Estimated investment

* US\$ million

1,562.3

IPP



62.5%
National

31.3%
Binational

6.2%
Multinational

10

5

1

Projects per Sector



Transport

16

1,562.3

Projects per Types of Financing



Public

16

1,562.3

US\$ million



Number of Projects



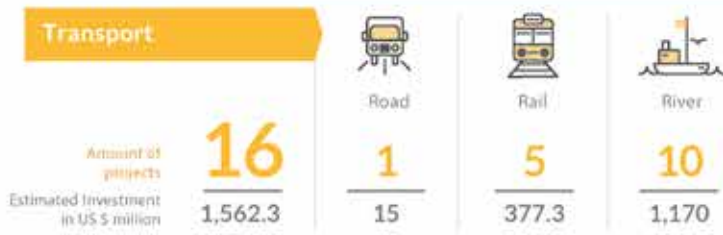
US\$ million



Number of Projects



Projects per Subsector



STRUCTURED PROJECTS OF THE HUB

* US\$ million

Code	Name	Stage	Estimated Investment*	Countries	Individual Projects	Estimated Completion Date
17	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA BASIN		1,170.0	AR - BO - BR - PY - UY	10	Jul 2020
18	PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION		277.3	AR - PY - UY	4	Feb 2020
19	REHABILITATION OF THE CHAMBERLAIN - FRAY BENTOS RAILWAY BRANCH LINE		100.0	UY	1	Mar 2018
20	NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK		15.0	UY	1	Dec 2017



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Presentation of the

PARAGUAY-PARANÁ WATERWAY HUB

The Paraguay-Paraná Waterway Hub⁽¹⁾ integrates areas of Brazil, Argentina, Bolivia, Paraguay and Uruguay around the basins of the Paraguay, Paraná, and Uruguay rivers, all of them tributaries of the vast Plata river basin, which flows into the Plata river estuary. The Hub has a low population density (29 inhabitants per km²), with the exception of the Paraguayan departments of Asunción and Central.

This is the second largest Hub, as it comprises 20% of the area of South America (4,036,541 km²), as well as the second Hub in terms of the region's GDP, accounting for 34% (1,491,033 million).⁽²⁾ In addition, this Hub ranks third in population, accounting for 30% (i.e. 119,035,634 inhabitants).

AREA OF INFLUENCE OF THE PARAGUAY-PARANÁ WATERWAY HUB



1 See "Caracterización Socio-Económica y Ambiental del Eje de la Hidrovía Paraguay-Paraná," COSIPLAN-IIRSA, 2014. iirsa.org/hidrovía-paraguay-parana.asp
2 At 2013 current prices.

The existing and planned infrastructure of this Hub is structured around the courses of the Paraguay and Paraná rivers, which eventually flow into the Atlantic ocean.

Consequently, the network of projects intended to improve navigation conditions and/or access to the waterway from railways and roads on its sides is located along or in the vicinities of the waterway.

The **road network** of the countries involved in the Hub totals 2,108,784 km, only about 14% of which is paved. The **rail network** of these countries covers 62,359 km, 87% of which, approximately, are in operating condition. The **river and sea port system** of the Hub comprises 40 major ports and many private terminals, mostly located on the Paraná and Paraguay rivers and on the final section of the Uruguay river, which connect with the ocean ports on the Atlantic coast. Seven of these ports handle more than 10 million tons per year, including the Brazilian port of Santos, with almost 100 million tons, followed by the Paranaguá port, with approximately 42 million tons. The major route of **river transportation**, around 3,300 km long, is the Paraguay-Paraná waterway, used for carrying cargo to the deep-water ports on the lower section of the waterway and on the Plata river, where it is transhipped to seagoing vessels. Most of this transportation takes place in convoys of shallow draft barges pushed by towboats, which can carry up to 52,000 tons per journey. There are also about 65 **major airports**, evenly distributed throughout the whole territory of the Hub. Passenger service is adequate, airport infrastructure

is good, and there are numerous connections with inland areas of the countries. The Hub's **installed power capacity** is about 169,311 MW, 70% of which are supplied by Brazil.

The presence of **indigenous communities** is very significant in the territory of the Hub, mainly in the Brazilian state of Mato Grosso, northern Argentina, and eastern Paraguay, while their number is lower in southern Brazil and in Uruguay. In general, they are engaged in activities outside the region's formal economy, such as subsistence agriculture and animal husbandry; some of their members are rural waged workers and, where they own land, they also engage in subsistence agriculture.

Regarding the **protected areas** in the Hub, there are about 460 administrative units with some degree of environmental protection, covering an area of approximately 410,000 km², which accounts for around 7.5% of the total area of the Hub.

As for **natural hazards**, the Hub is exposed to floods and landslides, worsened by El Niño Southern Oscillation, the former covering vast areas and the latter, more limited portions of the territory.

The countries involved in the Paraguay-Paraná Waterway Hub defined four API projects for the purpose of consolidating connectivity in their territories. They are made up of 16 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$1,562 million.

Paraguay participates with 100% of its economy, while the other countries contribute between 38% and 51% of their GDP. In absolute terms, Brazil accounts for 76% of the Hub's aggregate GDP, followed by Argentina (19%), and Bolivia, Paraguay and Uruguay, which together account for 4%.

Brazil and Argentina account for more than 77% of the trade between the countries involved in the Hub. Furthermore, Brazil is the main destination of the exports made by the other four countries, receiving

more 61% of their foreign trade, particularly from Argentina, as more than 80% of its exports within the Hub go to Brazil. The main destination of Brazilian exports within the Hub is Argentina (75%), followed by Paraguay (11%).

The Hub shares some regions of its area of influence with other three Hubs —the Central Interoceanic, the Capricorn, and the MERCOSUR-Chile Hubs—, to which it is linked by road and rail corridors.

API Projects

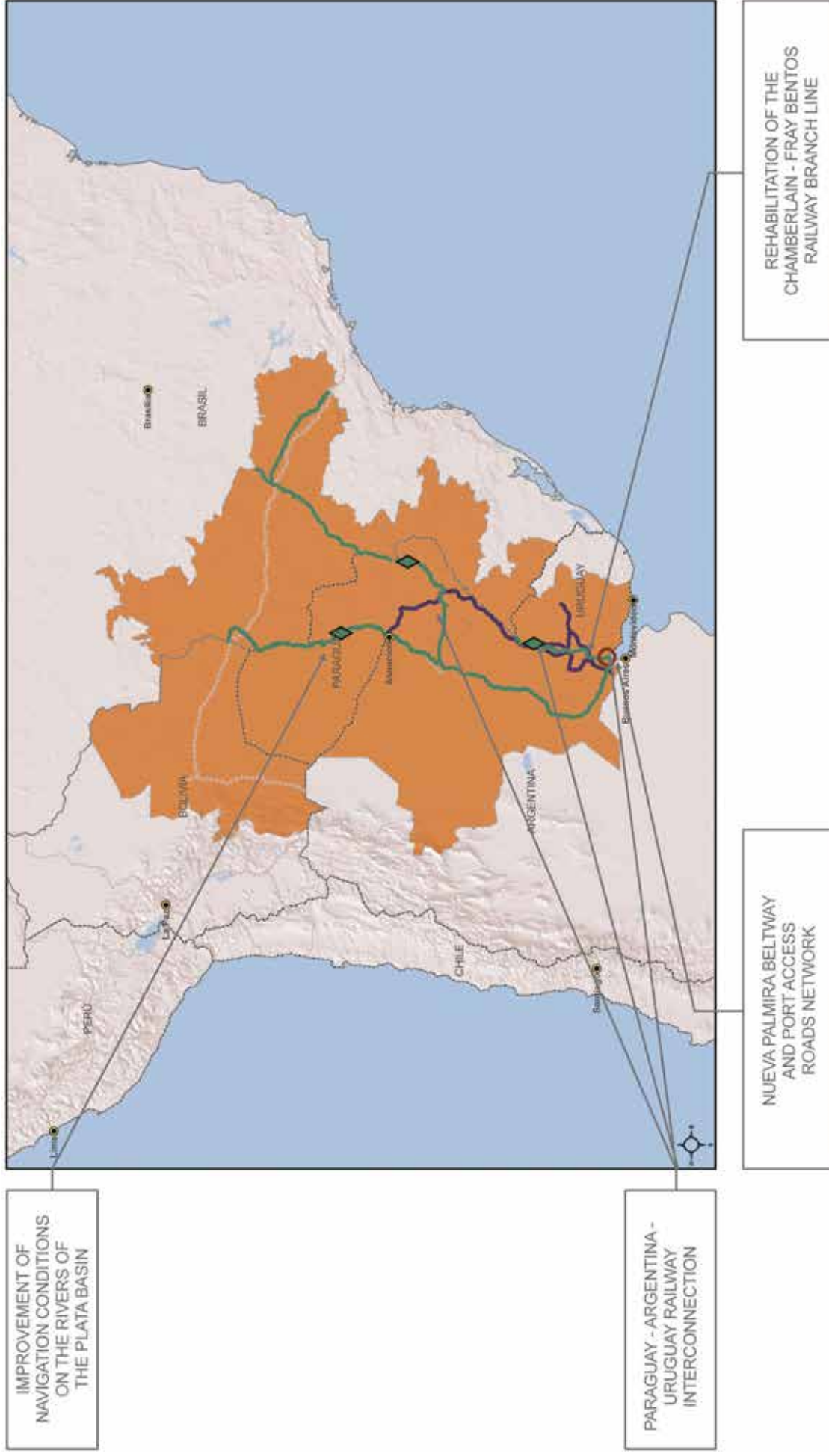
PARAGUAY-PARANÁ WATERWAY HUB

The API projects belonging to this Hub seek to improve the efficiency of the production systems, the quality of life of the population, and the flows of goods and people in the territories of the five countries involved in the Hub in the surroundings of the waterway.

The project with the greatest estimated investment, which involves all the countries in the Hub, is the Improvement of Navigation Conditions on the Rivers of the Plata Basin, amounting to a total of US\$1,170 million (i.e. 75% of the investment estimated to be made in all the API projects belonging to this Hub).

This is the only structured project in the Hub falling in the river subsector, and includes more than half of the API individual projects in this Hub (63%). The project is also significant on account of the potential wealth of the Plata basin territory, its size, climatic diversity, mineral resources, agricultural potential, and energy generation, industrial, and communication opportunities.

Another two projects fall in the rail subsector, and the other one in the road subsector. One of the rail projects is intended to strengthen connectivity between Paraguay, Argentina and Uruguay, while the other rail project and the one of the road subsector are Uruguay's national individual projects seeking to strengthen the country's connectivity with its neighboring countries.













API PROJECTS IN THE PARAGUAY-PARANÁ WATERWAY HUB

Improvement of Navigation Conditions on the Rivers of the Plata Basin

* US\$ million





Estimated Investment* | 1,170.0 Countries | AR - BO - BR - PY - UY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP07	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (BETWEEN APA AND CORUMBÁ)	G01		39.0	BO - BR - PY	NA
HPP09	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (ASUNCIÓN - APA)	G01		110.0	PY	NA
HPP106	SYSTEM FOR WATER LEVEL PREDICTION IN THE PARAGUAY RIVER (APA - ASUNCIÓN)	G01		0.0	BO - PY	NA
HPP108	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER (UPSTREAM OF SALTOS DEL GUAIRÁ)	G02		15.0	BR	Nov 30, 2015
HPP122	REHABILITATION AND MAINTENANCE OF THE TAMENGO CANAL	G01		10.5	BO	Jun 30, 2018
HPP19	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE TIETÉ RIVER	G02		800.0	BR	Feb 28, 2017
HPP42	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER, FROM CONFLUENCIA TO ASUNCIÓN	G03		45.5	AR - PY	Dec 31, 2015
HPP44	DEEPENING OF THE FAIRWAY IN THE PARANÁ RIVER FROM CONFLUENCIA TO THE PLATA RIVER	G03		110.0	AR	Dec 31, 2015
HPP72	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER	G04		0.0	AR - PY	NA
HPP88	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE URUGUAY RIVER	G05		40.0	AR - UY	Jul 31, 2020

Paraguay - Argentina - Uruguay Railway Interconnection

* US\$ million

Estimated Investment* | 277.3 Countries | AR - PY - UY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP103	CONSTRUCTION AND REHABILITATION OF THE ASUNCIÓN - ARTIGAS RAILWAY	G03		0.0	PY	NA
HPP65	REHABILITATION AND IMPROVEMENT OF THE PIEDRA SOLA - SALTO GRANDE RAILWAY CORRIDOR	G05		127.3	UY	Mar 31, 2017
HPP76	CONSTRUCTION AND REHABILITATION OF THE ARTIGAS - POSADAS RAILWAY	G04		150.0	AR - PY	Mar 31, 2019
HPP82	REHABILITATION OF THE ZÁRATE - POSADAS RAILWAY BRANCH LINE	G05		0.0	AR	Feb 29, 2020

Rehabilitation of the Chamberlain - Fray Bentos Railway Branch Line

* US\$ million

Estimated Investment* | 100.0 Countries | UY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP120	REHABILITATION OF THE ALGORTA - FRAY BENTOS RAILWAY BRANCH LINE	G05		100.0	UY	Mar 31, 2018

Estimated Investment* | 15.0 Countries | UY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP97	NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK	G05		15.0	UY	Dec 31, 2017

The three individual projects with the greatest estimated investment account for 69% of the API projects in the Hub, involve four of the five Hub's countries, and are all publicly financed. The first one is a river project (Improvement of Navigation

Conditions on the Tietê River), whereas the other two are rail projects (Construction and Rehabilitation of the Artigas - Posadas Railway, and Rehabilitation and Improvement of the Piedra Sola - Salto Grande Railway Corridor).

Half of the 16 individual projects will be completed in the next four years (up to 2018), involving 78% of the investment estimated for the Hub.

Three of the other projects are estimated to be completed between 2019 and 2020, and there is no information available on the other five projects.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



ROAD SUBSECTOR

Construction of an 8.5-km long ring road
Building of a bridge
Construction of a road junction and a roundabout
Upgrade of urban streets for direct access to a port



RAIL SUBSECTOR

Reconstruction and rehabilitation of 1,848 km of rail tracks



RIVER SUBSECTOR

Improvement of navigation conditions on approximately 4,708.3 km of waterways
Implementation of a water level prediction system

IMPROVEMENT OF NAVIGATION CONDITIONS ON THE RIVERS OF THE PLATA

Argentina - Bolivia - Brazil - Paraguay, Uruguay

Subsector: River

Estimated investment: US\$1,169,998,216

Type of financing: Public

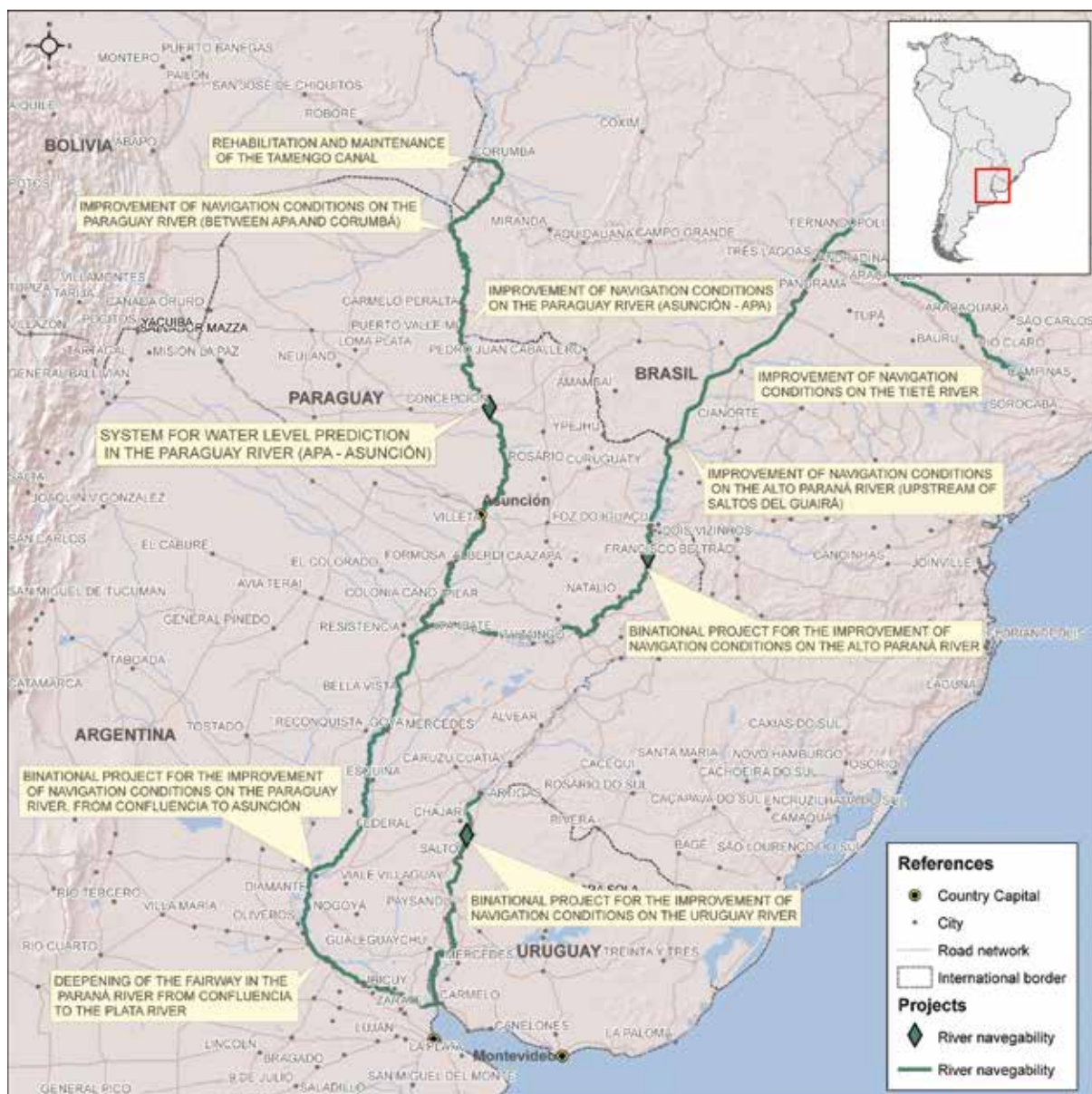
Project stage: Execution

Life cycle stage and number of projects:

Profiling: 3

Pre-execution: 2

Execution: 5






RATIONALE

The Plata Basin covers a total area of nearly 3.1 million km², which is one of the most potentially wealthy regions in the planet on account of its diverse climatic conditions, mining resources, agricultural capability, and energy, industrial and communication possibilities. The improvement of the navigation conditions on the waterways fed by the basin will result in a significant reduction in the cost of transport for both inter- and extra-regional trade, which will contribute to economically integrating the region and strengthening its sustainable development. This will enhance the competitiveness of regional products, mainly of those produced in the areas farthest away from the seaports. As a secondary effect, the project will help reduce the number of trucks on the highways, lowering the number of accidents, limiting exhaust pollution, improving pavement durability, and bringing down road maintenance costs.

In this context, the waterway allows soybean and fuel produced in Brazil to reach Argentina and, similarly, Argentine wheat to reach the Brazilian market. It also enables Paraguayan products to reach São Paulo and the Santos port.

Complementary actions are needed to ensure the preservation of the environment and the tapping of any opportunities for logistics and production development. With regard to the environment, the project affects environmentally sensitive areas such as the wetland known as Pantanal, a large floodplain seasonably covered by the Paraguay river waters and made up of unaltered ecosystems and a rich biodiversity.

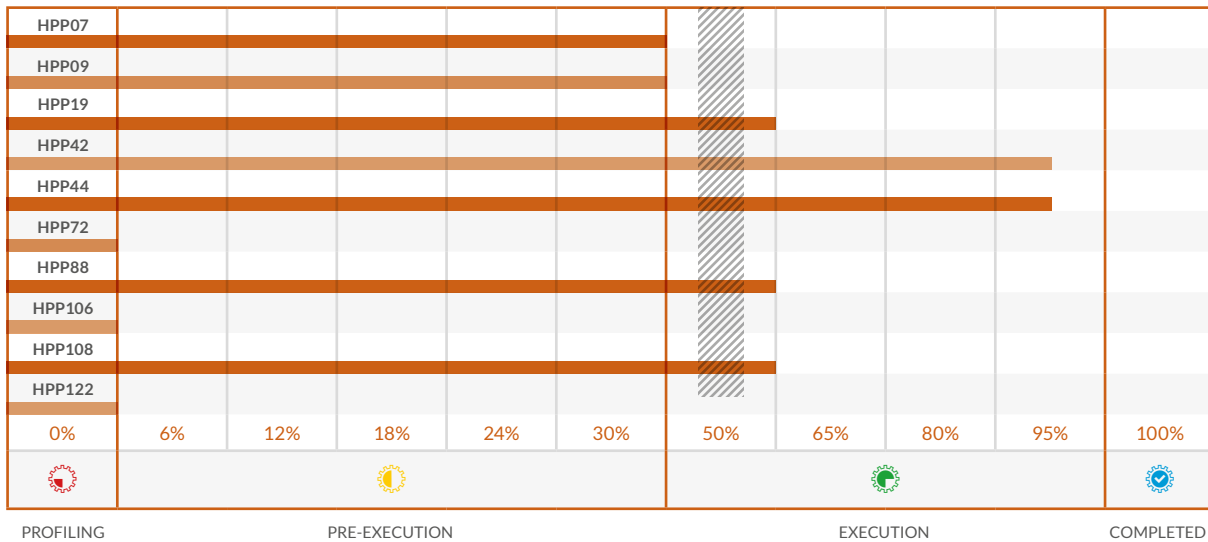
* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP07	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (BETWEEN APA AND CO-RUMBÁ)	G01		39.0	BO - BR - PY	NA
HPP09	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER (ASUNCIÓN - APA)	G01		110.0	PY	NA
HPP19	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE TIETÉ RIVER	G02		800.0	BR	Feb 28, 2017
HPP42	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE PARAGUAY RIVER, FROM CONFLUENCIA TO ASUNCIÓN	G03		45.5	AR - PY	Dec 31, 2015
HPP44	DEEPENING OF THE FAIRWAY IN THE PARANÁ RIVER FROM CONFLUENCIA TO THE PLATA RIVER	G03		110.0	AR	Dec 31, 2015
HPP72	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER	G04		0.0	AR - PY	NA
HPP88	BINATIONAL PROJECT FOR THE IMPROVEMENT OF NAVIGATION CONDITIONS ON THE URUGUAY RIVER	G05		40.0	AR - UY	Jul 31, 2020
HPP106	SYSTEM FOR WATER LEVEL PREDICTION IN THE PARAGUAY RIVER (APA - ASUNCIÓN)	G01		0.0	BO - PY	NA
HPP108	IMPROVEMENT OF NAVIGATION CONDITIONS ON THE ALTO PARANÁ RIVER (UPSTREAM OF SALTOS DEL GUAIRÁ)	G02		15.0	BR	Nov 30, 2015
HPP122	REHABILITATION AND MAINTENANCE OF THE TAMENGO CANAL	G01		10.5	BO	Jun 30, 2018

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Improvement of navigation conditions on approximately 4,708.3 km of waterways
- Implementation of a water level prediction system

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

The resources for the works involved in the Binational Project for the Improvement of Navigation Conditions on the Uruguay River, which made 6% progress, were secured.

Project Deepening of the Fairway in the Paraná River from Confluencia to the Plata River made 15% progress, and its works were completed.

For more information, visit www.iirsa.org/api17.asp

PARAGUAY - ARGENTINA - URUGUAY RAILWAY INTERCONNECTION

Argentina - Paraguay - Uruguay

Subsector: Rail

Estimated investment: US\$277,300,000

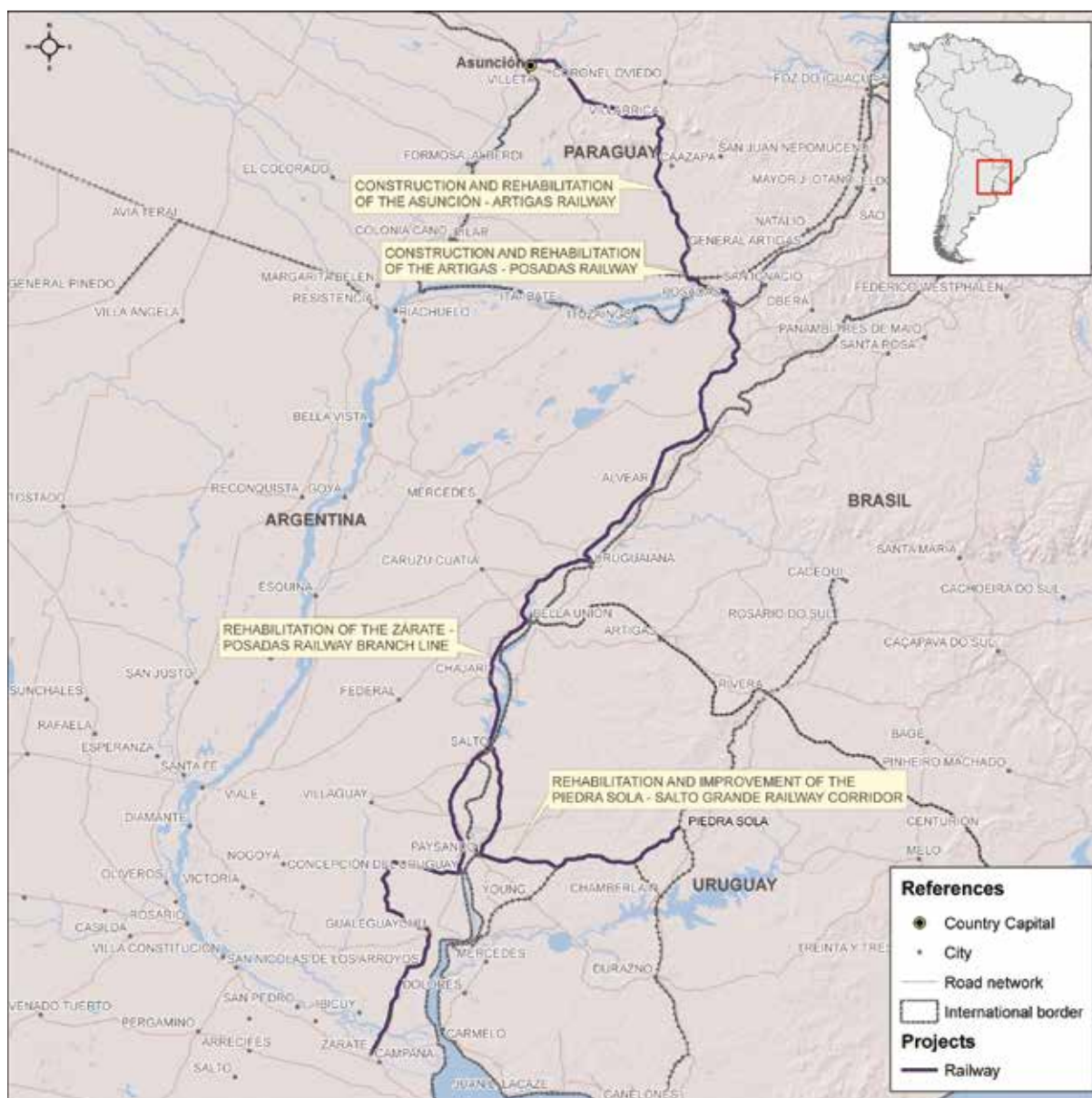
Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects:

Profiling: 2

Pre-execution: 2







RATIONALE

This structured project will have a high impact on the physical integration of Paraguay, Argentina and Uruguay, as it will strengthen the sustainable socio-economic development in all the area of influence zoned for the rail alignment that connects the three countries. Therefore, the project strengthens networks that are regional in scope and is instrumental in furthering regional connectivity for integration purposes.

This regional rail network complements the river network made up of the Paraná and Uruguay rivers as well as the existing road networks, promoting the development of multimodal transportation, which will result in a reduction in the cost of freight transport and will enhance the competitiveness of regional products.

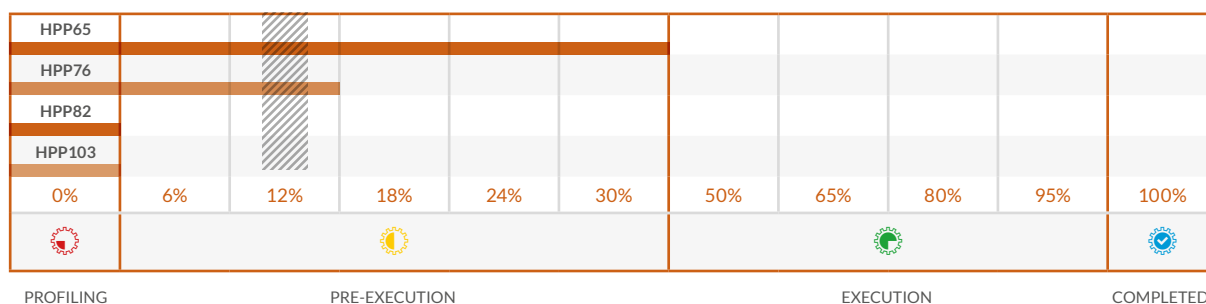
* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP65	REHABILITATION AND IMPROVEMENT OF THE PIEDRA SOLA - SALTO GRANDE RAILWAY CORRIDOR	G05		127.3	UY	Mar 31, 2017
HPP76	CONSTRUCTION AND REHABILITATION OF THE ARTIGAS - POSADAS RAILWAY	G04		150.0	AR - PY	Mar 31, 2019
HPP82	REHABILITATION OF THE ZÁRATE - POSADAS RAILWAY BRANCH LINE	G05		0.0	AR	Feb 29, 2020
HPP103	CONSTRUCTION AND REHABILITATION OF THE ASUNCIÓN - ARTIGAS RAILWAY	G03		0.0	PY	NA

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Reconstruction and rehabilitation of 1,707 km of rail tracks

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

The pre-feasibility studies for project Construction and Rehabilitation of the Artigas - Posadas Railway, which made 6% progress, were completed.

For more information, visit www.iirsa.org/api18.asp

REHABILITATION OF THE CHAMBERLAIN FRAY BENTOS RAILWAY BRANCH LINE

Uruguay

Subsector: Rail

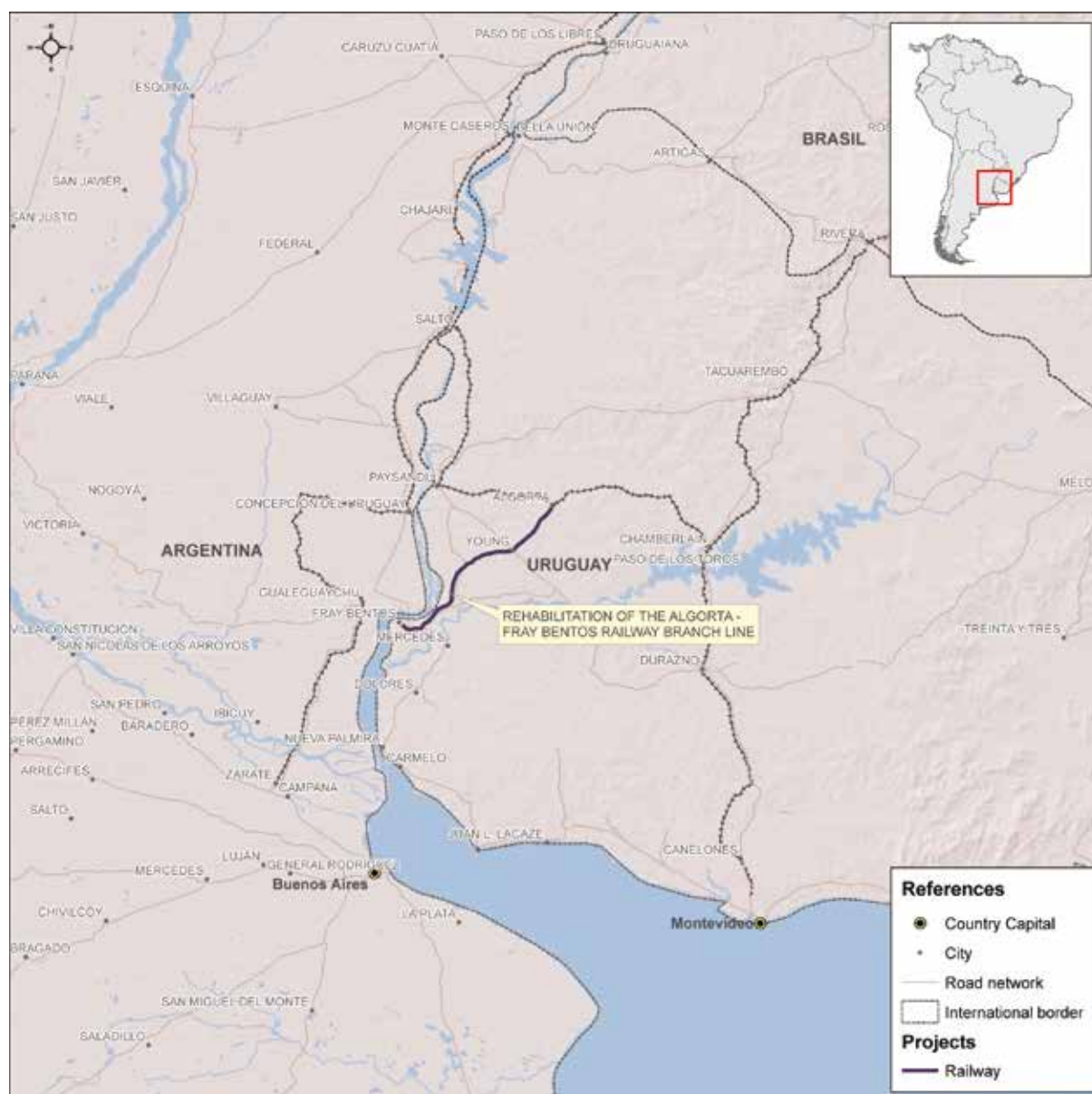
Estimated investment: US\$100,000,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 1




RATIONALE

This structured project seeks to rehabilitate the Chamberlain-Fray Bentos rail branch line, which connects the Fray Bentos port with the national rail networks, some of which reach neighboring countries. This is the case of the following railway lines: Montevideo-Rivera, which forms part of structured project No. 28 (Montevideo - Cacequi Railway Corridor) and Algorta-Paysandú-Salto-Salto Grande, which is included in structured project No. 28 (Paraguay - Argentina - Uruguay Railway Interconnection).

This rail line is of a regional scope since it connects the Paraná and Uruguay river network (at the Fray Bentos port) with the regional rail and existing road networks, promoting the development of multimodal transportation, which will result in a reduction in the cost of freight transport and enhance the competitiveness of regional products.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP120	REHABILITATION OF THE ALGORTA - FRAY BENTOS RAILWAY BRANCH LINE	G05		100.0	UY	Mar 31, 2018

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Rehabilitation of a 141-km long railway branch line

For more information, visit www.iirsa.org/api19.asp

NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK

Uruguay

Subsector: Road

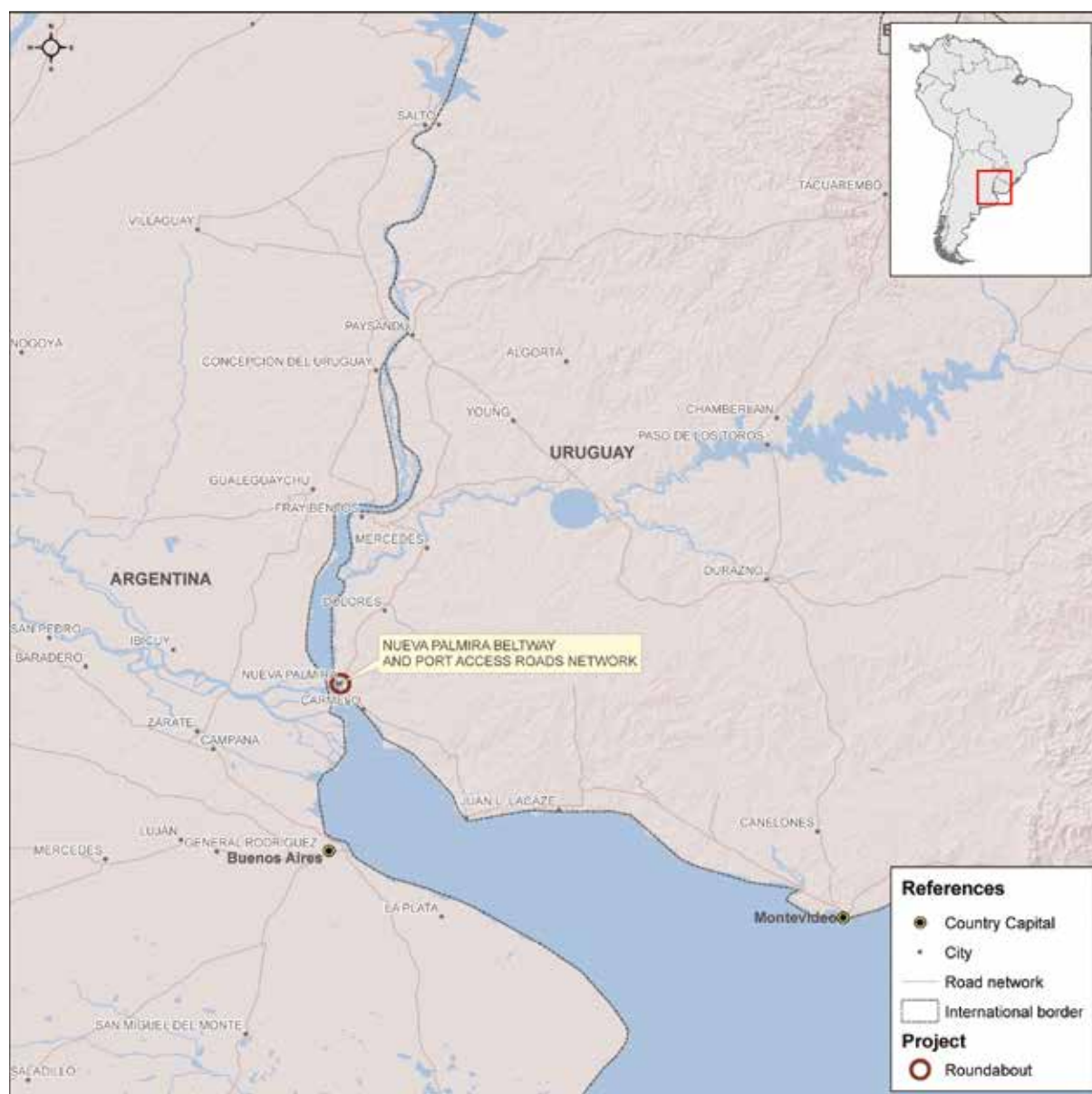
Estimated investment: US\$15,000,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 1




RATIONALE

Nueva Palmira is strategically located on the banks of the Uruguay river, in front of the Paraná river mouth. It borders the city of Dolores on the north and the city of Carmelo on the south, and is 280 km away of Montevideo. In Nueva Palmira, there are commercial port facilities that receive cargo, particularly grain, from the area of influence of the Paraná-Paraguay waterway, as well as national products.

These port facilities, located in the immediate vicinity of the city of Nueva Palmira, have created negative externalities due to the export increase of the last years. Truck traffic passes through urban streets on its way to the port, causing trouble in the

city, such as the disturbance of daily activities and an increasing environmental pollution (noise pollution and the one caused by grain powder). In addition to these problems, the heavier traffic of trucks has resulted in the congestion of the access roads to the port area, making it more difficult for trucks to enter the different port terminals. This brings about negative consequences that range from logistics chain cost increases to problems between haulers and the other players involved. This project is of particular importance as it consolidates this vast production network and promotes regional trade.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
HPP97	NUEVA PALMIRA BELTWAY AND PORT ACCESS ROADS NETWORK	G05		15.0	UY	Dec 31, 2017

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of an 8.5-km long ring road
- Building of a bridge
- Construction of a road junction and a roundabout
- Upgrade of urban streets for direct access to the port

THIS YEAR'S MAJOR DEVELOPMENTS

The tender documentation for the project is already prepared; therefore, upon adoption of the relevant decisions, the project will be ready for the tender process.

For more information, visit www.iirsa.org/api20.asp

IOC

CENTRAL INTEROCEANIC HUB

INTEGRATION AND DEVELOPMENT HUB

ioc

Population 100,150,302 inhabitants
Density: 37.9 inh./km²
Area: 2,642,262 km²

GDP: US\$ 1,348,366 million

Services 77.3%
Industry 11.5%
Agriculture 5.7%
Mines and quarries 5.5%



BOLIVIA



BRAZIL



CHILE



PARAGUAY



PERÚ

Estimated investment

* US\$ million

448.6



71.4%
National

28.6%
Binational

5

2

Projects per Sector



Transport

7

448.6

Projects per Types of Financing



Public

7

448.6

US\$ million



Number of Projects



US\$ million





Number of Projects

Projects per Subsector



STRUCTURED PROJECTS OF THE HUB

* US\$ million

Code	Name	Stage	Estimated Investment	Countries	Individual PROJECTS	Estimated Completion Date
21	PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)		20.0	BO	1	Dec 2017
22	IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB		420.0	BO - BR	4	Aug 2016
23	INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING		1.9	BO - PY	1	Apr 2016
24	CENTRAL BIOCEANIC RAILWAY CORRIDOR (BOLIVIAN SECTION)		6.7	BO	1	Jul 2024



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

Presentation of the CENTRAL INTEROCEANIC HUB

The Central Interoceanic Hub⁽¹⁾ extends across South America from coast to coast, linking major ports on the Pacific and the Atlantic oceans as well as several transport hubs connecting Bolivia, Brazil, Chile, Paraguay and Peru.

The Hub accounts for 13% of the area (2,642,262 km²) and 26% of the population (100,150,302 inhabitants) of South America, and is one of the three most densely populated Hubs, with 38 inhabitants per km². It also ranks third in terms of GDP, accounting for almost 30% of the region's GDP (US\$1,348,336 million).⁽²⁾

AREA OF INFLUENCE OF THE CENTRAL INTEROCEANIC HUB



Regarding infrastructure, the **road network** of the Central Interoceanic Hub covers a total of 1,854,372 km, 14% of which are paved. Its rail networks covers 40,146 km. The **sea and river port system** of the Hub features 29 major ports, 18 of which are located on the Paraguay and Paraná rivers and 10 on the ocean coasts. Six of these ports handle more than 2 million tons. The ports of Santos and Paranaguá, on the Brazilian Atlantic coast, handle 100 and 40 million

tons, respectively. The **airport system** is made up of 29 airports —17 domestic and 12 international— mostly located in Brazil and Bolivia. Concerning electricity generation, the **installed power capacity** in the countries of the Hub is 159,262 MW, 76% of which are contributed by Brazil.

The countries involved in the Central Interoceanic Hub defined four API projects for the purpose of consolidating connectivity in their territories. They are made up of seven individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$449 million.

Paraguay contributes 100% of its economy, Bolivia 99%, Brazil 52%, Chile 13%, and Peru 10%. In absolute terms, Brazil contributes 91% to the Hub's aggregate GDP, while the other countries contribute between 3% and 2%.

¹ See "Caracterización Socio-Económica y Ambiental del Eje Interoceánico Central," COSIPLAN-IIRSA, 2015. iirsa.org/interoceánico-central.asp
² At 2014 current prices.



API Projects

CENTRAL INTEROCEANIC HUB

The API projects belonging to this Hub seek to improve road, rail and air connection between Bolivia, Brazil, Paraguay and Peru, all of them revolving around Bolivia.

The Central Interoceanic Hub is the second one with less estimated investment for API after the Peru-Brazil-Bolivia Hub, and also the third Hub with the lowest number of API projects, after the Peru-Brazil-Bolivia and the Guianese Shield Hubs.

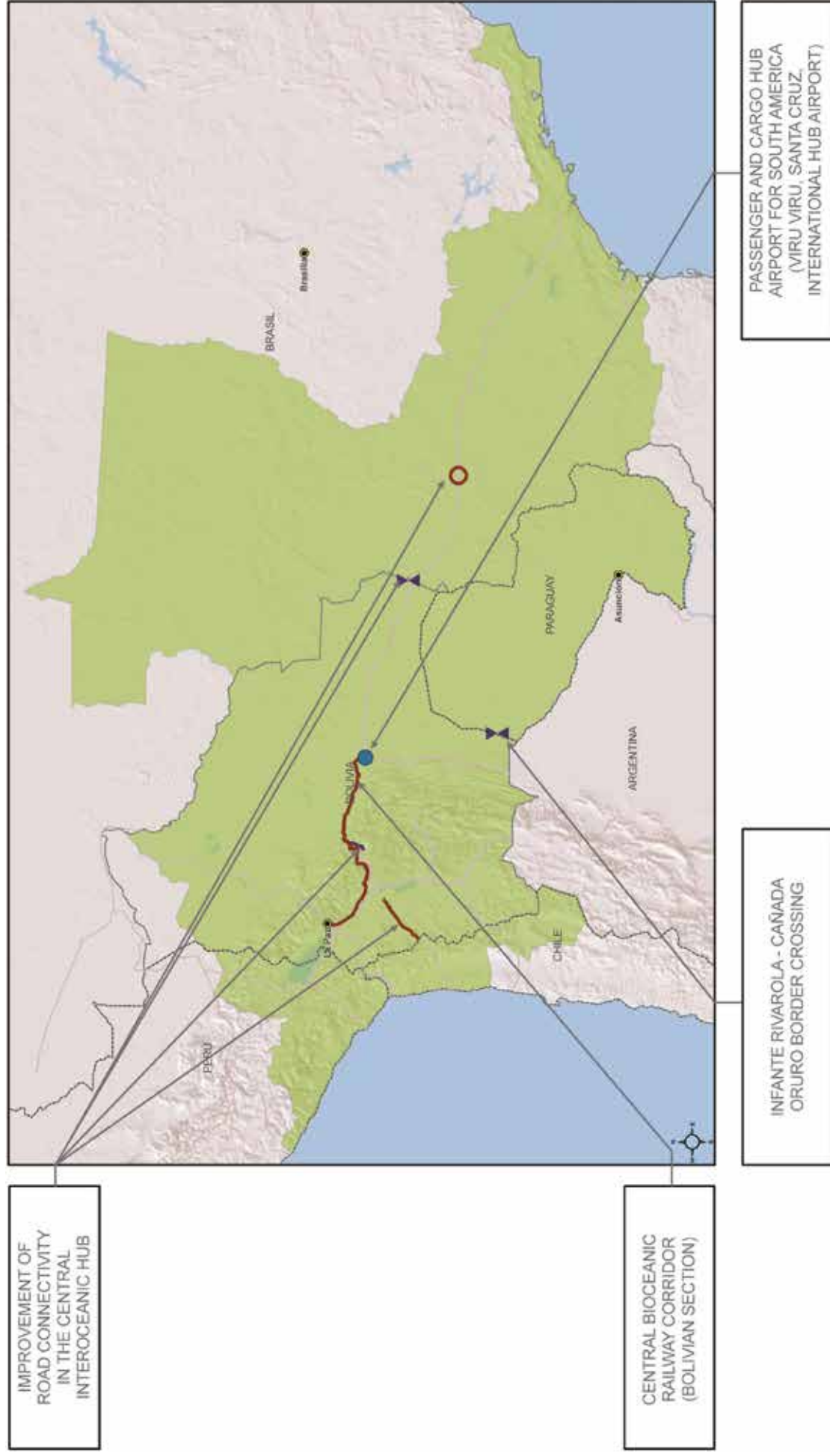
The project with the greatest estimated investment is Improvement of Road Connectivity in the Central Interoceanic Hub, which includes four individual projects for a total of US\$420 million, and is estimated to be completed in the second half of 2016.

This project is quite advanced at the execution stage, with an average progress of 74%. Three works are underway, while the works involved in one individual project are already completed. Its purpose is to improve land connections between Bolivia and Brazil through roads and border crossings intended to facilitate trade.

The other three projects also fall in the transport sector, but focus on a border hub, a hub airport and a rail corridor. The airport and the rail corridor are Bolivia's national projects, while the purpose of the border crossing is to enhance connectivity by land

between Bolivia and Paraguay.

It is worth noting that Bolivia participates in six of the seven projects, most of them national in scope (four). The Central Bioceanic Railway Corridor (Bolivian Section) is an ambitious project that will link the eastern and western rail networks, which at present have no connection. The purpose is to foster the sustainable development, exploitation and industrialization of natural resources, enabling export and import operations in a better condition than today as well as a logistics chain with this corridor as its main axis.



API PROJECTS IN THE CENTRAL INTEROCEANIC HUB

Passenger and Cargo Hub Airport for South America
(Viru Viru, Santa Cruz, International Hub Airport)

* US\$ million





Estimated Investment* | 20.0 Countries | BO

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC78	PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)	G03		20.0	BO	Dec 31, 2017

Improvement of Road Connectivity in the Central Interoceanic Hub

* US\$ million

Estimated Investment* | 420.0 Countries | BR - BO

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC14	CAMPO GRANDE BYPASS	G02		18.5	BR	Feb 26, 2016
IOC25	PUERTO SUÁREZ - CORUMBÁ INTEGRATED CONTROL AREA	G03		2.0	BO - BR	Jun 30, 2015
IOC32	TOLEDO - PISIGA ROAD	G05		130.5	BO	Dec 31, 2015
IOC80	UPGRADE OF LA PAZ - SANTA CRUZ ROUTE TO A FOUR-LANE ROAD	G05		269.0	BO	Aug 31, 2016

Infante Rivarola - Cañada Oruro Border Crossing

* US\$ million

Estimated Investment* | 1.9 Countries | BO - PY

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC09	INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING	G01		1.9	BO - PY	Apr 30, 2016

Central Bioceanic Railway Corridor (Bolivian Section)

* US\$ million

Estimated Investment* | 6.7 Countries | BO

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC81	CENTRAL BIOCEANIC RAILWAY CORRIDOR	G05		6.7	BO	Jul 31, 2024

Regarding the investment estimated to be made in the individual projects, two of these, belonging to structured project Improvement of Road Connectivity in the Central Interoceanic Hub, account for 89% of all the investments in the Hub.

They are Upgrade of La Paz - Santa Cruz Route to a Four-lane Road, involving US\$269 million, and Toledo - Pisiga Road, involving US\$130.5 million. Both are Bolivia's national projects at the execution stage.

According to the estimations available, all the projects –with the exception of the Bioceanic Railway Corridor, which is scheduled for 2024– will be completed in the next three years (up to 2017).

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



AIR SUBSECTOR

Expansion of a freight and passenger airport



ROAD SUBSECTOR

Construction of a 46.1-km ring road
Paving of 232 km of roads
Upgrade to four lanes along 789 km of roads



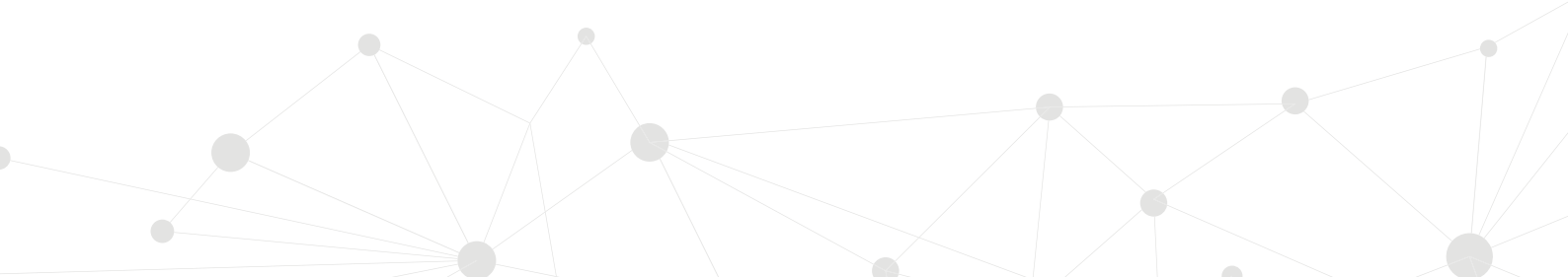
BORDER CROSSINGS SUBSECTOR

Improvement of two border crossings, one of which is a border center for integrated control operations in a single customs office and includes 1,031 m² of complementary works



RAIL SUBSECTOR

Rehabilitation and construction of 1,700 km of rails





PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)

Bolivia

Subsector: Air

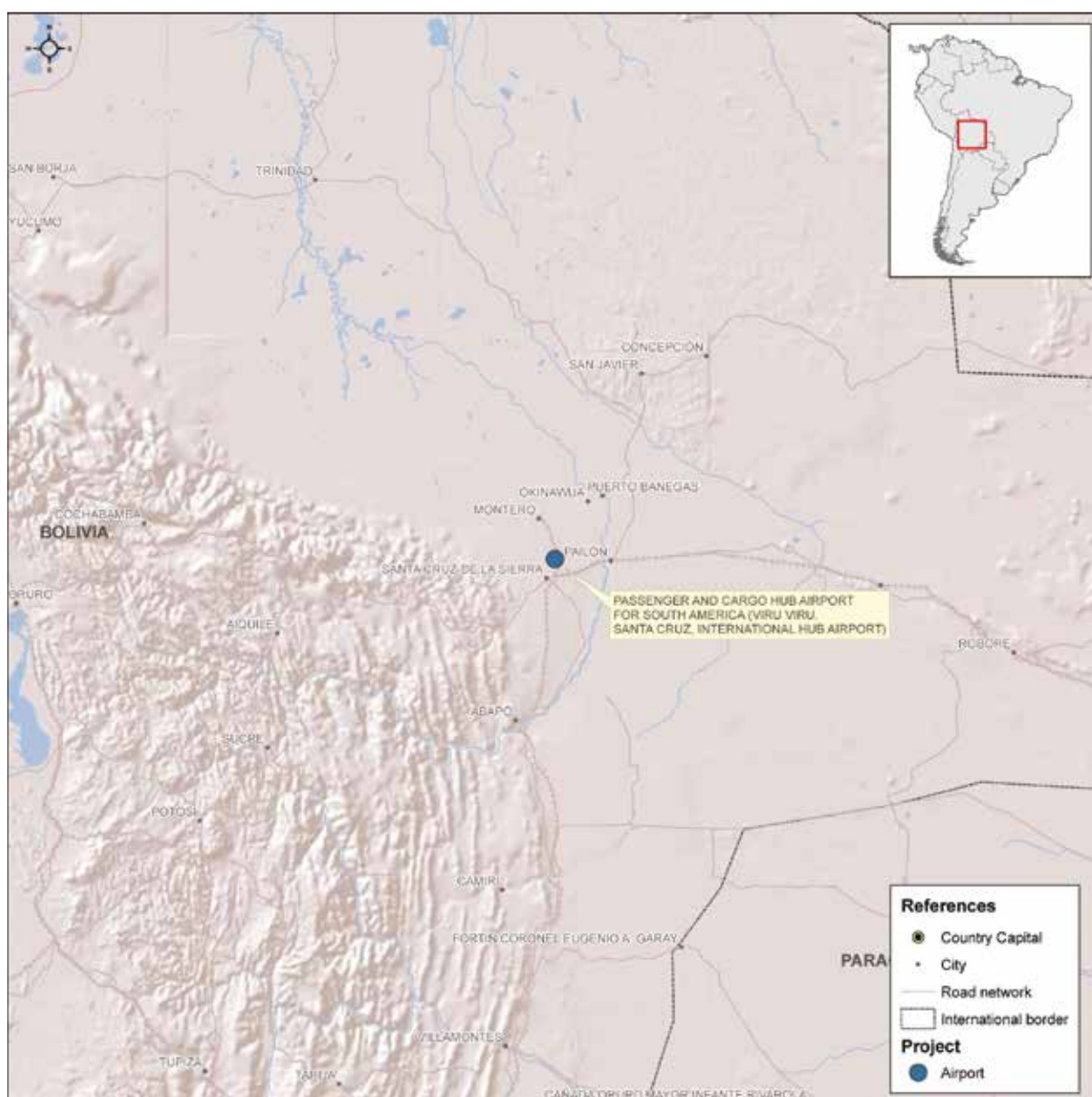
Estimated investment: US\$20,000,000

Type of financing: Public

Project stage: Profiling

Life cycle stage and number of projects:

Profiling: 1



RATIONALE

The purpose of this structured project is to establish a regional passenger and cargo hub airport for domestic and international flights, ensuring adequate, efficient and safe handling of cargo as a lever for both local and regional economic development. The project is important, as it will encourage exports of agribusiness products from its area of influence and boost imports of inputs.

One of the hubs will be the Viru Viru Airport, located in the Bolivian city of Santa Cruz de la Sierrra. As it is at the geographic midpoint of South America, the airport is expected to become an air cargo and passenger hub for the interconnection of the entire Central Interoceanic Hub. Thanks to its near sea level location, airplanes will be able to operate at full payload.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC78	PASSENGER AND CARGO HUB AIRPORT FOR SOUTH AMERICA (VIRU VIRU, SANTA CRUZ, INTERNATIONAL HUB AIRPORT)	G03		20.0	BO	Dec 31, 2017

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Expansion of a freight and passenger airport

THIS YEAR'S MAJOR DEVELOPMENTS

Administrative approaches to FONPLATA are underway to hire an aeronautical expert who will be in charge of preparing the terms of reference for the international tender to hire a consulting firm for the design of the airport project.

For more information, visit www.iirsa.org/api21.asp

IMPROVEMENT OF ROAD CONNECTIVITY IN THE CENTRAL INTEROCEANIC HUB

Bolivia - Brazil

Subsectors: Road, border crossings

Estimated investment: US\$420,000,000

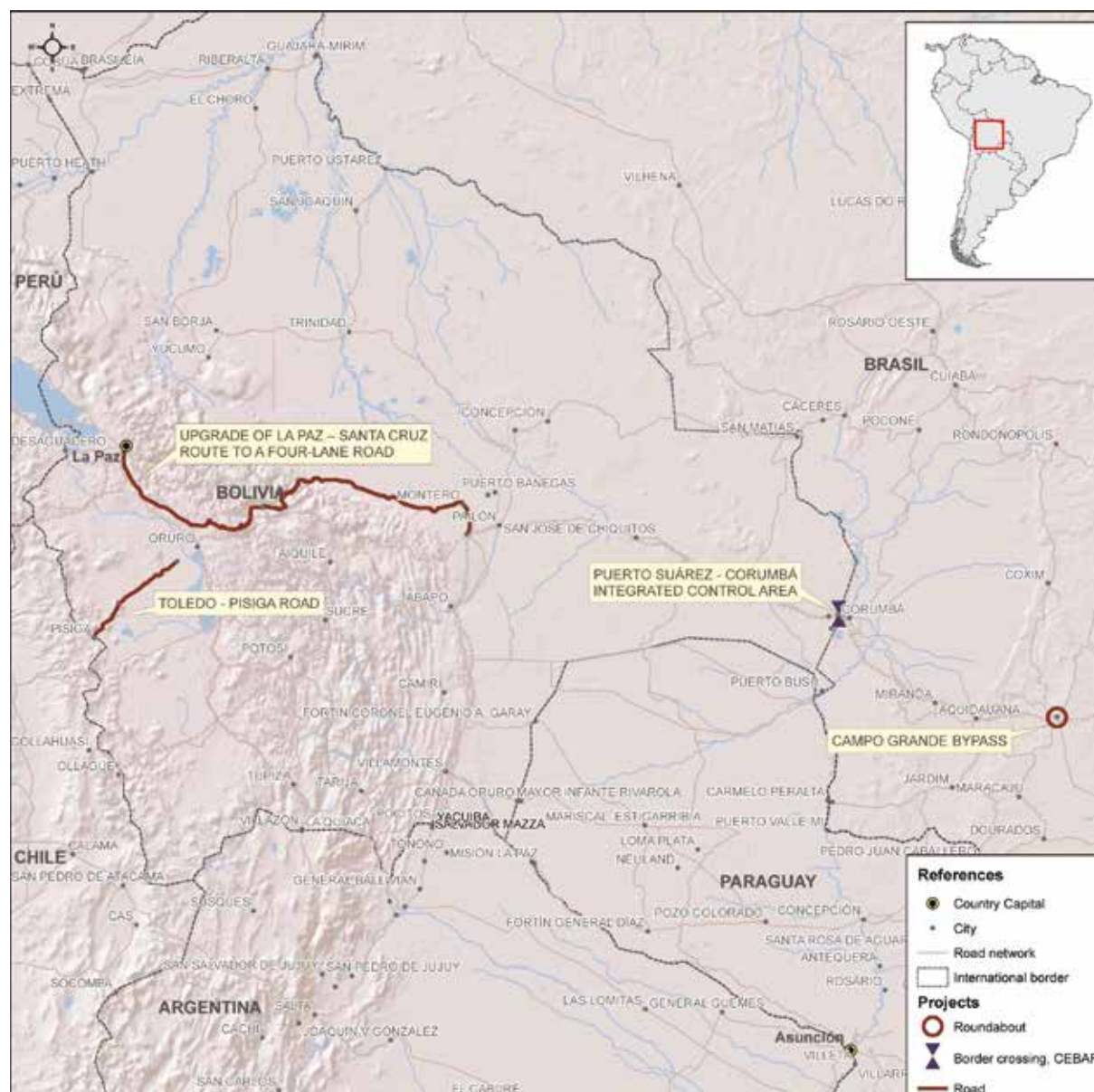
Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects:

Execution: 3

Completed: 1







RATIONALE

The purpose of this project is to link the western region of Bolivia with Peru and Chile on the west and with Brazil on the east, through the states of Mato Grosso do Sul and São Paulo to the port of Santos. Furthermore, it enables the integration of Bolivia with Paraguay, Argentina and Uruguay through the Tamengo canal and the Para-

guay-Paraná waterway.

The simultaneous implementation of the individual projects is highly important, as enhanced road connectivity in the Central Interoceanic Hub will impact on 98% of the trade between Brazil and Bolivia.

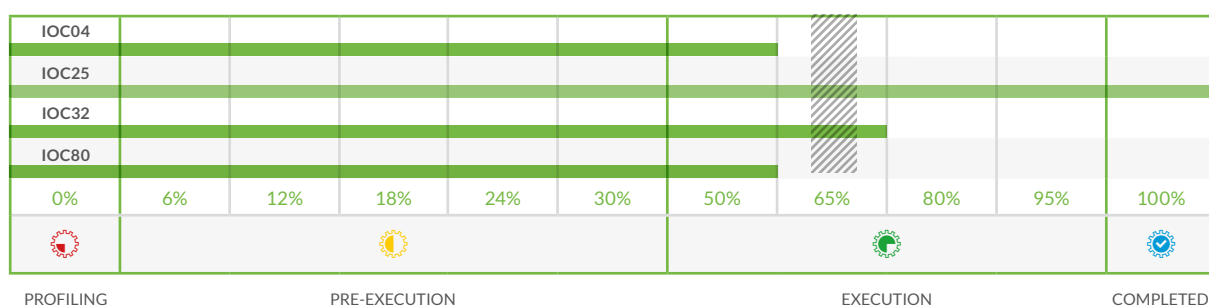
* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC14	CAMPOGRANDE BYPASS	G02		18.5	BR	Feb 26, 2016
IOC25	PUERTO SUÁREZ - CORUMBÁ INTEGRATED CONTROL AREA	G03		2.0	BO - BR	Jun 30, 2015
IOC32	TOLEDO - PISIGA ROAD	G05		130.5	BO	Dec 31, 2015
IOC80	UPGRADE OF LA PAZ - SANTA CRUZ ROUTE TO A FOUR-LANE ROAD	G05		269.0	BO	Aug 31, 2016

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a 46.1-km ring road
- Improvement of a border crossing
- Paving of 232 km of roads
- Upgrade to four lanes along 789 km of roads

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

Project Puerto Suárez - Corumbá Integrated Control Area made 35% progress and was completed.

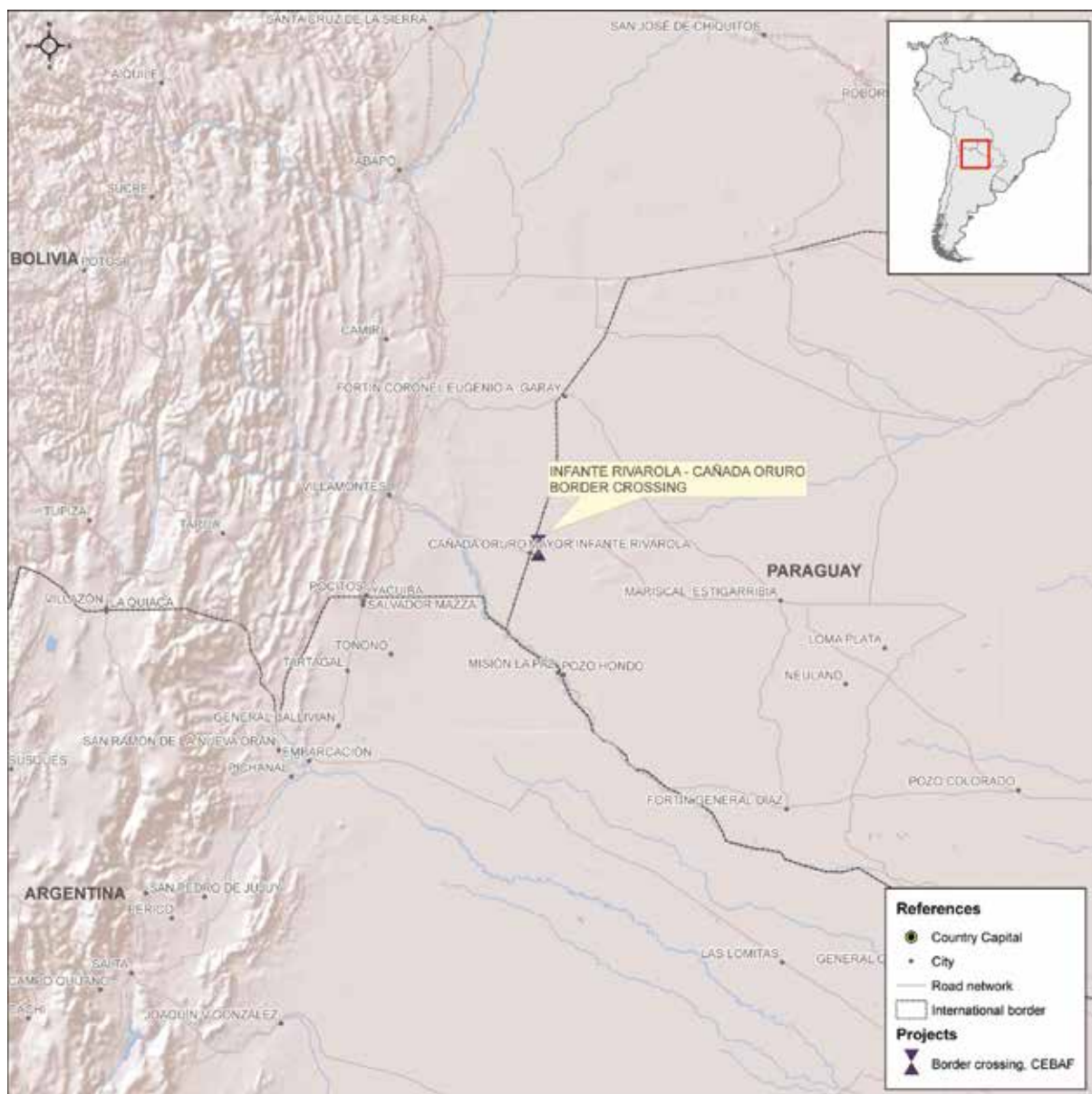
For more information, visit www.iirsa.org/api22.asp

INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING

Bolivia - Paraguay

Subsector: Border crossings
Estimated investment: US\$1,900,000
Type of financing: Public

Project stage: Execution
Life cycle stage and number of projects:
Execution: 1



RATIONALE

The purpose of this structured project is to build and install the necessary infrastructure and services to allow efficient passenger and freight traffic between Bolivia and Paraguay. The project is located in the geographic midpoint of the Central Inter-oceanic Hub, in the Bolivia-Paraguay border area.

Its implementation is justified by the increase in vehicular traffic and trade flows between Paraguay and Bolivia directly resulting from the pavement and improvement of the Villa Montes-Cañada Oruro road.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC09	INFANTE RIVAROLA - CAÑADA ORURO BORDER CROSSING	G01		1.9	BO - PY	Apr 30, 2016

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a border center for integrated control operations in a single customs office including 1,031 m²

For more information, visit www.iirsa.org/api23.asp

CENTRAL BIOCEANIC RAILWAY CORRIDOR (BOLIVIAN SECTION)

Bolivia

Subsector: Rail

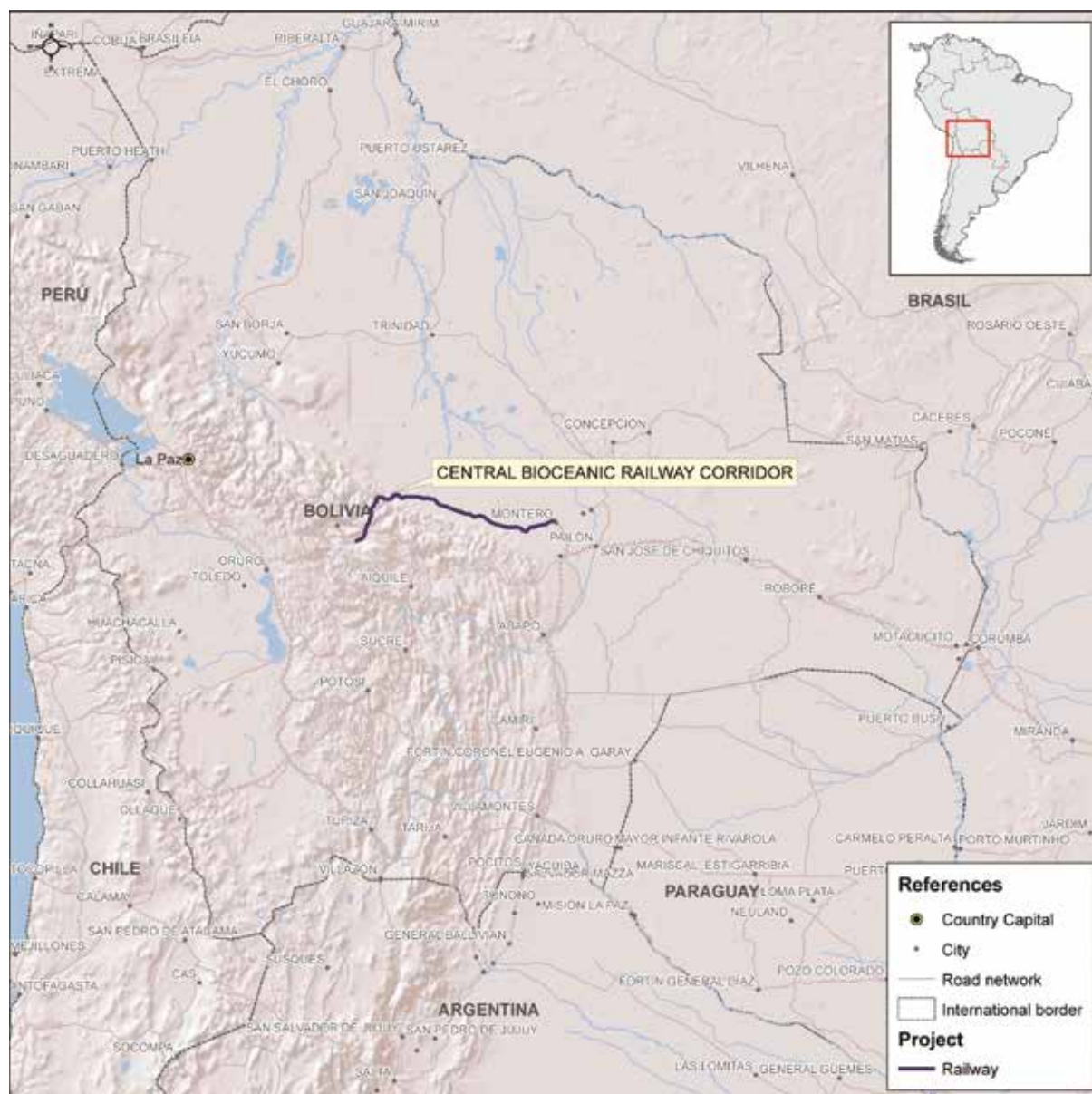
Estimated investment: US\$6,700,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 1




RATIONALE

This structured project will ensure an interconnection for Brazil, Chile, Peru and Bolivia in the central area of South America, facilitating trade among such countries as well as exports to overseas markets. The Central Bioceanic Railway Corridor, spanning 4,000 km from the port of Santos, in Brazil, to the port of Arica, in Chile, will link rail networks.

The section in Bolivia is of critical importance, since at present the two rail networks in the country, the Andean and the Eastern ones, are not

interconnected. This approximately 500-km long missing link in Bolivian territory, which equals 6% of the total length of the Central Bioceanic Railway Corridor, is an obstacle to uninterrupted traffic along the entire corridor; moreover, the railroad sections are not able to efficiently handle the forecasted freight volumes. Goods traffic forecasts provide sufficient reasons to define a project for the upgrade and harmonization of the carrying capacity of tracks throughout the Bolivian territory.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
IOC81	CENTRAL BIOCEANIC RAILWAY CORRIDOR	G05		6.7	BO	Jul 31, 2024

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Rehabilitation and construction of 1,700 km of rails

THIS YEAR'S MAJOR DEVELOPMENTS

As of the date of this report, two of the four components of the study were completed and the other two are underway and planned to be completed in September 2015.⁽³⁾

Furthermore, construction of the Montero - Bulo Bulu Section (approximately 150 Km) is underway to transport production from the urea plant of Bolivian State oil company YPFB.

For more information, visit www.iirsa.org/api24.asp



MERCOSUR-CHILE HUB

INTEGRATION AND DEVELOPMENT HUB

Population: 141,453,273 inhabitants
Density: 44 inh./km²
Area: 3,216.623 km²

GDP: US\$ 1,973,411 million

Services	75.0%
Industry	14.0%
Agriculture	6.0%
Mines and quarries	5.0%

MCC



ARGENTINA



BRAZIL



CHILE



PARAGUAY



URUGUAY

Estimated investment

* US\$ million

3,143.6



67%
National

33%
Binational

10

5

Projects per Sector



Transport

14

2,143.6



Energy

1

1,000

Projects per Types of Financing



Public

9

1,905.7



Private

4

103



Public
Private

2

1,134.9

US\$ million



Number of Projects









Projects per Subsector



STRUCTURED PROJECTS OF THE HUB

* US\$ million

Code	Name	Stage	Estimated Investment*	Countries	Individual Projects	Estimated Completion Date
25	AGUA NEGRA BINATIONAL TUNNEL		1,000.0	AR - BO	1	Dec 2022
26	NORTHEASTERN ARGENTINA GAS PIPELINE		93.5	BR - UY	1	Jul 2017
27	OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM		38.2	BR - UY	5	Sep 2016
28	MONTEVIDEO - CACEQUI RAILWAY CORRIDOR		139.9	BR - UY	2	Nov 2016
29	CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE		272.0	AR - CH	5	Dec 2018
30	MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM		1,600.0	AR - CH	1	Dec 2022

Presentation of the MERCOSUR-CHILE HUB

The MERCOSUR-Chile Hub⁽¹⁾ covers an important part of Argentina, Brazil and Paraguay, the whole territory of Uruguay, and the central region of Chile. Its area of influence accounts for 18% of the total area of the South American continent (3,216,623 km²).

This is the most populated Hub, with 35% of the South American population (141,453,273 inhabitants), as well as the one with the greatest percentage of the South American GDP: 48% (i.e. US\$1,973,411 million).⁽²⁾

AREA OF INFLUENCE OF THE MERCOSUR-CHILE HUB



The MERCOSUR-Chile Hub is home to a **complex and dense infrastructure network** located in the Plata river basin and the Brazilian states included in the Hub. Not taking into account the works planned, the road network of the countries involved in the Hub covers a total of 1,973,802 km, only 6% of which are paved. The **rail network** of these countries is 61,424 km long, and approximately 87% of it is in operating condition. The **sea and river port system** of the MERCOSUR-Chile Hub is made up of 46 major ports, most of which are located on the coasts of the Atlantic ocean, the Plata river, and the Paraná, Paraguay and Uruguay rivers, to which the Chilean ports on the Pacific coast should be added. **River transportation activities** in the regions are mainly

carried out along the Paraná and Paraguay rivers

and, to a lesser extent, along the Uruguay river. There are also consolidated sea routes between Brazil and Argentina, used primarily for the trade of vehicles and auto parts. Concerning **electricity generation**, as of 2012 the countries involved in the Hub had a joint installed power of about 190,131 MW.

The presence of **indigenous communities** in the territory of the MERCOSUR-Chile Hub is low, as they represent 1% of the total population of the countries involved. Regarding the protected areas in the Hub, there are about 600 territorial units with some degree of **environmental protection**, covering approximately 193,000 km², i.e. some 6% of the Hub's territory.

1 See "Caracterización Socio-Económica y Ambiental del Eje MERCOSUR-Chile," COSIPLAN-IIRSA, 2014. iirsa.org/mercosur-chile.asp
2 At 2012 current prices.

The countries involved in the MERCOSUR-Chile Hub defined six API projects for the purpose of consolidating connectivity in their territories. They are made up of 15 individual projects from the COSIPLAN Portfolio, and amount to an investment estimated at US\$3,143 million.

The MERCOSUR-Chile Hub involves 100% of Uruguay's economy, 97% of Paraguay's economy, more than 86% of Argentina's economy, and approximately 60% of Chile's and Brazil's economies. In absolute terms, the aggregate gross product of the Hub is made up of 67% of Brazil's GDP, 21% of Argentina's

GDP, 9% of Chile's GDP, and 3% Uruguay's and Paraguay's GDP as a whole.

The Hub shares some regions of its area of influence with the Paraguay-Paraná Waterway, Southern, and Capricorn Hubs.

API Projects

MERCOSUR-Chile Hub

The API projects belonging to this Hub are intended to help consolidate integration infrastructure and to enhance the flow of goods, services and people from the five countries involved (Argentina, Bolivia, Brazil, Chile and Uruguay). The purpose is to strengthen the production chains and competitiveness of the territory at both the regional and global levels, and to promote the development of ecotourism and the diversification of the energy matrix.

The MERCOSUR-Chile Hub is the fourth Hub in terms of both number of API projects and planned investment.

The API project with the highest estimated investment in the Hub is Agua Negra Binational Tunnel. In addition to being the only tunnel included in API, this is an important engineering undertaking on account of its technical solution (two parallel tunnels, one for each direction of traffic), its length (14 km), and its height above sea level (4,085 m).

This project will strengthen trade flows between Argentina and Chile as well as facilitate access of an important region of Argentina, Brazil and Uruguay to Asia-Pacific. Furthermore, it will facilitate the flow of tourists from the Coquimbo Region, in Chile, to the province of San Juan, in Argentina.

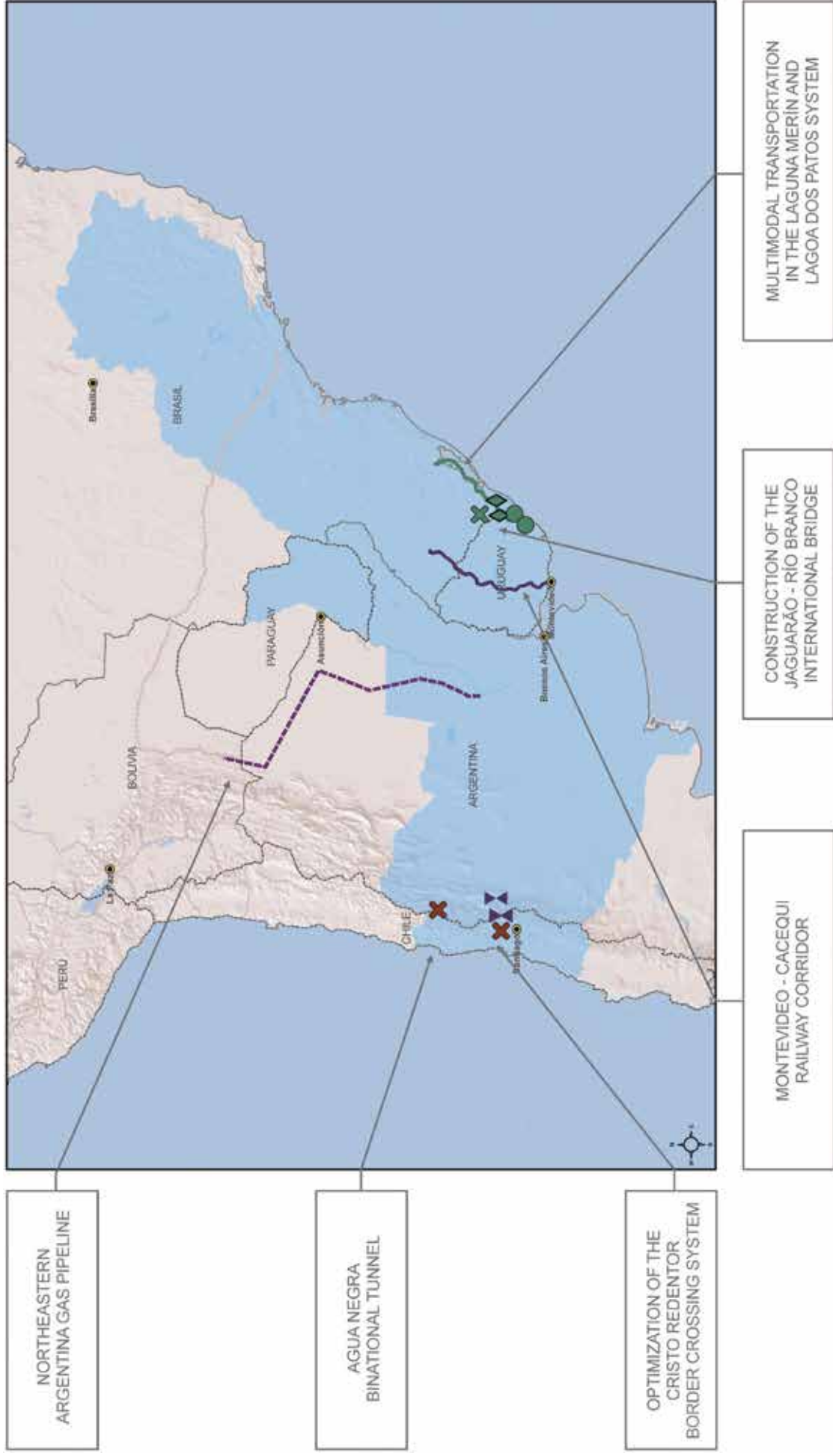
The Optimization of the Cristo Redentor Border Crossing System is another project that seeks to boost connectivity between Argentina and Chile through a series of works and information and management systems, enabling a qualitative leap forward in the main border center between both countries.

The Northeastern Argentina Gas Pipeline, the only energy project included in API, is the second project in the Hub in terms of estimated investment. This large construction project is 1,500 km long, including the Trunk Pipeline and the Provincial Branches.

The gas pipeline will strengthen Argentina's energy matrix by linking the gas reserves located in northern Argentina and in Bolivia to the country's areas where the demand is greater.

The other projects seek to strengthen connectivity between Brazil and Uruguay by promoting cross-

border development, and involve different subsectors: a rail corridor, an international road bridge, and river transportation between the Mirim (Uruguay) and Dos Patos (Brazil) lakes.




API PROJECTS IN THE MERCOSUR-CHILE HUB

* US\$ million

Agua Negra Binational Tunnel


Estimated Investment* | 1,600.0 Countries | AR, CH

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC110	AGUA NEGRA BINATIONAL TUNNEL	G04		1,600.0	AR, CH	Dec 31, 2022

Northeastern Argentina Gas Pipeline

Estimated Investment* | 1,000.0 Countries | AR, BO






* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC68	NORTHEASTERN ARGENTINA GAS PIPELINE	G05		1,000.0	AR	Dec 31, 2022

Optimization of the Cristo Redentor Border Crossing System

Estimated Investment* | 272.0 Countries | AR, CH



* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC151	INTEGRATED FREIGHT CONTROL CENTER AT USPALLATA (CRISTO REDENTOR SYSTEM OPTIMIZATION)	G03		90.0	AR	Dec 31, 2017
MCC152	PASSENGER CONTROL CENTER AT LOS HORCONES (CRISTO REDENTOR SYSTEM OPTIMIZATION)	G03		80.0	AR	Dec 31, 2017
MCC153	NEW LOS LIBERTADORES BORDER COMPLEX (CRISTO REDENTOR SYSTEM OPTIMIZATION)	G03		84.0	CH	Jun 30, 2017
MCC154	REHABILITATION OF THE CRISTO REDENTOR TUNNEL AND CARACOL (CRISTO REDENTOR SYSTEM OPTIMIZATION)	G03		4.0	AR, CH	Dec 31, 2018
MCC155	BINATIONAL MANAGEMENT CONTROL SYSTEM AT THE CRISTO REDENTOR BORDER CROSSING (CRISTO REDENTOR SYSTEM OPTIMIZATION)	G03		14.0	AR, CH	Dec 31, 2018

Montevideo - Cacequi Railway Corridor

Estimated Investment* | 139.9 Countries | BR, UY


* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC30	REHABILITATION OF THE MONTEVIDEO - RIVERA RAILWAY	G02		134.9	UY	Nov 30, 2016
MCC115	REHABILITATION OF THE RIVERA - SANTANA DO LIVRAMENTO - CACEQUI RAILWAY SECTION	G02		5.0	BR, UY	Dec 31, 2012

Construction of the Jaguarão - Río Branco International Bridge

Estimated Investment* | 93.5 Countries | BR, UY

* US\$ million






Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC22	CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE	G02		93.5	BR, UY	Jul 31, 2017

Multimodal Transportation in the Laguna Merín and Lagoa dos Patos System

Estimated Investment* | 38.2

Countries | BR, UY

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC85	DREDGING OF MIRIM LAKE	G02		2.9	BR	Jun 30, 2016
MCC157	DREDGING OF THE TACUARÍ RIVER	G02		1.4	BR	Sep 30, 2015
MCC158	DREDGING OF AND INSTALLATION OF SIGNS, MARKERS AND AIDS TO NAVIGATION ON THE MIRIM LAKE - DOS PATOS LAKE SYSTEM	G02		20.0	BR	NA
MCC159	LA CHARQUEADA PORT TERMINAL AND DREDGING OF THE CEBOLLATI RIVER	G02		7.0	UY	Jan 31, 2015
MCC160	PORT TERMINAL AND DREDGING OF TACUARÍ	G02		7.0	UY	Sep 30, 2016



PROFILING



PRE-EXECUTION



EXECUTION



COMPLETED

As regards the estimated investment in the individual projects, the Rehabilitation of the Montevideo - Rivera Railway, related to Brazil-Uruguay connectivity, ranks third after the tunnel and the gas pipeline, with a significantly lower investment amount. The project concerned with the tunnel is at the pre-execution stage and is planned to be financed with public funds. The other two projects are financed by public-private initiatives and are at the execution stage.

Except for the tunnel and gas pipeline projects, which are scheduled for 2022, all the projects are planned to be completed in the next four years (up to 2018).

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECTS



ROAD SUBSECTOR

- Upgrade of 19 km of roads
- Construction of a 400-m long and 16.85-m wide bridge
- Construction of a 13-km four-lane tunnel
- Rehabilitation of a binational tunnel



BORDER CROSSINGS SUBSECTOR

- Construction of three border complexes, one of them with an area of 32 ha
- Design of a management control system made up of interconnected management stations
- Optimization of two control centers with an area of 47 ha and 20 ha, respectively



RAIL SUBSECTOR

- Rehabilitation of 580 km of rails



RIVER SUBSECTOR

- Dredging works, upgrade of corridors and complementary works in two lakes and their tributaries
- Construction of two river port terminals



ENERGY INTERCONNECTION SUBSECTOR

- Construction of a 1,500-km, 24-inch diameter trunk gas pipeline

NORTHEASTERN ARGENTINA GAS PIPELINE

Argentina – Bolivia

Subsector: Energy interconnection

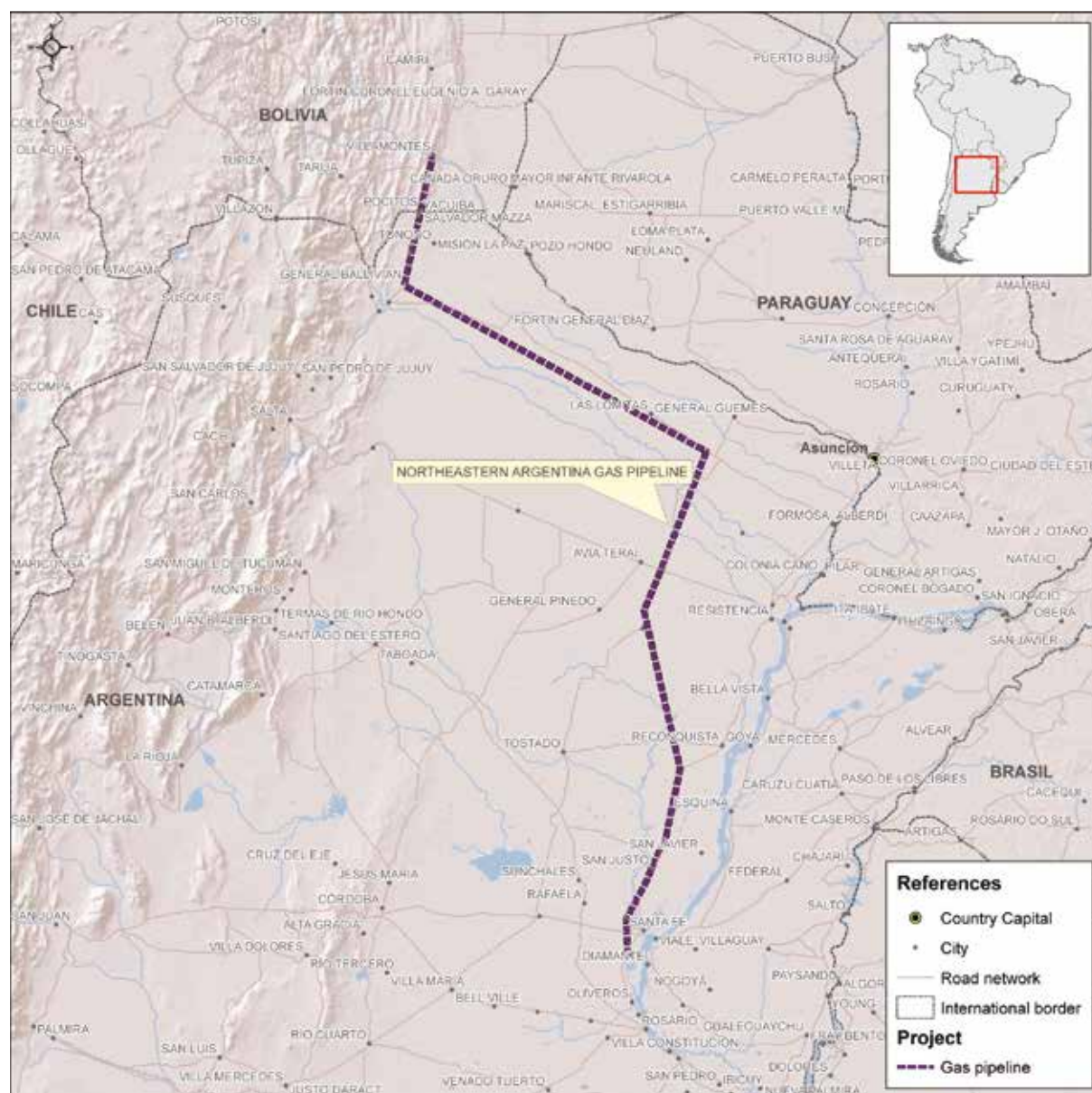
Estimated investment: US\$1,000,000,000

Type of financing: Public-private

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 1



RATIONALE


The purpose of this structured project is to ensure natural gas supply to the northeastern region of Argentina through large-diameter pipes, and to secure a sustained provision of adequate flows for use in natural gas vehicles and in industrial and agribusiness production.

The trunk gas pipeline will link, in the vicinity of Santa Fe city, the gas reserves located in northern Argentina and in Bolivia with the Argentine Inter-connected System of Trunk Gas Pipelines. This interconnection will ensure the flow of significant gas volumes in those parts of Argentina where the demand is greater, as well as expanded gas availability in provinces that either lack gas supply or have insufficient provision to secure the economic

development that the region requires.

Furthermore, the project will enhance environmental standards, as it encourages the replacement of other, more polluting fossil fuels. In addition, it has been identified that a program of complementary actions associated with the border strip is needed, involving infrastructure, environmental preservation, and logistics and production integration opportunities.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC68	NORTHEASTERN ARGENTINA GAS PIPELINE	5		1,000.0	AR	Dec 31, 2022

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- A 1,500-km, 24-inch diameter trunk gas pipeline

THIS YEAR'S MAJOR DEVELOPMENTS

The first quarter of the works involved in the project, which made 12% progress, was commenced.

The gas pipeline will be built in four stages, the first of which will commence with the contracts signed in August 2014.

The first-stage works, accounting for an investment of US\$500 million and involving 798 km of 24-inch diameter pipelines, are underway as follows: 230 km in Salta, 303 km in Formosa, and 265 km in northern Santa Fe are in execution. The second stage began in the province of Chaco, with a length of 172 km that reaches the province of Santa Fe.

For more information, visit www.iirsa.org/api25.asp

CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE

Brazil - Uruguay

Subsector: Road

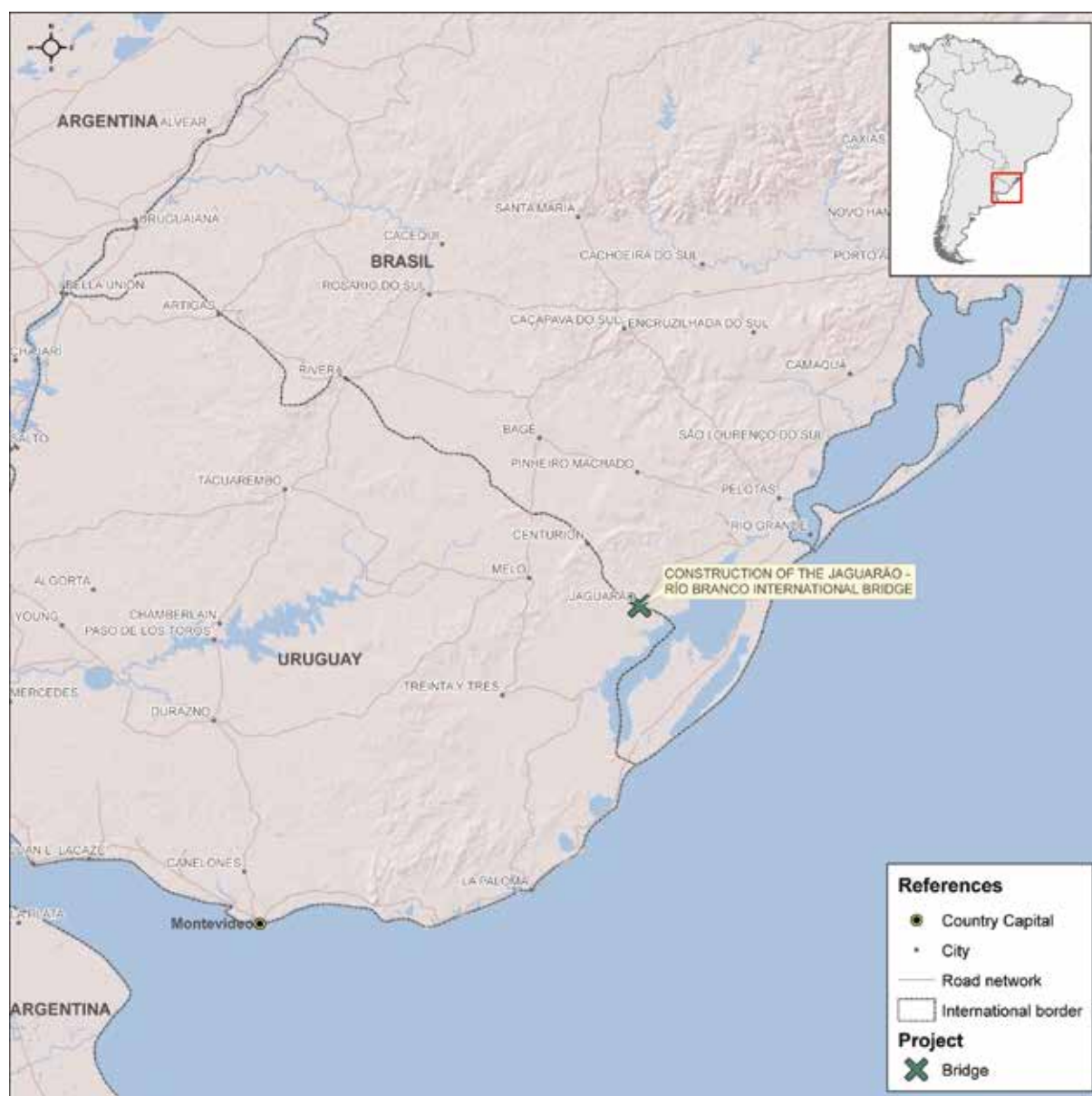
Estimated investment: US\$93,500,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 1




RATIONALE

The purpose of the project is to ensure an unrestricted flow of international freight and passenger road traffic, leveraging the integration of the areas of influence through increased trade activity and greater cultural exchange. Through the reduction of traffic on the Chuí-Chuy commercial road by diverting it to the new international bridge, the project will: (i) protect the nature reserves on the Atlantic coast and alleviate traffic congestion in the Pelotas-Rio Grande section of Brazilian route BR-392/RS (BR-392/RS); (ii) result in the coastal road

being used by passenger and tourist traffic only; and (iii) reduce the distance by road between Montevideo and Porto Alegre by 53 km.

The technical, economic and environmental feasibility study estimates that 75% of cargo vehicles and 50% of passenger vehicles that currently use the Chuí-Chuy road in long-distance trips will be diverted to the new Jaguarão-Río Branco bridge.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC22	CONSTRUCTION OF THE JAGUARÃO - RÍO BRANCO INTERNATIONAL BRIDGE	2		93.5	BR - UY	Jul 31, 2017

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a 400-m long and 16.85-m wide bridge
- Construction of 15.5 km of approach roads
- Construction of two border complexes

THIS YEAR'S MAJOR DEVELOPMENTS

Brazil proposed to tender the construction of the Jaguarão-Río Branco bridge jointly with the upgrade of the Barão de Mauá international bridge. In May 2015, Brazil sent the draft contract for the works through diplomatic channels to Uruguay, and is waiting for Uruguay's analysis and comments. The tender documentation for both bridges is planned to be published in August 2015.⁽³⁾

For more information, visit www.iirsa.org/api26.asp

MULTIMODAL TRANSPORTATION IN THE LAGUNA MERÍN AND LAGOA DOS PATOS SYSTEM

Brazil – Uruguay

Subsector: River

Estimated investment: US\$38,200,000

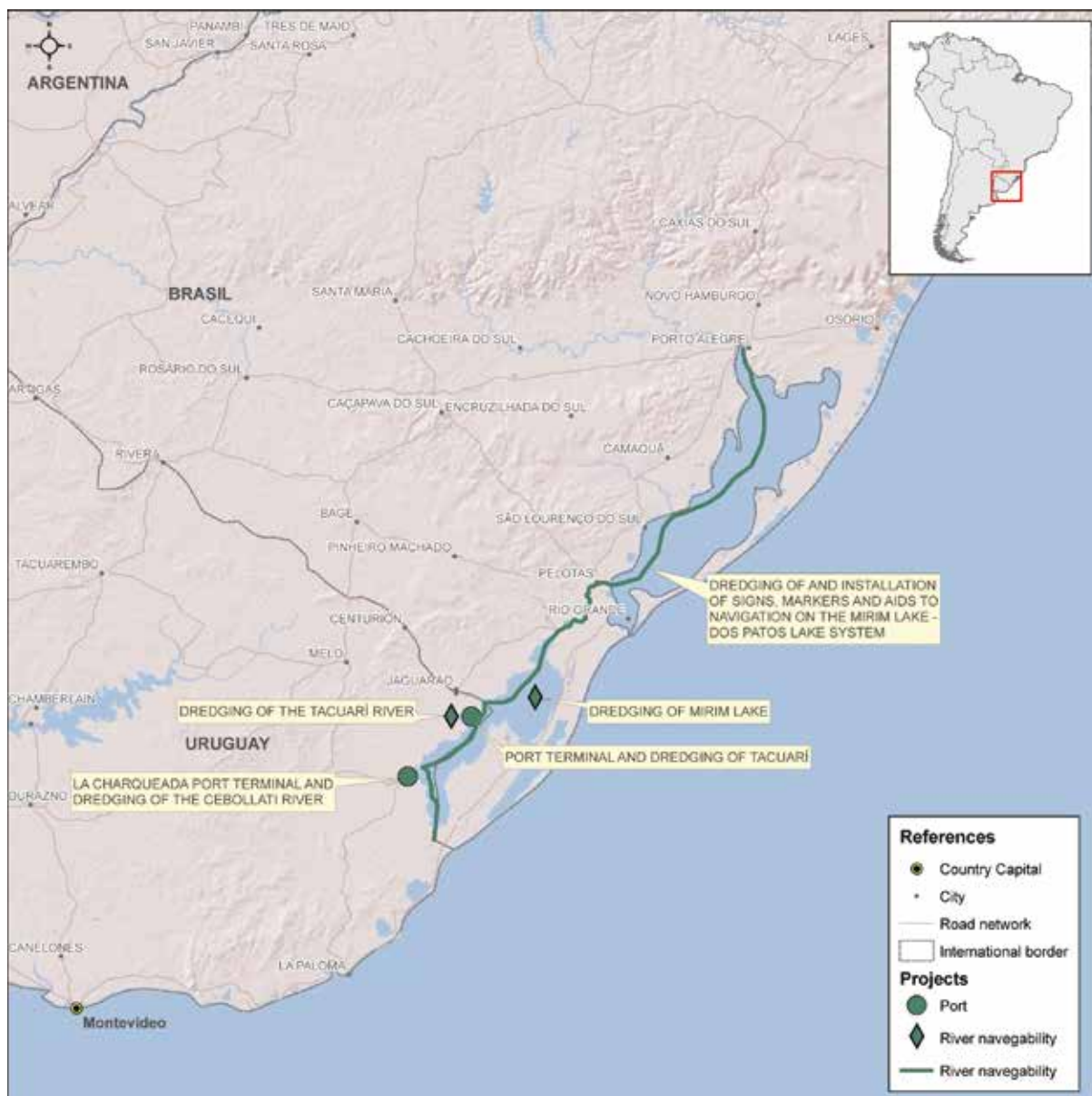
Type of financing: Public-private

Project stage: Execution

Life cycle stage and number of projects:

Pre-execution: 3

Execution: 2








RATIONALE

This project will improve connectivity between the eastern region of Uruguay and the southern area of Brazil by enabling unobstructed navigation on the Merín and Dos Patos lake system. The construction of Route BR-471/RS (Chuí-Pelotas) in the 1970s resulted in the closing of this waterway.

The restoration of navigation activities will help carry greater cargo volumes, reduce freight and infrastructure maintenance costs, alleviate bottlenecks at border crossings, mitigate the environmental impact caused by greenhouse gas and noise pollution, and reduce the number of road accidents.

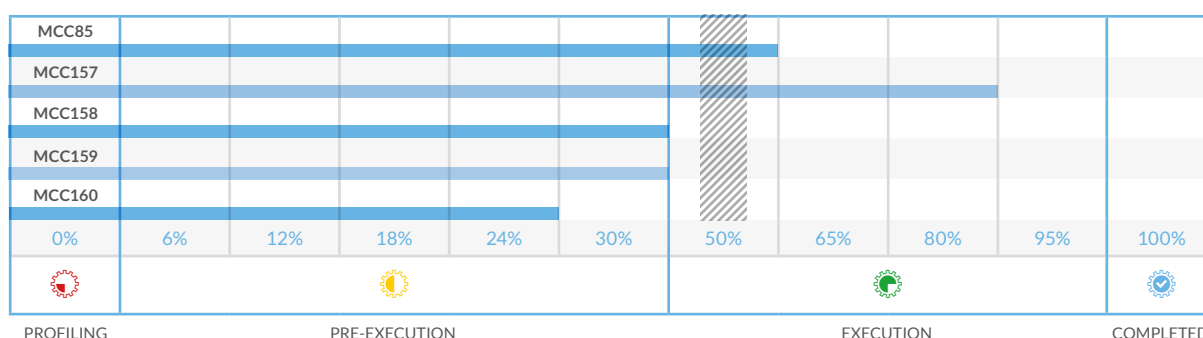
* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC85	DREDGING OF MIRIM LAKE	2		2.9	BR	Jun 30, 2016
MCC157	DREDGING OF THE TACUARÍ RIVER	2		1.4	BR	Sep 30, 2015
MCC158	DREDGING OF AND INSTALLATION OF SIGNS, MARKERS AND AIDS TO NAVIGATION ON THE MIRIM LAKE - DOS PATOS LAKE SYSTEM	2		20.0	BR	NA
MCC159	LA CHARQUEADA PORT TERMINAL AND DREDGING OF THE CEBOLLATI RIVER	2		7.0	UY	Jan 31, 2015
MCC160	PORT TERMINAL AND DREDGING OF TACUARÍ	2		7.0	UY	Sep 30, 2016

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Dredging works, upgrade of corridors and complementary works in two lakes and their tributaries (including dredging, the installation of signs and markers and aids to navigation in navigable waterways, and cartographic and hydrographic surveys)
- Construction of two river port terminals

PERCENTAGE PROGRESS OF THE INDIVIDUAL PROJECTS AND STAGE OF THE STRUCTURED PROJECT



STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

Regarding project Dredging of the Tacuarí River, dredging works in an area covering 50,000 m³ are planned for 2015.

Concerning project La Charqueada Port Terminal and Dredging of the Cebollati River, the firm holding the concession did not commence the works yet in spite of having all authorizations granted; therefore, the Uruguayan authorities are waiting for a new investor.

As for project Port Terminal and Dredging of Tacuarí, a private project having been granted a prior environmental authorization was submitted, and the land was regularized, which was a pending issue. The formalities concerned with the resolution for the concession of the port services are underway.

According to the provisional schedule of the works involved in project Dredging of Mirim Lake, works would commence by the end of September 2015.

For more information, visit www.iirsa.org/api27.asp

API 28

MOTEBIDO - CACEQUI RAILWAY CORRIDOR

Estimation completion date
November 2016

Brazil - Uruguay

Subsector: Rail

Estimated investment: US\$139,900,000

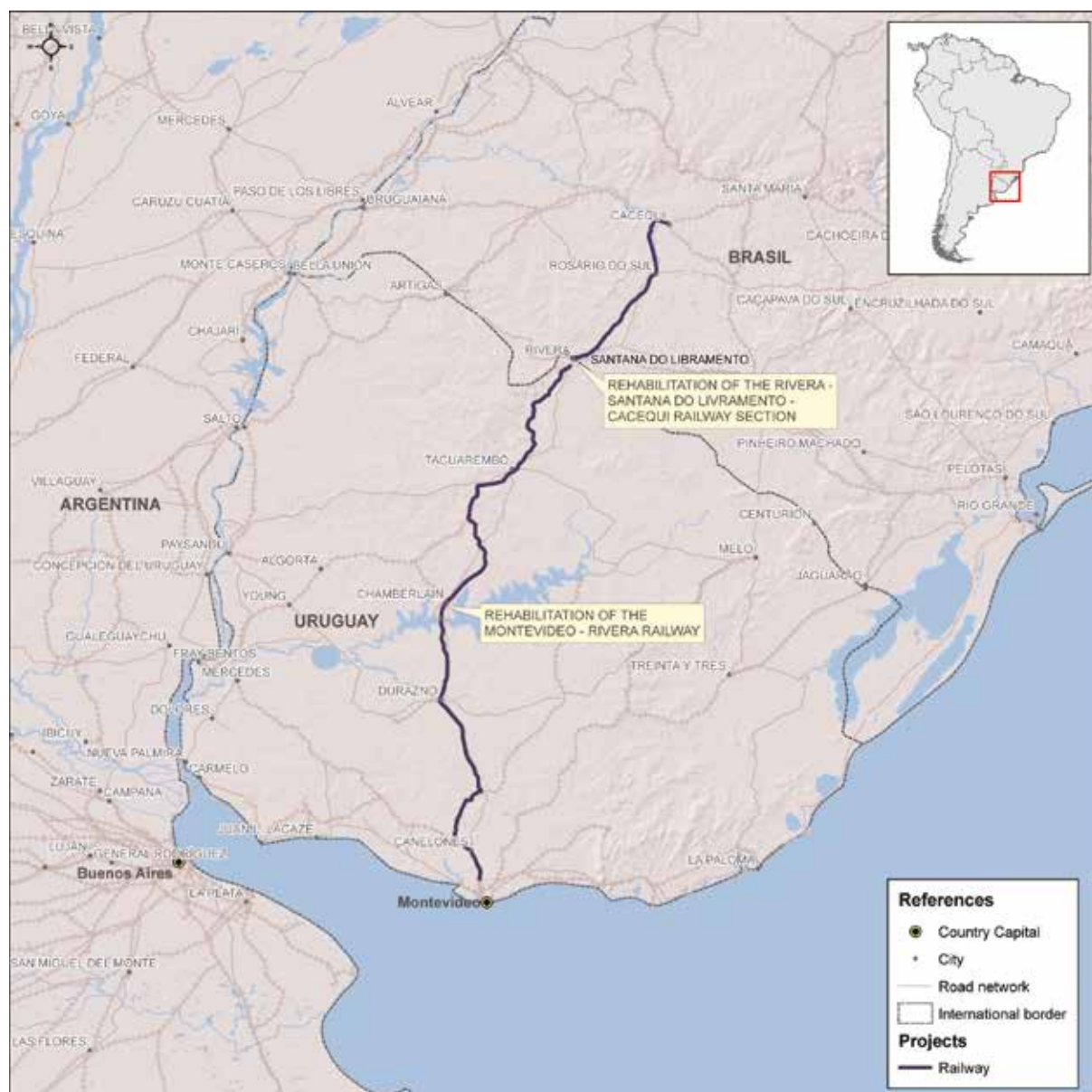
Type of financing: Public-private

Project stage: Execution

Life cycle stage and number of projects:

Execution: 1

Completed: 1





RATIONALE

This project has significant cross-border implications, and involves works in both Uruguay and Brazil, as it will connect the city of Montevideo (Uruguay) with the Rio Grande port (Brazil) and the southern and southeastern regions of Brazil by rail. Furthermore, it will strengthen regional connec-

tivity and create cross-border synergies between Uruguay and Brazil, enhancing regional production flows, activating and optimizing rail transportation, and opening up cargo transportation opportunities currently restricted to the road network.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC30	REHABILITATION OF THE MONTEVIDEO - RIVERA RAILWAY	G02		134.9	UY	Nov 30, 2016
MCC115	REHABILITATION OF THE RIVERA - SANTA-NA DO LIVRAMENTO - CACEQUI RAILWAY SECTION	G02		5.0	BR - UY	Dec 31, 2012

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Rehabilitation of 580 km of rails

THIS YEAR'S MAJOR DEVELOPMENTS

The second quarter of the works involved in project Rehabilitation of the Montevideo - Rivera Railway, which made 35% progress, was completed.

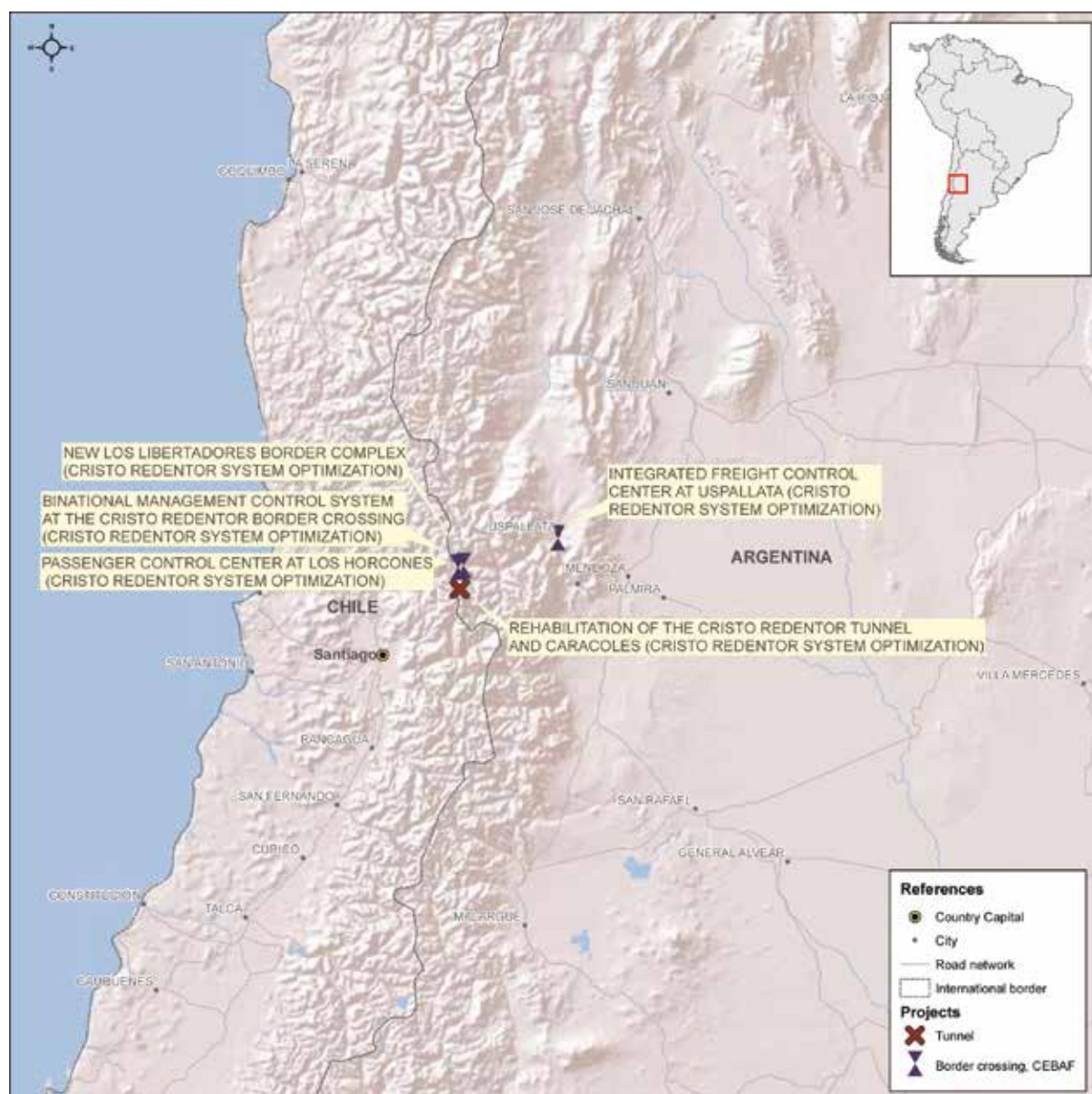
For more information, visit www.iirsa.org/api28.asp

OPTIMIZATION OF THE CRISTO REDENTOR BORDER CROSSING SYSTEM

Argentina - Chile

Subsectors: Border crossings, road
 Estimated investment: US\$272,000,000
 Type of financing: Public-private
 Project stage: Pre-execution

Life cycle stage and number of projects:
 Pre-execution: 4
 Execution: 1



RATIONALE

This structured project consists in a plan to improve the infrastructure as well as the technological and operational aspects involved in the operation of all the border building complexes and management stations that form part of the Cristo Redentor border crossing system. It is a systemic solution to the congestion problem posed for years by the growing traffic demand to the services provided by both countries in this connection.

This initiative considers all the aspects related to bilateral traffic, without seeing congestion as the

result of a single cause, and takes into account new concepts such as the following: the optimization of space by allocating different areas for different services depending on vehicle type, which prevents border control areas from being used for other activities and, thus, users from being delayed longer than necessary; the implementation of new technologies; the design of a model for the flow of people and vehicles in the control area; and the building of housing facilities for customs officers.

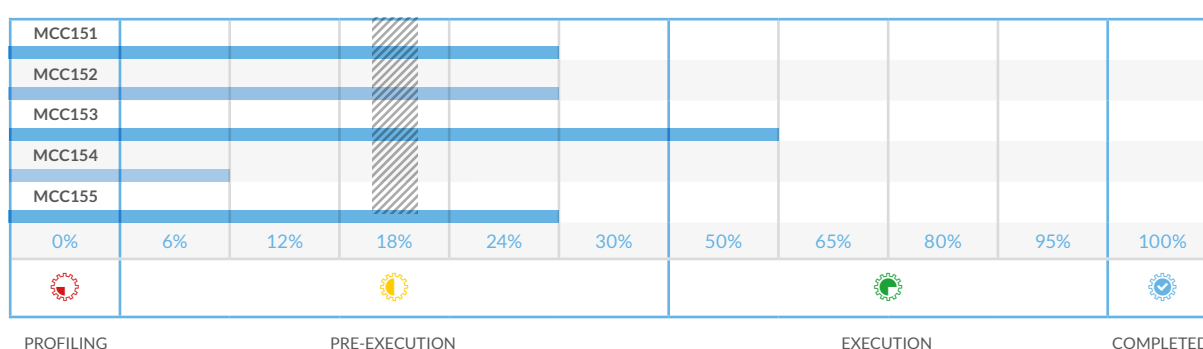
* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC151	INTEGRATED FREIGHT CONTROL CENTER AT USPALLATA (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		90.0	AR	Dec 31, 2017
MCC152	PASSENGER CONTROL CENTER AT LOS HORCONES (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		80.0	AR	Dec 31, 2017
MCC153	NEW LOS LIBERTADORES BORDER COMPLEX (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		84.0	CH	Jun 30, 2017
MCC154	REHABILITATION OF THE CRISTO REDENTOR TUNNEL AND CARACOL (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		4.0	AR - CH	Dec 31, 2018
MCC155	BINATIONAL MANAGEMENT CONTROL SYSTEM AT THE CRISTO REDENTOR BORDER CROSSING (CRISTO REDENTOR SYSTEM OPTIMIZATION)	3		14.0	AR - CH	Dec 31, 2018

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Optimization of two control centers, with an area of 47 ha and 20 ha, respectively
- Construction of a 32,000 m² border complex
- Rehabilitation of a binational tunnel
- Design of a management control system made up of interconnected management stations

PORCENTAJE DE AVANCE DE LOS PROYECTOS INDIVIDUALES Y ETAPA DEL STRUCTURED PROJECT



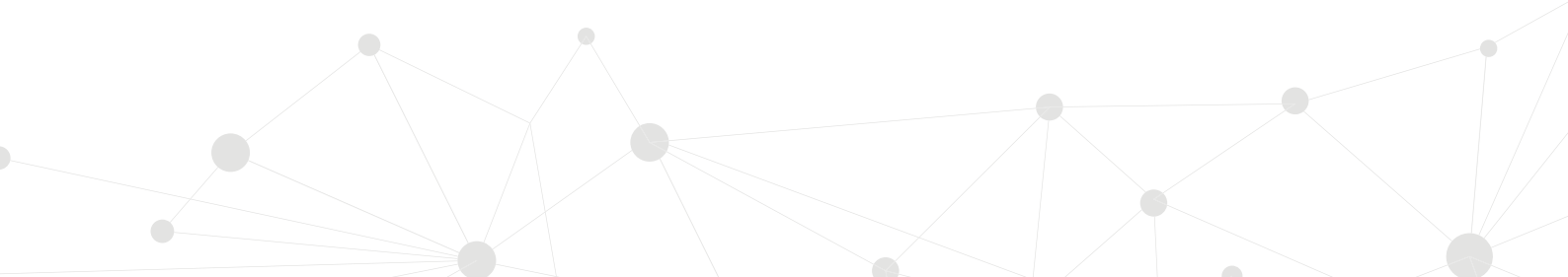
STRUCTURED PROJECT

THIS YEAR'S MAJOR DEVELOPMENTS

The relevant permits for project Integrated Freight Control Center at Uspallata, which made 6% progress, were granted.

The resources for the works involved in project New Los Libertadores Border Complex, which also made 6% progress, were secured.

For more information, visit www.iirsa.org/api29.asp





API 30

Estimation completion date-
December 2022

AGUA NEGRA BINATIONAL TUNNEL

Argentina - Chile

Subsector: Road

Estimated investment: US\$1,600,000,000

Type of financing: Public

Project stage: Pre-execution

Life cycle stage and number of projects:

Pre-execution: 1




RATIONALE

This project consists in the construction of a two-way tunnel at the Agua Negra border crossing between Chile and Argentina. Given its geographical location, this is an important regional integration point, as it provides a further connection from the central area of Argentina to the area of influence of the Coquimbo port in Chile, which encourages tourism and international trade among the countries that make up the MERCOSUR-Chile Hub. The alignment, with a nominal length of 13.8 km, would

offer a faster and safer route, open all year round. At the bilateral level, this project was analyzed within the framework of the Joint Technical Group and, later, by the Agua Negra Binational Entity or EBITAN, created pursuant to the Maipú Treaty on Integration and Cooperation signed by Argentina and Chile in 2009. Moreover, in February 2015, the Second Complementary Protocol to such Treaty, concerned with the Agua Negra Tunnel binational project, was approved by Argentine Law No. 27,124.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
MCC110	AGUA NEGRA BINATIONAL TUNNEL	G04		1,600.0	AR - CH	Dec 31, 2022

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a 13-km four-lane tunnel

THIS YEAR'S MAJOR DEVELOPMENTS

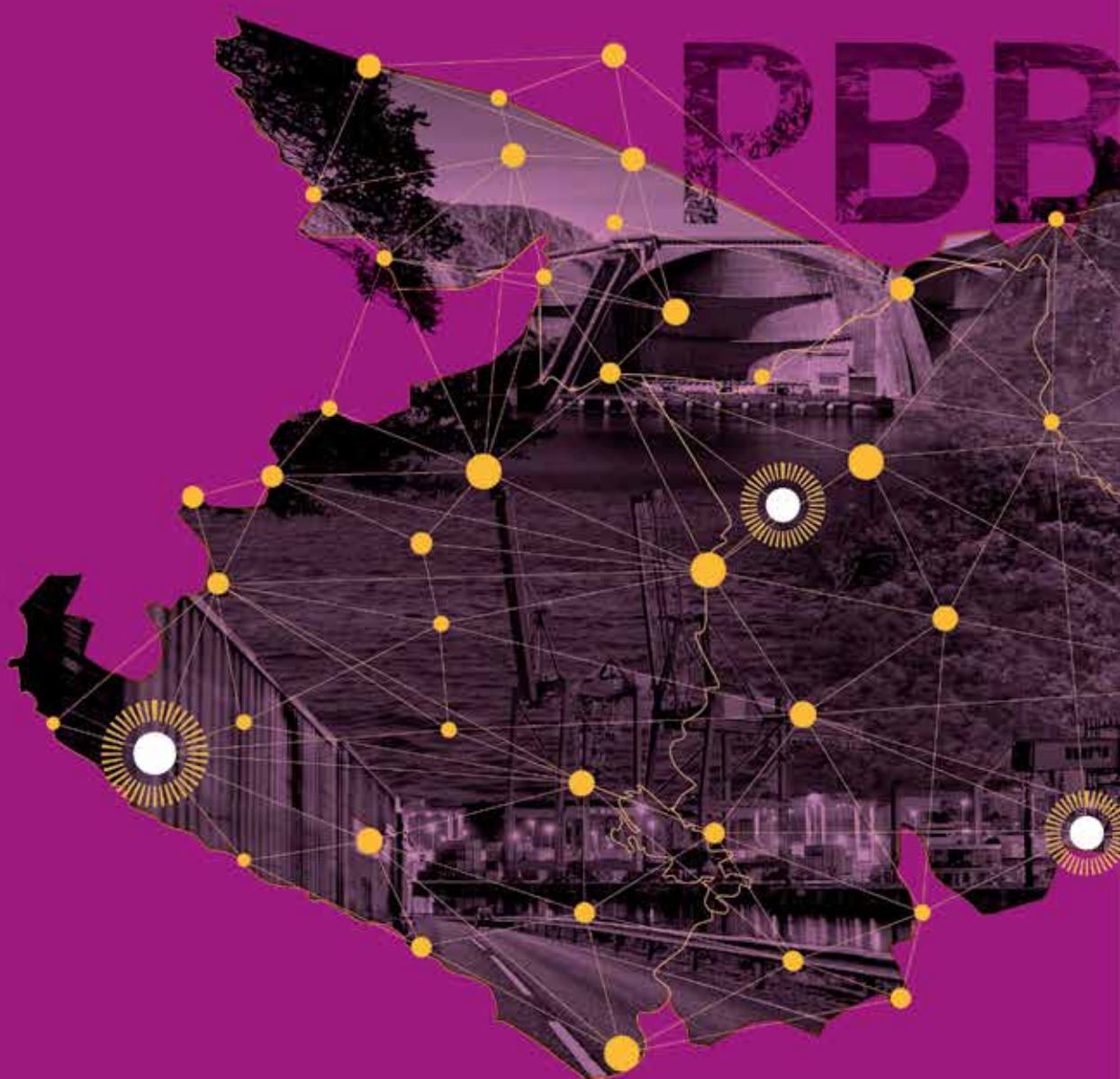
The Parliament of both countries approved the Second Complementary Protocol to the Maipú Treaty, concerned with the Agua Negra Tunnel binational project, authorizing the joint call for tender for the construction of the works.

For more information, visit www.iirsa.org/api30.asp

PBB

PERU BRAZIL BOLIVIA HUB

INTEGRATION AND DEVELOPMENT HUB



Population: 12,730,732 inhabitants
Density: 11 inh./km²
Area: 1,159,504 km²

GDP: US\$ 71,116 million

Services	77.9%
Industry	11.4%
Agriculture	5.8%
Mines and quarries	5.2%



BOLIVIA



BRAZIL



PERU

Estimated investment

* US\$ million

85.4



100%
National

1

Projects per Sector



Transport

1

85.4

Projects per Types of Financing



Public

1

85.4

US\$ million



Number of Projects



Projects per Subsector



STRUCTURED PROJECTS OF THE HUB

* US\$ million

Code	Name	Stage	Estimated Investment*	Countries	Individual Projects	Estimated Completion Date
31	PORTO VELHO - PERUVIAN COAST CONNECTION		85.4	BR - PE	1	Mar 2017

Presentation of the PERU-BRAZIL-BOLIVIA HUB

The Peru-Brazil-Bolivia Hub⁽¹⁾ runs along the Peruvian departments of Tacna, Moquegua, Arequipa, Apurímac, Cusco, Madre de Dios and Puno; the Bolivian departments of Pando, Beni and La Paz; and the Brazilian states of Acre and Rondônia.

The Hub covers 6% of the area of South America (1,159,504 km²), and is home to 3% of the South American population (12,730,732 inhabitants), in addition to being the second less densely populated of the Hubs involved in API, with 11 inhabitants per km², and accounting for 2% of the GDP of South America (US\$71,116 million).⁽²⁾



As regards infrastructure, the **road network** of the countries involved in the Peru-Brazil-Bolivia Hub is 1,742,580 km long, 11% of which are paved. The **rail network** has a length of 35,070 km. The **port system** includes six major ports, two of which handle more

than 1.5 million tons per year. The **airport system** has 19 airports, 11 of which are domestic. As for **electricity generation**, the countries involved in the Hub have an installed power of 132,326 MW, 91% of which are contributed by Brazil.

The countries involved in the Peru-Brazil-Bolivia Hub defined one API project for the purpose of consolidating connectivity in their territories. It is made up of one individual project from the COSIPLAN Portfolio, and amounts to an investment estimated at US\$85 million.

The Hub involves 28% of Bolivia's economy, 20% of Peru's economy, and 1% of Brazil's economy. In absolute terms, Peru contributes 57% to the Hub's aggregate GDP, followed by Brazil (30%), and Bolivia (14%).

The Hub shares some regions of its area of influence with the Amazon, Andean, and Central Interoceanic Hubs.

1 See "Caracterización Socio-Económica y Ambiental del Eje Perú-Brasil-Bolivia," COSIPLAN-IIRSA, 2015. www.iirsa.org/peru-brasil-bolivia.asp
2 At 2013 current prices.



API Projects

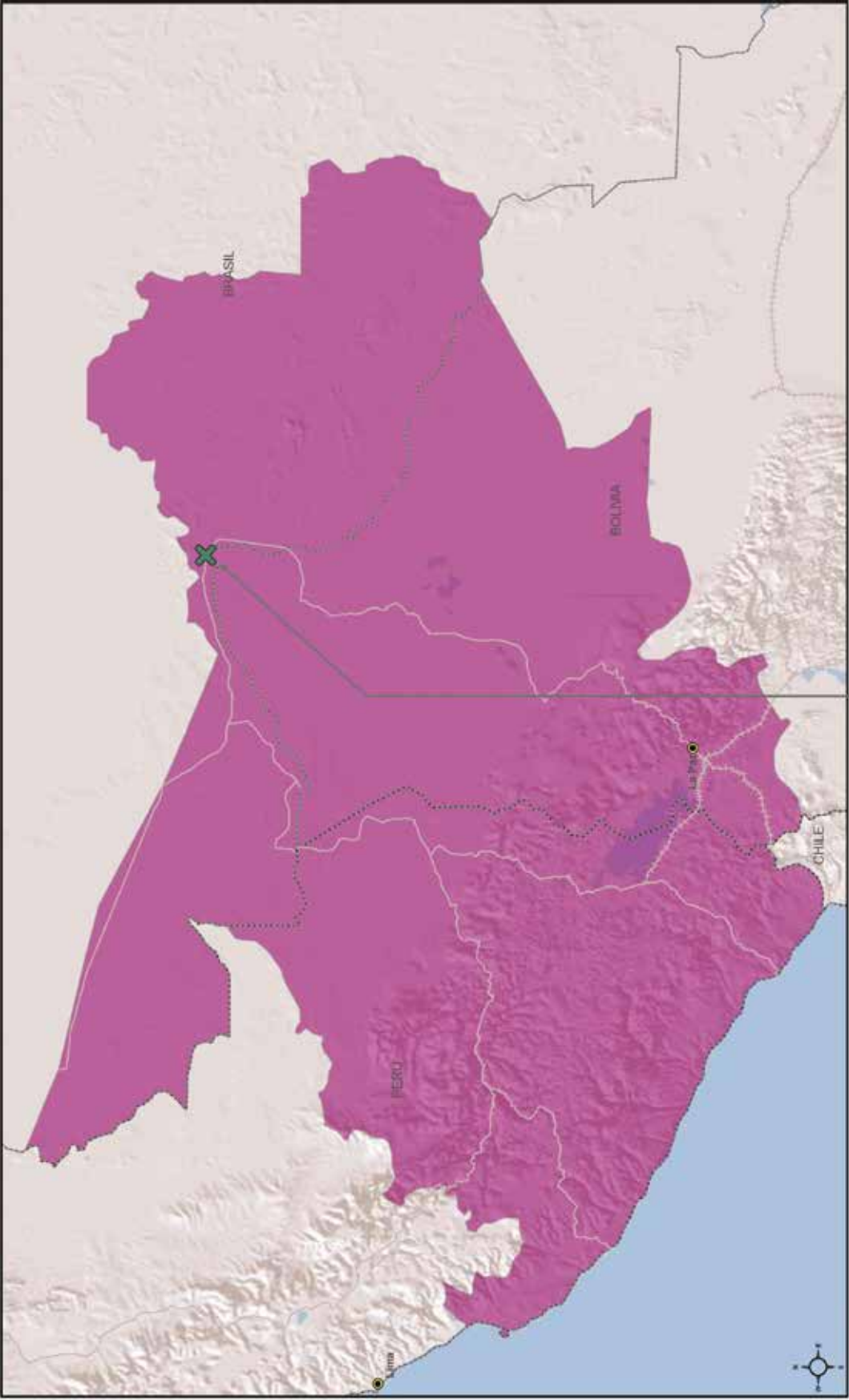
PERU-BRAZIL-BOLIVIA HUB

The Peru-Brazil-Bolivia is the only Hub with a single project in API.

The binational project will have a positive impact on the three countries involved in the Hub. Its purpose is to consolidate the road corridor that runs from Peru's coast on the Pacific to the Brazilian state of Acre through the construction of a 1-km long bridge over the Madeira river. This corridor also runs along Peru's border with Bolivia.

This project will strengthen cross-border (social, cultural, educational, tourism, economic, and trade) synergies through the development of logistics chains and production integration processes, fostering the internationalization of the micro- and small-sized enterprises located in the region. Fur-

thermore, at the local level, the project will contribute to reducing the vulnerability of border cities and towns and, overall, of the Acre state economy. At present, it is necessary to use draft boats or the like to cross the Madeira river.



PORTO VELHO - PERUVIAN
COAST CONNECTION

API PROJECTS IN THE PERU-BRAZIL-BOLIVIA HUB

* US\$ million

Porto Velho - Peruvian Coast Connection

Estimated Investment* | 85.4 Countries | BR - PE

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
PBB64	BRIDGE OVER THE MADEIRA RIVER IN ABUNÃ (BR-364/RO)	G02		85.4	BR	Mar 31, 2017

The estimated investment for the project is US\$85 million. The project, which is at the execution stage, the first quarter of its works being completed, is estimated to end in 2017.

TECHNICAL SPECIFICATIONS OF THE HUB'S PROJECT



ROAD SUBSECTOR

Construction of a 1,084-m long bridge

API 31

Estimation completion date
March 2017

PORTO VELHO PERUVIAN COAST CONNECTION

Argentina - Bolivia

Subsector: Road

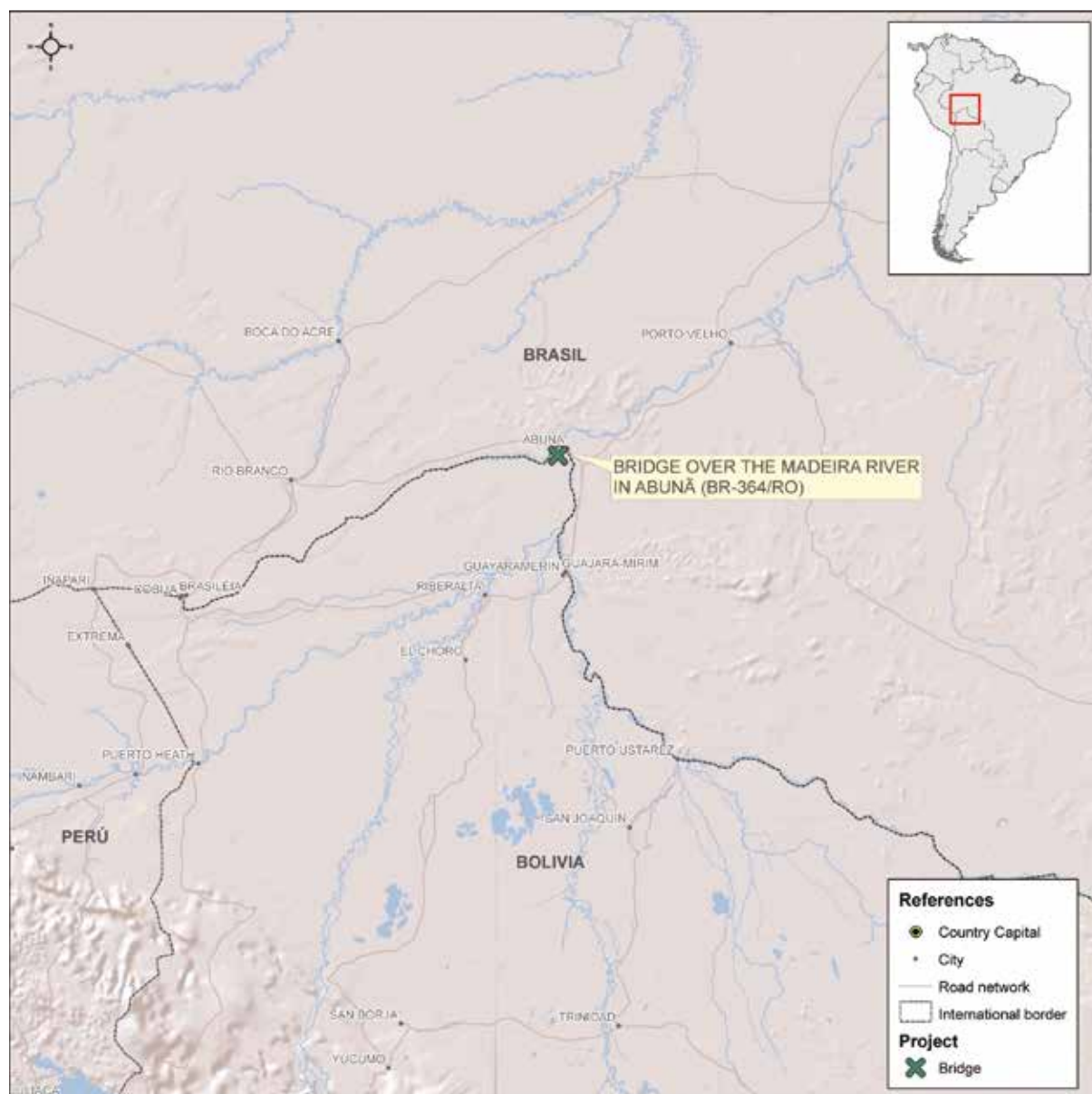
Estimated investment: US\$85,350,000

Type of financing: Public

Project stage: Execution

Life cycle stage and number of projects:

Execution: 1



RATIONALE

This structured project creates significant cross-border (social, cultural, educational, tourism, economic, and trade) synergies by strengthening regional connectivity networks, which coordinates and promotes the integration of Brazil and Peru. It also encourages important opportunities for the development of logistics chains and production integration processes, fostering the internationalization of the micro- and small-sized enterprises located in the region. Furthermore, at the local level, the project will contribute to reducing the vulnerability of border cities and towns and, overall, of the Acre state economy.

With the completion of the Southern Interoceanic Highway in Peru on July 15, 2011, the road connection between Peru and Brazil through the Acre state became a reality. However, this connection is interrupted in the Rondônia state, since in order to get to other Brazilian localities either in the direction of Manaus, through Porto Velho and the Madeira waterway, or in the direction of the central-western and southeastern regions, it is necessary to cross the Madeira river in the small village of Abunã using a draft boat, which affects transport efficiency.

* US\$ million

Code	Individual Projects	Group	Stage	Estimated Investment*	Countries	Estimated Completion Date
PBB64	BRIDGE OVER THE MADEIRA RIVER IN ABUNÃ (BR-364/RO)	G02		85.4	BR	Mar 31, 2017

STRUCTURED PROJECT TECHNICAL SPECIFICATIONS

- Construction of a 1,084-m long bridge

THIS YEAR'S MAJOR DEVELOPMENTS

The project made 20% progress, and the first quarter of its works were completed.

For more information, visit www.iirsa.org/api31.asp



Chapter 4

The Territory and Integration Infrastructure Planning

For more than a decade, the South American governments have been making a major effort of cooperation and dialogue with the purpose of securing a greater and more sustainable physical integration in the region. The work undertaken by IIRSA in the first ten years and by COSIPLAN since 2011 focuses on infrastructure project planning as a key component for attaining the physical integration and the development of the South American territory.

The distinctive feature of this process has been infrastructure planning in the transportation, energy and communications sectors with a regional perspective. With a focus on the territory, this process is intended to enhance the competitiveness and complementariness of the economies of the region, contribute to reducing regional disparities and social inequality, and improve life expectancy and quality of life in every country and in the region as a whole.

In order to frame infrastructure planning, theoretical and practical tools linking the territory and infrastructure were used, which helped set up the **Integration Infrastructure Project Portfolio**. This was possible thanks to the development and application of the **Indicative Territorial Planning Methodology**. This methodology is based on the identification of **Integration and Development Hubs**, which organize the South American territory and structure the portfolio.

4.1. The Integration and Development Hubs

An Integration and Development Hub⁽¹⁾ is a multinational territorial space involving specific natural resources, human settlements, production areas and logistics services. Transportation, energy and communications infrastructure serves as its link, as it facilitates the flow of people, goods and services, and information within this territorial space and from/to the rest of the world.

The Hubs and their areas of influence have been defined considering the following characteristics:

- a. Geographical coverage of countries and regions: The Hubs group territories that allow the presence and participation of all twelve South American countries in the physical integration process. Their area of influence covers regions with different population densities, including the main population concentrations.
- b. Identification of both existing and potential trade flows: The Hubs are areas that contain the main intraregional trade flows —following historical trade patterns—, enabled by the infrastructure in place, and also consider the production potential of the region.
- c. Investments in the areas of influence of the Hubs: Account has been taken of the volume of the investments recently made, of those being disbursed, and also of the funds planned to be invested in the short run within the area of influence of each Hub.
- d. Interest and participation of the local population and the production sectors in territorial development, logistics projects, and infrastructure.
- e. Social and environmental sustainability: In light of the diversity of ecosystems in each region, forest reserves, highly fragile ecological areas, as well as the rights and opportunities of local population have been identified.

¹ For more information visit <http://www.iirsa.org/eid.asp>

Ten Integration and Development Hubs,⁽²⁾ with areas of influence that may be superimposed on one another, were thus defined:



Once the geographic area of the Hubs was established following the above-mentioned criteria, a key aspect was the link between them and infrastructure. On the basis of the economic, social and environmental characterization of the area of influence of the Hubs, a direct coordination of the projects and their respective sites is sought through the Indicative Territorial Planning Methodology.

The development of this Methodology was inspired by the conviction that investments and projects have a substantial impact on the economy and the environment of the region and contribute to increasing social development, while creating new economic opportunities for the local population.

² The Indicative Territorial Planning Methodology has not been applied to the Southern Andean Hub yet.

4.2 The Indicative Territorial Planning Methodology

The process of application of the Indicative Territorial Planning Methodology⁽³⁾ began with the launch of IIRSA. This work was carried out at the meetings of the Executive Technical Groups (GTEs) in a participative working environment that involved the twelve South American countries, and it took place in two phases.

The First Stage of the application of the Indicative Territorial Planning Methodology took place between 2003 and 2004, and enabled the set up and structuring of the Project Portfolio with a regional vision integrating the national visions.

The COSIPLAN Project Portfolio is a set of high-impact works for the integration and socioeconomic development of the region. It is made up of transport, energy and communications projects that promote regional connectivity and create sustainable economic and social development in South America.

This planning process was performed in two phases. In the first phase, based on the concept of synergies, the Hubs' project groups, their anchor projects and strategic functions were defined.

PROJECT Hubs

A project group is a set of interdependent projects in a given geoeconomic space having synergetic effects upon sustainable development. A project group enables the capitalization of the benefits of a set of investments, which are greater than the aggregate effects of its individual component projects. The process is territory-based and takes into account the location of projects, their relationships with the prevailing or potential economic activities, and related environmental and social aspects.

Strategic Function

The effects of a project group constitute its strategic function, i.e. its common objective and/or main benefits for both the integration and the regional development of the geoeconomic spaces involved. The strategic function has to do with the direct linkage of the project group to the specific territorial aspects of its area of influence and to the strategic vision of the pertinent Hub.

Anchor Projects

An anchor project gives meaning to the grouping process and makes synergies viable. It is identified as the bottleneck or missing link in the infrastructure network hindering the optimum use of the combined effects of the group for the sake of economic and social development. It is not necessarily the largest-sized project or the one with the highest estimated investment amount.

Hinge Projects

A hinge project articulates two or more Hubs, plays a role in more than one Hub, or articulates two or more project groups within one Hub.

³ For more information, visit <http://www.iirsa.org/mpti.asp>

The second phase consisted in defining a structure of factors of analysis to grasp the attributes of each project group in terms of their impact on regional integration and development and their feasibility conditions for their implementation. On the basis of these two dimensions, an assessment of the project groups was conducted in order to establish investment priorities.

The Second Stage of the application of the Indicative Territorial Planning Methodology (2005-2010) was launched in 2006 with the approval of an action plan designed to take a qualitative leap forward in the Project Portfolio and territorial planning process. Its objectives were the following:

- Coordinate and incorporate economic, social and environmental development initiatives and policies into the Integration and Development Hubs that were complementary to the integration infrastructure projects identified;
- Enhance the technical support of the Portfolio project groups by gaining greater knowledge about the economic, social and environmental situation of the territory and the likely impact of the infrastructure projects on sustainable development (potential for production integration, socio-environmental impacts, etc.);
- Improve the capacity for formulating, preparing and assessing integration projects in order to strengthen their inherent quality.

In this regard, training workshops on physical integration topics targeted for the national teams were held⁽⁴⁾ and non-reimbursable funds for pre-investment studies were created.⁽⁵⁾ Likewise, new territorial planning methodologies⁽⁶⁾ and analytical tools⁽⁷⁾ were developed, particularly the following: the Production Integration and Logistics (IPrLg) Methodology,⁽⁸⁾ the Strategic Environmental and Social Evaluation (EASE) Methodology,⁽⁹⁾ and the Project Portfolio Database (at present, the COSIPLAN Project Information System – PIS).

With the creation of COSIPLAN, this work is given continuity and the use and dissemination of these tools and methodologies are broadened. One of the objectives of the Strategic Action Plan 2012-2022 (PAE) is “to improve, disseminate and implement Territorial Planning methodologies and tools.”

Thus, the activities underway make further progress and new instruments are introduced to strengthen and enrich the South American infrastructure sustainable planning process, such as the Integration Territorial Programs,⁽¹⁰⁾ the Methodology for the Incorporation of Disaster Risk Management in Regional Integration Infrastructure Projects,⁽¹¹⁾ the COSIPLAN Project Information System (PIS),⁽¹²⁾ and the COSIPLAN Geo-referenced Information System (GIS).⁽¹³⁾

The methodologies and tools mentioned are incorporated into the PAE; furthermore, the COSIPLAN annual work plans include activities to work on their enhancement and application.

4 Training Workshops on Physical Integration: (i) Course on Integration and Development of Regional Infrastructure in South America, October 2008 (<http://www.iirsa.org/Event/Detail?id=122>); and (ii) Training Workshop on Integration and Development of South American Regional Infrastructure, September 2009 (<http://www.iirsa.org/Event/Detail?id=136>).

5 The IDB, CAF and FONPLATA earmarked specific line items for pre-investment studies for physical integration projects, with special emphasis on the Portfolio projects.

6 These methodologies aim at incorporating environmental, social, production integration, logistics, disaster risk management, legal and regulatory aspects, among others, to the project planning process.

7 These tools are intended to support and facilitate the analysis of the territory through the standardization of project information.

8 For more information, visit <http://www.iirsa.org/iprlg.asp>

9 For more information, visit <http://www.iirsa.org/ease.asp>

10 For more information, visit <http://www.iirsa.org/pti.asp>

11 For more information, visit <http://www.iirsa.org/grd.asp>

12 For more information, visit <http://www.iirsa.org/sip.asp>

13 For more information, visit <http://www.iirsa.org/sig.asp>

Integration Territorial Programs (PTIs)

The objective of the PTIs is to identify and implement a set of actions complementing the API projects in order to leverage their impact on the development of the territories involved, taking into account economic, social and environmental aspects.

Strategic Environmental and Social Evaluation (EASE) Methodology

The purpose of this methodology is to identify any complementary action that might enhance —from a social, environmental and cultural point of view— the positive effects of projects and minimize their negative impact. The unit of analysis of this methodology is the area of influence of the Portfolio project groups and/or of the API projects.

Production Integration and Logistics (IPrLg) Methodology

The objective of this methodology is to assess the potential for production integration and for the development of logistics in the area of influence of a project group or of an API project. Its final outcome helps articulate a set of actions within the framework of a logic of interdependent relations in order to leverage the impact of infrastructure on the development of these activities.

Methodology for the Incorporation of Disaster Risk Management (DRM)

The objective of this methodology is to prevent or reduce the effects of natural disasters (earthquakes, tsunamis, floods, and volcanic eruptions) affecting South American infrastructure, and to devise plans for connectivity and public infrastructure recovery.

With the creation of API in 2011, the notion that interventions in the territory go beyond the construction of physical works was strengthened, in keeping with the objectives of UNASUR.

Thus, there is an acknowledged need to make headway with other aspects of the territorial planning process in order to enhance the environmental management of the territory, add production integration and logistics components, harmonize regulatory and legal aspects, and improve the local impact of infrastructure.

API is made up of a limited number of strategic projects with a high impact on the physical integration and the socioeconomic development of the region. The components of this Agenda are “structured projects,” which are projects that strengthen physical connectivity networks that are regional in scope, and are located in the different Integration and Development Hubs. They are made up of one or more projects within the COSIPLAN Project Portfolio that are known, for the purposes of this Agenda, as “individual projects.”

In order to have indicators showing the status of the projects and their evolution over time, the countries worked on the design of a Methodology for Scheduling the Life Cycle of the API individual projects. Furthermore, on the basis of this methodology, a Continuous Monitoring System (CMS), which is part of the COSIPLAN Project Information System (PIS), was developed. The purpose of both instruments is to monitor project progress and facilitate decision making by the competent authorities in order to achieve project implementation.

4.3 The COSIPLAN Project Information System

The Project Information System (PIS) is the tool to support integration infrastructure planning and analysis containing systematized information on the COSIPLAN projects.

This instrument enables the user to access the information on each project file (general data, scope, cost and financing, status, etc.) and create reports based on the query criteria selected.

The information in each project file is kept updated by one responsible person per country or countries, depending on the geographical scope of the projects.⁽¹⁴⁾ Annual progress reports are prepared on the basis of the information in the system.

The first version of the Project Database was built in 2004. Later, between 2007 and 2010, important improvements were introduced into this IT tool, and the project files were regularly reviewed for information consistency.

In 2011, the countries approved the Integration Priority Project Agenda (API), which is made up of a subset of COSIPLAN Portfolio projects. In order to record the progress made in the implementation of the API projects, it became necessary to add two new components associated with the Project Database: (i) a module to consolidate the information on the API projects, and (ii) a Continuous Monitoring System (CMS) for these projects.

To incorporate these new instruments, technical and programming adjustments had to be made to the Project Database platform in place. In this context, in 2013,⁽¹⁵⁾ the COSIPLAN Project Information System⁽¹⁶⁾ was developed, made up of three components connected online since 2013, in order to both access and upload the information.

COSIPLAN Project Portfolio Database

It contains the files of each Portfolio project (known as “individual projects” for the purposes of the System) with general information organized in modules. This database enables the user to make queries and create reports based on the query criteria selected. Each project file is kept updated by one responsible person per country or countries, depending on the geographical scope of the project.

API Project Database

This contains the files of the 31 API structured projects. The information in these files is organized similarly to the data in the individual project files. Both the structured and individual project files are linked to one another. Furthermore, the API Project Database includes a series of reports on the Agenda.

Continuous Monitoring System (CMS)

The CMS is a module, in the project files, created on the basis of the Methodology for Scheduling the Life Cycle of Projects, a tool that follows up on the progress of the projects throughout their life cycle. The module controls the progress of each COSIPLAN Portfolio project as well as of the API structured projects by monitoring the individual projects that make them up.

As mentioned in the paragraph above, with the purpose of recording the status and progress over time of the API projects, the Life Cycle Scheduling Methodology for the API individual projects⁽¹⁷⁾ was developed between 2012 and 2013, which is the methodology on which the CMS is based.

¹⁴ National, binational or multinational projects.

¹⁵ GTE Meeting on API and CMS, August 27 and 28, 2013, Rio de Janeiro, Brazil, <http://www.iirsa.org/Event/Detail?Id=227>.

¹⁶ COSIPLAN Project Information System, www.iirsa.org/PROJECTos.

¹⁷ For more information on the development of the API Project Life Cycle Scheduling Methodology, see the “CMS Progress Report 2012” at <http://www.iirsa.org/Document/Detail?Id=3416>, and “API Progress Report 2013” at <http://www.iirsa.org/Document/Detail?Id=3718>.

The Life Cycle Scheduling Methodology is based on the four project life cycle stages agreed upon by the governments in 2008: profiling, pre-execution, execution and completed.

Given the technical characteristics of the projects and the works involved, the pre-execution and execution stages of a project are the ones that take up most of the time in the project life cycle. This is why both stages were further broken down, in order to see the progress of a project more accurately.

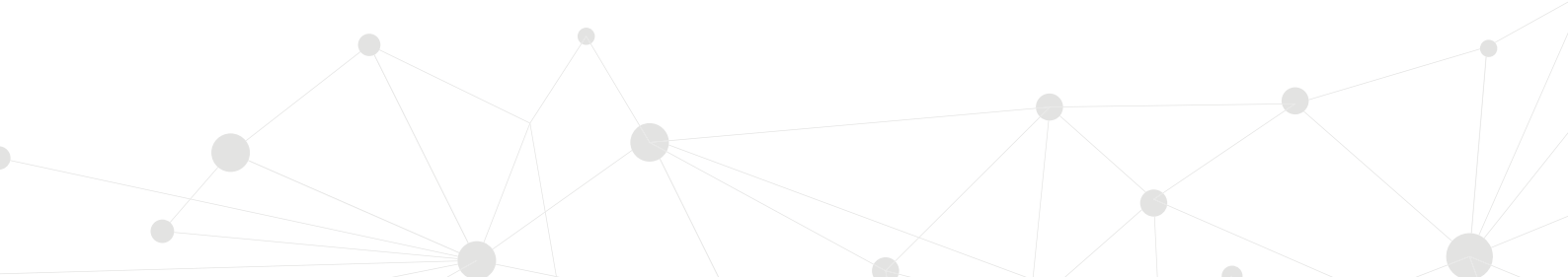
PROJECT LIFE CYCLE SCHEDULING

INDIVIDUAL PROJECTS STAGES AND SUB-STAGES										
PROFILING 0%	PRE-EXECUTION 30%					EXECUTION 65%				CONCLUDED 5%
0% Initial Status	6% Resources for Studies	12% Studies Underway	18% Approved Studies	24% Permits Granted	30% Resources of Work	50% 1° Quarter of Work	65% 2° Quarter of Work	80% 3° Quarter of Work	95% 4° Quarter of Work	100% Work Handed Over

- **PROFILING:** This is the starting point in the project life cycle.
- **PRE-EXECUTION:** Normally, this stage involves studies (pre-feasibility, feasibility and investment), permits of various kinds (environmental, jurisdictional and others), and resource mobilization from various sources to finance the works and other actions that precede the execution of the physical works. Five main milestones are identified:
 - **Resources for studies:** This sub-stage starts with the formalities required to secure the financial resources needed to carry out the studies, and is deemed completed when such resources are actually available and all the institutional arrangements for the studies to begin (e.g. awarding them through tender processes) have been made.
 - **Studies underway:** This sub-stage is deemed to start when any pre-execution study has been launched, and the project will be recorded as such until completion of the study representing the highest level required by the project concerned.
 - **Approved studies:** Once the studies have been completed, the project passes on to this sub-stage, and will remain at it until the studies are approved by the relevant authorities.
 - **Permits granted:** After the studies are approved, the project must comply with institutional requirements and regulations, which take the form of permits and authorizations that may be of different nature and impose different requirements and deadlines. Thus, for example, different kinds of environmental licenses for engineering works and installation of the work site may be required. Furthermore, submitting the background information required for a permit to be granted may demand some degree of interaction with the studies conducted in the previous sub-stage. This sub-stage will be deemed completed when all permits have been granted and/or all the institutional formalities required by the project have been carried out.
 - **Resources for works:** This sub-stage involves securing the financial resources needed to carry out the works and actions proposed in the project. It will be deemed completed when the project has been allocated the financial resources for executing the works and the required institutional formalities for such purpose have been carried out.
- **EXECUTION:** This stage has been broken down into quarters of works according to the time frames involved, the costs required or progress milestones, depending on the project concerned.
- **COMPLETED:** A project is deemed completed when the finished works have been handed over to the relevant authorities, and are open and functioning.

In 2014, the countries carried out specific actions intended to enhance the quality and standardization of the project data, and to better communicate their progress and outcomes. This resulted in the following actions leading to modifications and new tasks in the PIS: (i) organization of the information fields in the project files; (ii) specific descriptors by sector, subsector and type of works; (iii) results indicators for the projects already completed; (iv) application of the Continuous Monitoring System (CMS) to all the Portfolio projects; and (v) API progress indicators.

In 2015, small adjustments were made to the PIS to improve the performance of the new elements developed the previous year. An advanced search option with new search filters was created, including a new criteria selection methodology. Some information fields in the project files were improved, and new fields were added, such as “Risks and Hazards” and “Estimated Completion Date.” Several reports were enhanced and created. The charts of the API structured projects were modified, and the API Structured Projects CMS was opened to public access.



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WEBSITES

Initiative for the Integration of Regional Infrastructure in South America – IIRSA

www.iirsa.org

COSIPLAN Project Information System

www.iirsa.org/PROJECTos

ACRONYMS AND ABBREVIATIONS

AMA	Amazon Hub
AND	Andean Hub
API	Integration Priority Project Agenda
AR	Argentina
BO	Bolivia
BR	Brazil
CAF	Development Bank of Latin America
CAP	Capricorn Hub
CCT	Technical Coordination Committee
CEBAF	Binational Border Service Center
CENAF	National Border Service Center
CH	Chile
CMS	Continuous Monitoring System
CO	Colombia
COSIPLAN	South American Infrastructure and Planning Council
DRM	Disaster Risk Management
EASE	Strategic Environmental and Social Evaluation
EC	Ecuador
FONPLATA	Financial Fund for the Development of the Plata Basin
GDP	Gross Domestic Product
GTE	Executive Technical Group
GU	Guyana
GUY	Guianese Shield Hub
HPP	Paraguay-Paraná Waterway Hub
IDB	Inter-American Development Bank
IIRSA	Initiative for the Integration of Regional Infrastructure in South America
IOC	Central Interoceanic Hub
IPrLG	Production Integration and Logistics
MCC	MERCOSUR-Chile Hub
MERCOSUR	Southern Common Market
PAE	Strategic Action Plan
PBB	Peru-Brazil-Bolivia Hub
PIS	Project Information System
PTI	Integration Territorial Program
PY	Paraguay
UNASUR	Union of South American Nations
UY	Uruguay
VE	Venezuela
YPFB	Yacimientos Petrolíferos Fiscales Bolivianos (Bolivian State-owned oil company)







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