

Land Border Crossings as Spaces for Regional Integration and Development

Executive Summary

Infrastructure
in the Development
of Latin America
and the Caribbean

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DEVELOPMENT BANK
OF LATIN AMERICA
AND THE CARIBBEAN

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Executive Summary



Physical connectivity and regional integration are essential cornerstones for promoting economic and social development in the countries of Latin America and the Caribbean (LAC).

Border areas and land border crossings are of particular interest for regional integration, as they present numerous challenges and opportunities for strengthening ties between neighboring countries and for the joint development of cross-border strategies and projects. Three key activities occur through land border crossings: the transportation of goods, the movement of people for various purposes, and the development of urban areas near the border.

Although the countries of Latin America and the Caribbean have made progress in terms of regional integration, such as the significant reduction of tariffs and non-tariff barriers, important challenges remain. This is exemplified by the fact that LAC countries have relatively low levels of intraregional trade, despite the small size of many of their economies and their geographic proximity, which could, in theory, encourage greater trade among them (Sanguinetti et al., 2021).

In this respect, CAF —the Development Bank of Latin America and the Caribbean— has been promoting regional integration both through the implementation of projects and knowledge production. In terms of projects, the Integrated Border Management Program (PROGIF) stands out, together with methodologies for developing roadmaps in cross-border territories, which propose the adoption of a comprehensive approach to border management as a central component in driving productivity ecosystems. With this approach, initiatives have been implemented in several border areas, such as the southeast of Mexico, the Colombia-Venezuela border, and the Argentina-Paraguay

border, among others. Regarding knowledge generation, the 2021 *Economy and Development Report* assessed regional integration, emphasizing transport infrastructure and border costs as determining factors of the high costs of trade (Sanguinetti et al., 2021).

In this context, the current edition of the *Infrastructure in the Development of Latin America and the Caribbean (IDEAL)* report examines the role of land border crossings in regional integration. In particular, it emphasizes the infrastructure sectors associated with border crossings, notably road and transport infrastructure, as well as electricity, water, and telecommunications infrastructure, which enable the proper functioning of these crossings. Together with other services in the surrounding areas, such as education, healthcare, hospitality infrastructure, these elements contribute to the socioeconomic development of the regions. This report is supported by four case studies to deepen the analysis: the border system of Cúcuta/Villa del Rosario-San Antonio del Táchira/Pedro María Ureña (Steer, 2023a), the Mesoamerica corridor (Steer, 2023b), the border crossings forming the triple border between Argentina, Brazil, and Paraguay (CAF and Mcrit, 2024), and selected border crossings connecting Chile, Peru, Bolivia, and Brazil (Álvarez et al., 2023).

The challenge of land border crossings

Land border crossings are locations authorized by national governments for the movement of people and goods between neighboring countries, serving as critical components in regional integration processes. These crossings are located at the geographical boundaries of countries, often hosting urban areas of varying geographic scope, depending on the size of the territories, their socioeconomic development, and the proximity and connection between neighboring countries. The threefold dynamic at border crossings— the transportation of goods, the movement of people, and the development of border urban areas—makes it especially important to study them from a holistic perspective.

Trade, migration, and local socioeconomic development: The role of land border crossings

Movement of goods

Land border crossings in Latin America and the Caribbean (LAC) play a crucial role in intraregional trade. In 2017, 46.4% of intraregional trade in South America occurred via land routes using border crossings, and this percentage is even higher when considering trade between neighboring countries. An example of this are the exports from El Salvador to Nicaragua, where 99% of the FOB¹ value of exports correspond to goods transported by road, as well as exports from Brazil to Argentina (85%), Bolivia to Peru (75%), Peru to Colombia (56%), Mexico to Guatemala (55%), and Bolivia to Chile (46%) rely on land transportation, among others (UNCTAD, n.d., based on 2016 data).

As a result of this situation, the operation of land border crossings and their associated

procedures have an impact on the logistical costs of trade. Specifically, border compliance, defined as the process through which all required documentation is presented at the border, including customs regulations, mandatory inspections, and the handling of goods at the crossings, is one of the main determinants of the time associated with trade. It accounts for between 31% and 64% of the time for exports, and between 36% and 59% for imports, depending on the country (see Graph 1).

Movement of people

Land border crossings also facilitate the movement of people between neighboring countries for various reasons, such as short-term travel (commuting), migration, and tourism. In the case of commuting, border areas experience short-term movements (typically daily or weekly) that do not aim for permanent settlement in the other country. Instead, these movements are motivated by work, education, healthcare, or supply purposes. Generally, by agreement between border territories, these movements are either not controlled or are subject to special permits that ease circulation.

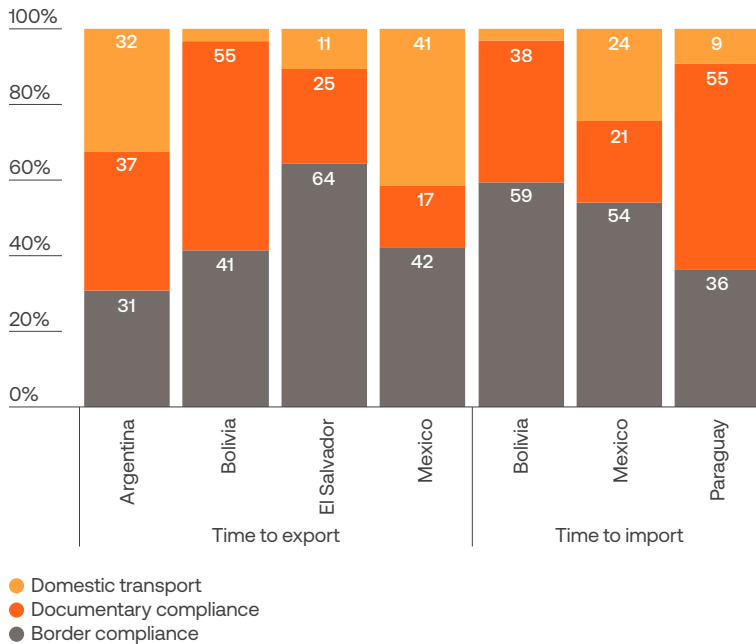
In the case of migration, people cross land border crossings to leave their country of origin and settle in a new destination. This trend intensified in the region between 2000 and 2020, with official records showing an increase in annual emigrants from 21.6 million to 38.8 million (IDB, 2022).

Finally, tourism differs significantly from the previously mentioned dynamics, as in this case, travel occurs for a set period of time, after which the tourist or excursionist returns to their country of origin. The existence and promotion of tourist corridors promote such movements in the region.

¹ This English acronym, Free On Board (FOB), refers to the price of the goods, with all expenses, duties, taxes, and risks borne by the seller until the goods are loaded onto the ship. It does not include the cost of maritime freight.

Graph 1
Performance of each procedure in the time to export and import by land in 2021

Source: Prepared by the author based on data from operations at land border crossings reported by the World Bank (2021).



Border areas

The location of border areas and the movement of people and goods through crossings generate dynamics that can transform a border space into a cross-border space. In other words, these areas become spaces that transcend borders in economic, political, social, cultural, productive, financial, physical, and digital realms, where the border itself becomes a resource to enhance development opportunities. In this context, local economies often develop around land border crossings, providing services to people, businesses, vehicles, and goods passing through. These economies may operate formally or informally and they may address various needs associated with waiting times and border crossing processes. On the other hand, it is important to note that the peripheral nature of some border territories, their limited institutional development, and their distance from

centralized political powers have contributed to their becoming hotspots for organized crime and other illegal activities (Rías and Gaitán, 2019).

Land Border Crossings in Latin America and the Caribbean

In Latin America and the Caribbean (LAC), there are a total of 113 formal land border crossings, 86 of which belong to South America, and the remaining 27 to Mesoamerica² (see Figure 1).

Following existing literature and Steer (2023c), these border crossings are classified in this report according to their geographical location and the linear distance between them and

² This information comes from Steer (2023c), which lists a total of 125 border crossings (12 of which are river crossings). It is important to note that the list of 113 land border crossings is not exhaustive, as there are other, less significant crossings that have not been taken into consideration.

the bordering territories, into the following categories of territorial distribution: merged conurbations, delineated conurbations, proximity of one or both territories, medium distance, and no urbanization. Based on the presence of migration control, security, and customs checkpoints, they are also categorized into crossings with high institutional capacity (presence of all three institutions) and medium-low institutional capacity (absence of at least one institution). Finally, depending on the intensity of the flow of goods and people, they are classified as crossings of high, medium, or low importance. In addition, the report makes other relevant distinctions about these areas,

such as population size and the compactness of the border territories involved.

Based on these classifications, it is observed that most of the crossings correspond to a situation of proximity between cross-border territories (including conurbations). Regarding the movement of goods and people and the level of institutionalization, 35 of the crossings are identified as highly important, and 89 have a high institutional presence. On the other hand, there are 20 crossings considered of medium or high importance, but with a medium-low level of institutional development (see Table 1).

Figure 1
Land border crossings in Latin America and the Caribbean

Source: Steer (2023c).





Table 1
Classification of selected border crossings by territorial distribution of border areas, importance of the crossings, and their level of institutionalization

Source: Own elaboration based on Steer (2023c) and satellite visualizations from Google Maps.

Category of territorial distribution of the territories	High presence of institutions			Medium-low presence of institutions			Total
	High importance	Medium importance	Low importance	High importance	Medium importance	Low importance	
Merged conurbation	2	3		2	1		8
Delimited conurbation	7	5	1	1			14
Near both territories	13	3	6	4	10	2	38
Near a territory	3	4	3	1	1	2	14
Medium distance	1	3	17				21
No urbanization	1	1	16				18
Total	27	19	43	8	12	4	113



Border crossings addressed in the report

The varying levels of development of border crossings and territories in Latin America and the Caribbean (LAC), along with their geographical diversity, highlight the importance of conducting case-by-case studies to understand their characteristics, gaps, and challenges within the framework of regional integration. For this reason, this report focuses on four groups of land border crossings: The

border system of Cúcuta/Villa del Rosario-San Antonio del Táchira/Pedro María Ureña, selected cases from the Mesoamerica corridor, land border crossings in the triple border of Argentina, Brazil, and Paraguay, and selected crossings connecting Chile, Peru, Bolivia, and Brazil. These 12 selected crossings cover a wide variety of cases based on the categories defined in the report regarding territorial distribution, levels of institutionalization, and relevance for the movement of goods and people (see Table 2).

Table 2
Classification of border crossings addressed in the report according to the category of territorial distribution, importance of the crossings, and level of institutionalization.

Source: Own elaboration based on Steer (2023c) and satellite visualizations from Google Maps.

Category of territorial distribution of border territories	High presence of institutions			Medium-low presence of institutions		Total
	High importance	Medium importance	Low importance	High importance	Low importance	
Mmerged conurbation				Paso Canoas		1
Delimited conurbation	Desaguadero; Puerto Iguazú - Foz do Iguaçu; Ciudad del Este - Foz do Iguaçu	Cobija-Brasileia /Epitaciolândia		Tecún Umán-Suchiate		5
Near both territories	Cúcuta/ Villa del Rosario-San Antonio del Táchira/Pedro María Ureña System; Assis Brasil- Iñapari			La Hachadura-Pedro de Alvarado		3
Near a territory	Chacalluta				El Ceibo	2
Medium distance			San Lorenzo-Extrema			1
No urbanization						0
Total	6	1	1	3	1	12

Cúcuta/Villa del Rosario-San Antonio del Táchira/Pedro María Ureña border system

This system includes three land border crossings between Colombia and Venezuela: i) the one connecting the Colombian municipalities of Cúcuta and Villa del Rosario with San Antonio del Táchira, via the Simón Bolívar bridge; ii) the one linking Cúcuta with Ureña, via the Francisco de Paula Santander

bridge; iii) the one connecting Cúcuta and Villa del Rosario with Tienditas, through the Atanasio Girardot international bridge (see Figure 2).

These crossings experience some of the highest levels of pedestrian and vehicular activity in the region, and stand out due to their strategic position for trade and the movement of people. In 2023, more than 900,000 Venezuelans and 45,000 Colombians entered and exited their respective countries through

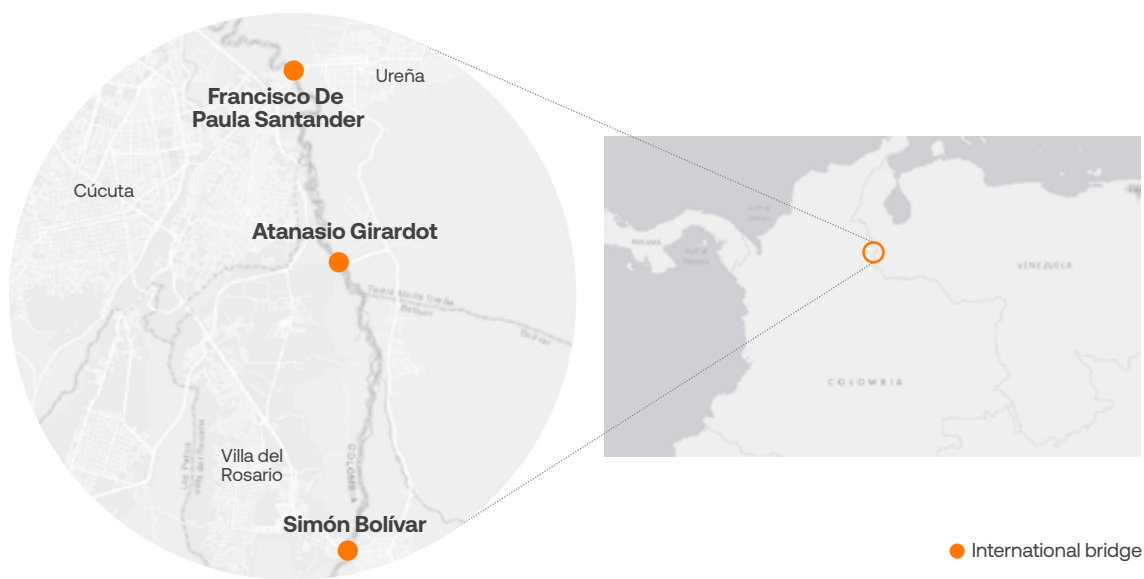
the Francisco de Paula Santander and Simón Bolívar bridges (Migración Colombia, 2024). The study of this border system is particularly relevant due to the complex social, political, and

economic context characterizing the countries involved, including the border closure in 2015 and its reopening in early 2023.

Figure 2

Location of the land border crossings in the Cúcuta/Villa del Rosario-San Antonio del Táchira/Pedro María Ureña border system

Source: Steer (2023a).



Border crossings connecting Chile, Peru, Bolivia, and Brazil

In the region formed by Chile, Peru, Bolivia, and Brazil, the following border crossings were selected: i) Chacalluta, connecting the cities of Tacna in Peru with Arica in Chile; ii) Desaguadero, linking the towns of Desaguadero in Peru and its namesake in Bolivia; iii) Assis Brasil-Iñapari, connecting the Brazilian town of Assis Brasil with Iñapari in Peru; iv) Cobija-Brasilêia/Epitaciolândia, linking the Bolivian municipality of Cobija with the conurbation formed by Brasilêia and Epitaciolândia in Brazil; v) San Lorenzo-Extrema, connecting the small rural communities of San Lorenzo in Peru with Extrema in Bolivia (see Figure 3).

There are multiple reasons to analyze these border crossings. First of all, they are located in

a region that stretches across heterogeneous geographical areas, including coastlines, deserts, Andean high plains, high mountain rainforests, and jungles. The Andes mountain range goes through this region, which presents additional logistical challenges (for example, road transport in mountainous areas involves greater time and cost). At the same time, the locations of these crossings are strategic for the commercial dynamics of the countries involved and their integration into international markets. Moreover, each crossing has specific characteristics that make its study particularly relevant.

Chacalluta is the only land connection between Peru and Chile and holds significant social and political relevance, although it is of lesser economic importance, since most of the commercial traffic between the two countries is

conducted by sea. In terms of passenger traffic, approximately 950,000 tourists and 800,000 excursionists crossed the border from Chile to Peru in 2019, with more than 390,000 tourists traveling in the opposite direction.

Desaguadero, on the other hand, is the main border crossing between Bolivia and Peru and holds the highest volume of traffic through Peruvian land border customs. It is strategically located between two economically significant hubs, Arequipa in Peru and La Paz in Bolivia, and also provides Bolivia with access to Peruvian ports. In 2021, the FOB value of Peruvian exports to Bolivia through this crossing amounted to USD 362.82 million, while Peruvian imports from the neighboring country had a CIF (Cost, Insurance and Freight) value of USD 620.54 million (SUNAT, 2022).

The remaining three crossings are located in the triple-border area between Bolivia,

Peru, and Brazil, which is characterized by its remoteness from major urban centers and significant environmental vulnerability. Although the trade flow through these crossings is limited and localized, this situation could change in the event of potential development in the area associated with the bioceanic corridor project, spanning over 3,000 km and connecting São Paulo in Brazil with the ports of Antofagasta and Mejillones in Chile, passing through Argentina and Bolivia. This situation could lead to spillovers at the border crossings in the region, either through increased efficiency in movements toward Porto Velho and Manaus in Brazil, the Peruvian ports of Ilo, Mollendo, Matarani, and Chancay (the latter soon to open), or even toward the northern arch of ports connected to the Atlantic Ocean. Alternatively, there could be an expansion of the area of influence of the Chacalluta and Desaguadero crossings further north.

Figure 3
Geographical area of the crossings connecting Chile, Bolivia, Peru and Brazil

Source: Álvarez et al. (2023).



**Border crossing system
of the mesoamerican axis**

Within the Mesoamerican corridor or border crossings, the following crossings were selected: i) Paso Canoas, which connects the homonymous towns in Panama and Costa Rica;

ii) La Hachadura-Pedro de Alvarado, which links La Hachadura in Guatemala with Pedro de Alvarado in El Salvador; iii) Tecún Umán-Suchiate, which connects Tecún Umán in Guatemala with Suchiate in Mexico; iv) El Ceibo, which links Tenosique de Pino Suárez in Mexico with El Naranjo in Guatemala (see Figure 4).

Figure 4
Selected land border crossings of Mesoamerica
Source: Steer (2023b).



It is important to study the crossings in this region, considering that the Central American integration process, which began in the 1950s, is one of the most successful regional integration efforts and continues to this day (Cordero, 2016). Additionally, Steer (2023b) highlights other specific factors that justify the study of these particular crossings. For example, Paso Canoas serves as the first or last crossing used in trips originating or ending at the ports of the Panama Canal or the Colón Free Zone. It also stands out for handling approximately 23% of all land exports reported by Costa Rica and for allowing the circulation of approximately 140,000 people (in 2021). However, it is the border crossing with the longest cargo crossing times in the north-south direction.

Meanwhile, the La Hachadura-Pedro de Alvarado crossing stands out for being part of the customs union achieved between Guatemala, Honduras, and El Salvador. Around 15% of all land exports and 26% of land imports reported by El Salvador pass through this crossing. In the case of Guatemala, these figures rise to 45% and 33%, respectively. Additionally, it is a major crossing for the movement of people, with approximately 600,000 people crossing in 2021. Despite this, it is important to note that it has the longest crossing times in the south-north direction.

Regarding Tecún Umán-Suchiate, it stands out for being a major freight crossing, as it handles 80% of the land trade between Mexico, Guatemala, and El Salvador. The migratory movement is also significant, with approximately 480,000 people crossing in 2021.

Lastly, the El Ceibo crossing has a low level of development, due to a reduced flow of cargo—approximately USD 7.3 million worth of goods passed through in 2021—and passengers, with an estimated 23,000 people crossing in the same year (Steer, 2023b). However, it is distinguished by its strategic location, as it connects Central America with southeastern Mexico, and by its agroindustrial and livestock potential (CAF, 2023a). Regarding this last point, several initiatives stand out, such as the development of an agroindustrial park and a microfinance program for small livestock producers in Tabasco (CAF and FOA Consultores, 2022). Another opportunity lies in linking Guatemala's more competitive livestock industry with meat processing centers in Tabasco, thus enabling sales within Mexico and to extraregional markets.

Border system of the triple border between Argentina, Brazil, and Paraguay

The land crossing system of the triple border area between Argentina, Brazil, and Paraguay connects the bordering territories of Ciudad del Este (Paraguay), Foz do Iguaçu (Brazil), and Puerto Iguazú (Argentina) through two bridges: i) the International Friendship Bridge (Puente Internacional de la Amistad), which connects the Paraguayan district of Ciudad del Este with the Brazilian city of Foz do Iguaçu, and ii) the Tancredo Neves Bridge, which links Foz do Iguaçu with the Argentine city of Puerto Iguazú. Additionally, a bridge has already been built about 9 kilometers south of the International Friendship Bridge, known as the second international bridge or the Integration Bridge, which connects the Paraguayan city of Presidente Franco with Foz do Iguaçu (at the time of writing of this report, this bridge is not yet operational).

The triple border area is strategically located taking into account both its logistics and the cross-border transit among the countries. In 2022, an average of 737 trucks and 82,469 people crossed the International Friendship Bridge (Puente Internacional de la Amistad) daily, while 183 trucks and 7,319 light vehicles crossed the Tancredo Neves Bridge. These flows can mainly be explained by the population size of the bordering territories, their significant tourist attractions (the Iguazu Falls), and their productive activities (especially in Ciudad del Este, due to industrial and assembly activities carried out and its proximity to the Itaipú dam).

Figure 5
Location of the land crossings at the triple border between Argentina, Brazil, and Paraguay

Source: Prepared by the author using satellite images from Google Maps obtained in August 2024.



- Land border crossing
- Land border crossing pending authorization



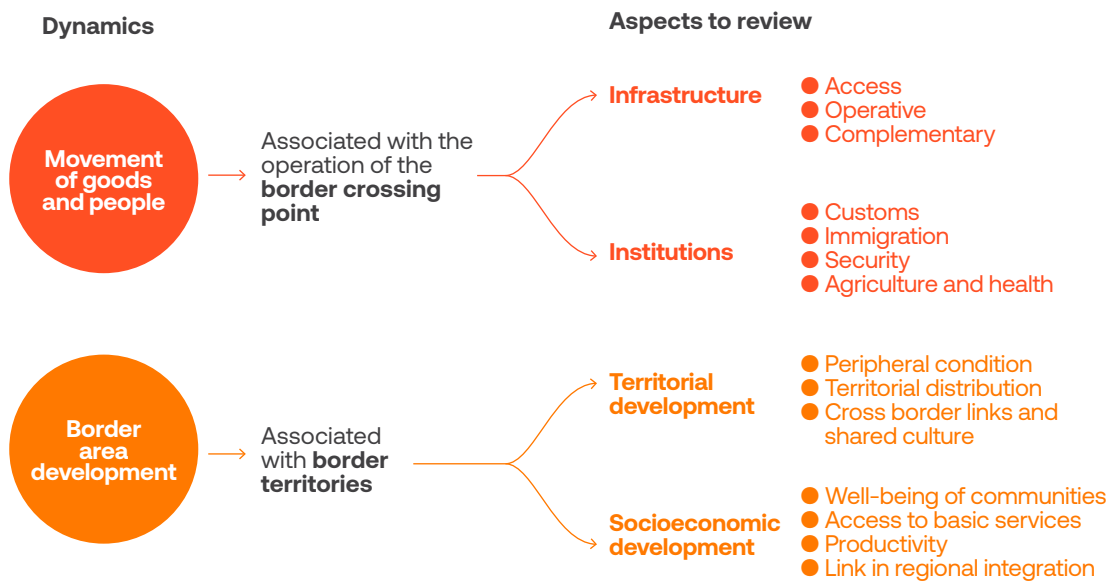
Analysis of border crossings and identification of their challenges

Promoting regional integration through land border crossings requires the development of two main elements : adequate institutions and infrastructure. Border services result from the interaction between these elements, and therefore, an optimal border crossing must balance them in order to achieve efficiency and security in transit, as well as the development of the border area.

This chapter analyzes the presence of these two elements and provides a description of the border territories involved regarding their territorial and socioeconomic development (see Figure 6). Based on this analysis, the main challenges associated with the selected crossings in this study are identified and discussed.

Figure 6
Aspects of border crossing points and areas to analyse based on the three dynamics

Source: Own elaboration.



Movement of goods and people

Border crossing infrastructure

The design of the infrastructure for a land border crossing depends on a wide range of variables, including its main activity (type and volume of flows) and the geographical characteristics of the area and the bordering territories involved. These aspects determine the needs for the **three types of essential infrastructure** for the functioning of border crossings: access, operational, and complementary infrastructure.

Access infrastructure facilitates the physical connectivity of the border crossing with the territories of the country itself and neighboring states. A significant bottleneck is the quality of the roads that connect these areas: in adverse weather conditions, they cannot be used (as occurs in some sections of the Peru-Brazil interoceanic highway), maintenance levels in recent years have been insufficient, and signage is inadequate (as in sections of roads in Mesoamerica, for example), among other issues. Congestion on these access routes is often a decisive factor in crossing times, as seen with the International Friendship Bridge, which connects Foz do Iguaçu with Ciudad del Este, particularly on the Paraguayan side. This is the reason why some countries have worked to improve this type of infrastructure in recent years, including the construction of the Desaguadero-Huachacalla road in Bolivia, the Peru-Brazil interoceanic highway near the Assis Brasil-Iñapari crossing, and the project to improve the Cobija-Extrema dirt or gravel section of the road near the San Lorenzo-Extrema crossing.

At the same time, the **operational infrastructure** includes the facilities and equipment required for the functioning of the border crossing, as well as the digital technology that enables the transit of people, luggage, vehicles, and goods, making bidirectional traffic smoother in these areas.

This infrastructure is typically located in areas commonly referred to as border control centers and typically includes offices for customs personnel, health and phytosanitary control, immigration, border agents, police or security personnel, among other areas of operation.

Three types of border control stand out: the conventional type, where each country performs the corresponding control within its own territory in a non-centralized manner; national integrated control centers, where the facilities of a country are located in a single physical space; and binational integrated control centers, where the authorities of the bordering states involved in the border crossing intervene, allowing for the implementation of an integrated control. Binational integrated control centers can be centralized, where migration, customs, and phytosanitary operations are always carried out in a single facility or shared facilities. In the latter case, two modalities exist: the host country-entry country, meaning the controls of both countries are carried out at the facility located in the entry country; or the host country-exit country, meaning both controls take place in the facilities of the exit country³. Table 3 summarizes the type of control used at the border crossings analyzed.

As shown in Table 3, the experience in the region regarding control centers is varied, but the overall challenge is moving toward more integrated border control. To achieve this, the model of binational integrated control centers seems to be the right approach, although many border crossings have yet to implement it, such as Cobija-Brasileia/Epitaciolândia, El Ceibo, and Tecún Umán-Suchiate. Even in those cases where the binational integrated control center model already exists, coordination challenges persist regarding the direction and operation of the centers, as well as discrepancies in operating hours, etc.

³ The integrated control can be carried out sequentially: first, the services of the country of departure come into play, followed by those of the country of entry, or in a juxtaposed manner, where the control actions are carried out by homologous services, successively or simultaneously, alternately until the last control is completed. A juxtaposed integrated control model has several advantages, including the reduction of control times; the creation of a climate of trust and transparency between the agents of the countries involved; the reduction of maintenance and operation costs for the control center; greater security in the control area; and better and increased cooperation among the officials of the competent authorities (Meza Monge, 2010).

Table 3
Infrastructure operating at the selected land border crossings

Source: Prepared by the author based on Steer (2023a, 2023b, 2023c) and CAF and Mcrit (2024).

Land border crossings	Region	Countries involved	National or binational integrated control center
Assis Brasil-Iñapari	Chile-Peru-Bolivia-Brazil	Brazil-Peru	CENAF (National Border Centers) of Iñapari under implementation
Chacalluta	Chile-Peru-Bolivia-Brazil	Peru-Chile	CEBAF (Binational Border Centers) shared control: host country - entry country
Cobija-Brasileía/Epitaciolândia	Chile-Peru-Bolivia-Brazil	Bolivia-Brazil	No
Desaguadero	Chile-Peru-Bolivia-Brazil	Peru-Bolivia	Single control CEBAF (Binational Border Centers) (in Peru)
San Lorenzo-Extrema	Chile-Peru-Bolivia-Brazil	Peru-Bolivia	Single control CEBAF (Binational Border Centers) project in Extrema
Puerto Iguazú-Foz do Iguaçu	Argentina-Brazil-Paraguay triple border	Argentina-Brazil	Shared ACI (Integrated Control Area) for people and goods, although in practice, countries implement nationally integrated controls.
Ciudad del Este-Foz do Iguaçu	Argentina-Brazil-Paraguay triple border	Paraguay-Brazil	Single control ACI (Integrated Control Area) in Foz do Iguaçu for people and shared control for goods, although in practice, countries implement nationally integrated controls.
Cúcuta/Villa del Rosario-San Antonio del Táchira/Pedro María Ureña System	Colombia-Venezuela	Venezuela-Colombia	CENAF (National Border Centers) in Tienditas and Villa del Rosario
El Ceibo	Mesoamerica	Guatemala-México	No
La Hachadura-Pedro de Alvarado	Mesoamerica	El Salvador-Guatemala	Integrated border crossing
Paso Canoas	Mesoamerica	Panama-Costa Rica	Binational integrated control center (inaugurated in Costa Rica and under implementation in Panama)
Tecún Umán-Suchiate	Mesoamerica	Guatemala-México	No

Note: Depending on the integration mechanism regulated by the border regulations of the countries, integrated control centers may adopt various names. In the case of the CAN (Andean Community of Nations), the national and binational integrated control centers are called CENAF (National Border Centers) and CEBAF (Binational Border Centers), respectively. In the context of Mercosur, the binational integrated control centers are called ACI (Integrated Control Areas), while in the framework of the Deep Integration Process between Guatemala and El Salvador, they are called PFI (Integrated Border Posts)

A key element in the operation of the infrastructure is the digitalization of these centers, which has become essential for the efficient operation of border crossings. The progress towards greater digital connectivity at border crossings faces significant challenges that go beyond mere technological implementation, particularly the need for investment in internet access (in terms of coverage and costs) and improvements in computer systems (Maloney et al., 2023). Digitalization also raises the issue of cybersecurity, as, without proper security measures, land border crossings could be exposed to cyberattacks and the theft of sensitive information.

Finally, **complementary infrastructure** at land border crossings allows for the provision of basic services to cargo, passenger, and transporter users, including security services, telecommunications, medical assistance, food, restrooms, lodging, currency exchange, mechanical assistance, interface areas between the public and staff (stands or offices), parking areas, and meeting rooms, among others (IIRSA, 2005; UNECE, 2012). While in some cases these services are located within integrated control centers, their distinction as a separate component of the operational infrastructure is important, considering that not all crossings have such facilities. The absence or deficiency of this infrastructure degrades the border crossing experience for users. Particularly, the

absence of parking areas is often a significant bottleneck at many border crossings. In this regard, Chacalluta and La Hachadura-Pedro de Alvarado stand out as those that have parking areas on both sides of the border, although they may not be sufficient. Regarding the availability of accommodations, only the territories of Puerto Iguazú (Argentina) and Foz do Iguaçu (Brazil) have a higher number of accommodations per capita than the average of the studied territories, which is mainly due to the tourism profile of the Triple Border region.

Additionally, the complementary infrastructure along the crossings is also a component of the logistical corridors that enable the multimodal transport of goods and people and facilitate connections with other transport infrastructures, such as ports, airports, and railways. While this type of infrastructure is not specific to the border crossing, it complements it and largely determines its functioning and the type and volume of flows that pass through it. Many of the border crossings analyzed are located along logistical corridors. For example, in the case of Mesoamerica, three of the four selected crossings (Paso Canoas, La Hachadura-Pedro de Alvarado, and Tecún Umán-Suchiate) are part of the Pacific Corridor, and the Assis Brasil-Iñapari crossing is located on the Peru-Brazil Interoceanic Highway. Other border crossings also stand out for connecting to important airports and ports, such as Chacalluta.

In sum, the main challenge of the complementary infrastructure at land border crossings lies in improving the provision of these additional services within the framework of the productive development of border areas and logistical corridors, as well as in the integration between countries. The limited availability of these services affects not only the efficiency of the crossings but also the economic development of the border regions. Therefore, coordination at both national and international levels can improve the implementation of policies aimed at increasing the availability of complementary services and improving the condition of logistical corridors, thus promoting regional connectivity and the competitiveness of these areas.

Institutional presence

The main institutions involved in land border crossings include customs (related to the movement of goods), migration agencies, security agencies, and health, agriculture, and other control agencies (such as phytosanitary controls). It is important that all these institutions **coordinate effectively at three levels**: intra-agency (efficient management of processes, information, and resources within border and migration management entities), inter-agency (collaboration among all national border and migration management agencies at the central level), and international (establishing communication and coordination channels at the local, bilateral, and multilateral levels) (IOM, 2019). Additionally, they must strike a balance between the efficient management of flows of goods and people and compliance with border requirements (WCO, 2014).

Regarding **national coordination** (i.e., intra-agency and inter-agency), the existence of a VUCE (Single Window for Foreign Trade) stands out as an important trade facilitation tool. VUCE allows parties involved in international trade and transport to use standardized documents and information, which are presented at a single point to carry out export, import, or transit processes (Sanguinetti et al., 2021). All the countries involved in the studied border crossings have VUCEs, except for Bolivia, which is in the process of implementing it, and Guatemala, which has a VUPE (Single Window for Exports). Another relevant initiative in terms of institutional coordination for the movement of goods is the Authorized Economic Operators (AEO), which consists of cooperation agreements between customs authorities and other public border entities, on one side, and private sector companies, on the other. This program aims to extend controls along the entire supply chain, focusing on ex-ante evaluation of the facilities, practices, procedures, and documentation of companies, rather than ex-post inspection of shipments (Volpe Martincus, 2016).

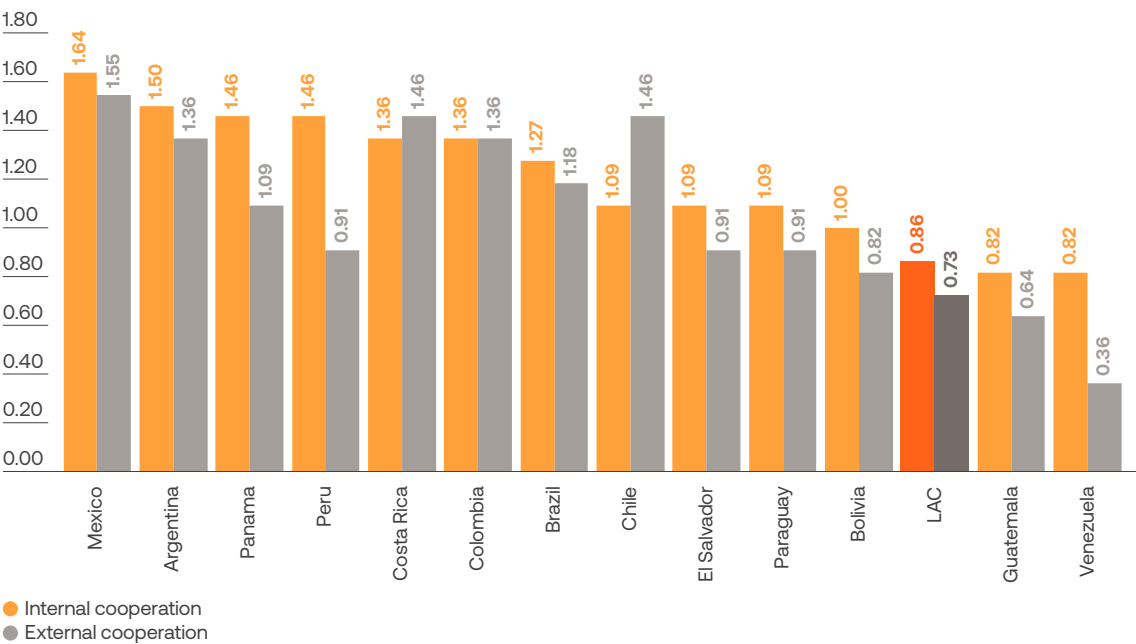
As for **international coordination**, progress at land border crossings is subject to regional agreements or bilateral relationships established by national states. The existence of such agreements is a widely discussed topic in the literature (see Chapter 1 of the report and also Sanguinetti et al., 2021, Table A.1.1). In some cases, membership in various integration mechanisms can represent a barrier to promoting international coordination (ECLAC,

2014), as in the case of Brazil, whose applicable regulations vary depending on the neighboring country (Mercosur with Argentina, Paraguay,

and Uruguay; Andean Community (CAN) with Peru and Colombia; and bilateral agreements with Venezuela).

Graph 2
Performance of countries in trade facilitation indicators of internal and external cooperation between agencies in 2022

Source: Prepared by the author based on OECD (2023).



Note: Each bar reflects the value of the trade facilitation indicator assigned by the OECD for the year 2022, which ranges from 0 to 2, with 0 denoting the worst performance a country can exhibit and 2 the best. The value for LAC represents the simple average of 27 countries.

The subindicators for internal and external cooperation from the Organisation for Economic Co-operation and Development (OECD, 2023) provide a measure of the degree of national and international coordination of countries, respectively (see graph 2)⁴. Overall, countries perform better on the internal cooperation indicator than on the external cooperation one.

In this regard, Panama, Peru, and Venezuela stand out for having a greater disparity between the two. On the other hand, Chile and Costa Rica are noteworthy for being the only countries that show higher external cooperation than internal cooperation.

⁴ For the construction of the internal cooperation subindicator, the existence of an institution that promotes coordination between agencies (for example, through a platform) is assessed, along with the compliance of requested information requirements, the presence of interconnected computer systems and authorized economic operator programs, and the shared use of infrastructure and equipment, among others. Moreover, similar questions related to external coordination are posed, but between agencies from different countries. These are complemented by questions about the alignment of working days and hours at the border, process standardization, staff exchanges, training programs, etc. These issues considered by the index reflect the breadth of the dimensions that agencies can coordinate to improve the functioning of border crossings.

Development of border areas

Border areas host urban agglomerations, generally located far from major metropolitan areas, which play a role in the regional integration process by serving, in many cases, as a link for transnational relations. Therefore, actions directed at border areas must aim to promote the development and well-being of their populations, support the growth and functional diversification of border cities, and provide an appropriate framework to promote and consolidate border integration (SELA, 2012).

Territorial development

Border territories are typically located in **peripheral areas**, a designation that applies not only to geographic factors, but also to economic and political ones. To assess the peripheral condition of the border territories studied, the participation of each in the total population of their respective countries and the distance to the capitals, main urban centers, and the nearest river or sea ports were quantified. It can be observed that all border territories have a share of less than 2% of the total population of each country, except for Ciudad del Este (4.2%). In addition to this city, the cases of Cúcuta and Villa del Rosario stand out, which together account for 1.6% of the population of Colombia, Arica, where 1.5% of Chile's population lives, and Barú, which holds 1.4% Panama's population. Furthermore, the studied border crossings are distant from the main populated centers of each country. Examples of this are the San Lorenzo-Extrema crossing and the crossings in Brazil, which are located at a considerable distance from Brasília and the main cities of their respective countries.

The peripheral condition is what leads these territories to maintain closer ties with their counterparts on the other side of the border than with those of their own country, resulting in a shared culture and way of life. For this reason, different configurations of urban complexes in border crossings are analyzed. Depending on the number of territories involved and their proximity to each other, these configurations can range from merged conurbations (Paso Canoas) or delimited ones, usually separated by a river (such as Desaguadero, Puerto Iguazú-Foz do Iguaçu, Ciudad del Este-Foz do Iguaçu, Tecún Umán-Suchiate and Cobija-Brasiléia / Eptaciolândia), crossings with territories close

to both sides of the border (Assis Brasil-Iñapari, La Hachadura-Pedro de Alvarado and the Cúcuta/Villa del Rosario system-San Antonio del Táchira / Pedro María Ureña), crossings with a single nearby territory (Chacalluta and El Ceibo), crossings with territories located at a medium distance (such as San Lorenzo-Extrema), and even crossings where there are no border territories with more than 5,000 inhabitants within a 70 km radius, although crossings of this type were prioritized. (See table 2).

These patterns of territorial distribution influence cross-border dynamics, triggering varying degrees of interaction between their populations. The proximity between border territories, particularly in the case of conurbations, fosters more fluid cross-border connections. When cross-border flows are frequent, they can lead to some degree of **cross-border cultural homogeneity**. This can be clearly observed, for example, in the crossings involved in the triple border of Argentina, Brazil and Paraguay and of Bolivia, Brazil and Peru. In the first case, it is a region of intense multiculturalism, where various traditions, customs of ethnic groups, and three majority languages recognized as official by Mercosur (Spanish, Portuguese and Guaraní) converge. This causes many people to navigate fluently between Spanish and Portuguese, creating a hybrid language "portuñol" that facilitates the social and economic integration on both sides of the borders (CAF y Mcrit, 2024). As for the second case, Assis Brasil and Iñapari complement each other socioeconomically and share similar urban characteristics, activities, sociocultural aspects and similar land use patterns, functioning as if they were a single population, with strong bonds of friendship and shared development (Chiarella Quinhoes, 2016). Similarly, the proximity of Cobija with Brasiléia and Eptaciolândia, combined with the poor connection of those territories with the interior of their respective countries, facilitates the creation of a common cultural identity. For example, they jointly celebrate festivals such as carnival, exchange products in local markets, and maintain similar culinary traditions, such as the consumption of açaí and typical dishes of the Amazon region.

Depending on their intensity, these dynamics can lead border populations to situations of interdependence. In the case of Desaguadero, the territories on both sides of the border depend mutually on each other for the supply of goods and services and have created networks of cooperation and collaboration in

areas such as education, health, and culture (Dammert Guardia et al., 2017). Between Tacna and Arica, despite the considerable distance between them, there is also a significant flow of people, mainly for work, and, to a lesser extent, tourism, in search of better medical services and small-scale trade. On the other hand, cross-border ties can lead to a range of frictions regarding cross-border coordination in areas such as taxation, security, and competition, among others. For example, in the triple border region between Argentina, Brazil, and Paraguay, Ciudad del Este has a Tourism Shopping Regime, which offers tax exemptions for products imported from outside Mercosur. To avoid being at a disadvantage, Brazilian authorities responded by establishing duty-free shops in Foz do Iguaçu, a measure replicated by Argentina with a duty-free store in the Puerto Iguazu Free Trade Zone (CAF y Mcrit, 2024). These differences in fiscal and trade regimes, combined with the pursuit of greater regional economic integration, highlight the importance of regulating cross-border ties to prevent such frictions.

Socioeconomic development

Border territories face significant challenges in terms of well-being and access to basic services, reflected in their disparate levels of human development and the limited coverage of services, particularly in internet access. In the socioeconomic sphere, an important challenge lies in promoting productive linkages between countries (Sanguinetti et al., 2021), which translates into the development of potentially relevant formal activities to the border area, thus reducing dependence on low-productivity activities.

In order to assess the **level of well-being** of the border communities, the Human Development Index (HDI) and the Relative Wealth (RWI) are quantified for the selected border territories⁵, with further analysis focusing on variables related to education and health. Regarding the HDI, it is observed that the only territories that

present a level high (i.e., above 0.8) are Paso Canoas (Panama), Puerto Iguazú (Argentina)⁶, and Arica (Chile). Regarding the relative wealth index (RWI), 13 of the 20 border territories for which data is available present a negative indicator, indicating a lower relative wealth of those territories compared to others in the same country (see Table 4).⁷

Regarding **education**, it is observed that the majority of border territories present indicators of access and educational outcomes that are lower or similar to the national average. For example, those located in Argentina, Bolivia (only Cobija), El Salvador, Guatemala, Mexico, Paraguay, Peru, and Venezuela. Meanwhile, while the educational indicators of Arica are very similar to the average in Chile, other border territories, such as Desaguadero in Bolivia, Barú in Panama, and Canoas in Costa Rica show better performance compared to their national levels. In the case of health, it is observed that Tacna, Desaguadero, and Iñapari in Peru, Iguazú in Argentina, Alto Paraná in Paraguay and Suchiate in Mexico have lower levels of access to health services compared to the national average. In contrast, Cobija, in Bolivia, and Iberia in Peru, have health indicators that are above their respective national levels.

When quantifying access to **electricity, potable water, and the Internet** in the studied border territories, it is concluded that the access levels vary compared to national averages depending on the type of service. In general, access to electricity is relatively high, but there are significant deficiencies in access to potable water and, particularly, in access to the internet (see table 5).

⁵ See additional information on unmet basic needs (UBN) and housing conditions in border territories in the report (Graph A.2.1 and Table A.2.2 in the appendix of Chapter 2)

⁶ However, the HDI of Puerto Iguazú (Argentina) corresponds to that of the northeastern region of Argentina, made up of the provinces of Chaco, Corrientes, Formosa, and Misiones, which may not be representative of the specific situation in that territory. In a more detailed study, CAF and Mcrit (2024) present a situation of socioeconomic deficiency, characterized by 23% of the population in conditions of illiteracy, 23% with low incomes, and 22% living in suburbs.

⁷ The differences in the results between the HDI and the RRI (Regional Resilience Index) can primarily be attributed to the degree of territorial disaggregation used to evaluate the well-being of border communities (see table A.2.3 in the appendix of chapter 2 of the report).

Table 4
Human development index and relative wealth index in border territories

Source: Prepared by the author based on UNDP (2006, 2022; n.d.) and Global Data Lab (n.d.) for the HDI and Chi et al. (2022) for the relative wealth index.

Order	Land border crossing	Human development index		Relative wealth index in the border territories*
		Border territories	National level	
1	Assis Brasil-Iñapari			
	Assis Brasil (Brazil)	0.709	0.754	-0.340
	Iñapari (Peru)	0.660	0.572	-0.402
2	Chacalluta			
	Tacna (Peru)	0.663	0.572	-0.119
	Arica (Chile)	0.882	0.855	s.d.
3	Cobija-Brasília/Epitaciolândia			
	Cobija (Bolivia)	0.717	0.692	-0.164
	Brasília/Epitaciolândia (Brazil)	0.709	0.754	-0.195
4	Desaguadero			
	Desaguadero (Peru)	0.394	0.572	-0.414
	Desaguadero (Bolivia)	0.693	0.692	-0.322
5	San Lorenzo-Extrema			
	Iberia (Perú)	0.604	0.572	-0.402
	-			
6	Puerto Iguazú-Foz do Iguaçu			
	Puerto Iguazú (Argentina)	0.829	0.842	0.061
	Foz do Iguaçu (Brazil)	0.763	0.754	0.822
7	Ciudad del Este-Foz do Iguaçu			
	Ciudad del Este (Paraguay)	0.696	0.717	1.038
	Foz do Iguaçu (Brazil)	0.763	0.754	0.822
8	Border system Cúcuta/Villa del Rosario-San Antonio del Táchira/Pedro María Ureña			
	San Antonio del Táchira/Pedro María Ureña (Venezuela)	0.689	0.691	s.d.
	Cúcuta/Villa del Rosario (Colombia)	0.734	0.752	0.099
9	El Ceibo			
	El Naranjo (Guatemala)	0.620	0.630	-0.391
	Tenosique de Pino Suárez (Mexico)	0.752	0.758	-0.333
10	La Hachadura-Pedro de Alvarado			
	La Hachadura (El Salvador)	0.682	0.732	-0.062
	Pedro de Alvarado (Guatemala)	0.650	0.630	-0.210
11	Paso Canoas			
	Paso Canoas (Panama)	0.805	0.805	s.d.
	Paso Canoas (Costa Rica)	0.786	0.809	-0.066
12	Tecún Umán-Suchiate			
	Tecún Umán (Guatemala)	0.620	0.630	0.119
	Ciudad Hidalgo (Mexico)	0.677	0.758	0.105

Note: The HDI for most countries is from 2021, except for El Salvador (2004), Peru (2017), and Guatemala. (2018). Regarding the relative wealth index, most of the data used for its construction corresponds to 2018. In all cases, an effort was made to employ the highest possible level of territorial disaggregation. For more details, see Table A.2.3 in the appendix of Chapter 2 of the report. * The level of statistical significance varies depending on the country. For more details about the construction of the index, see Chi et al. (2022).

Table 5

Access to infrastructure services in border municipalities or departments

Source: Prepared by the author based on data from the national census.

Border territory	Electricity		Potable water		Internet	
	Border territory	National level	Border territory	National level	Border territory	National level
Puerto Iguazú (Argentina)	s. d.	s. d.	90%	94%	58%	76%
Desaguadero (Bolivia)	82%	82%	71%	68%	40%	57%
Cobija (Bolivia)	72%		41%		57%	
Cúcuta (Colombia)	99%	96%	95%	86%	37%	43%
Villa del Rosario (Colombia)	98%		85%		38%	
Paso Canoas (Costa Rica)	97%	93%	86%	87%	s. d.	s. d.
La Hachadura (El Salvador)	74%	88%	66%	74%	s. d.	s. d.
Tecún Umán (Guatemala)	98%	88%	53%	95%	10%	51%
Pedro de Alvarado (Guatemala)	91%		78%		9%	
El Naranjo (Guatemala)	73%		61%		9%	
Suchiate (Mexico)	98%	99%	91%	96%	8%	52%
Tenosique de Pino Suárez (Mexico)	98%		91%		26%	
Barú (Panama)	96%	90%	72%	70%	58%	70%
Ciudad del Este (Paraguay)	100%	89%	39%	53%	73%	56%
Tacna (Peru)	96%	88%	90%	78%	48%	28%
Desaguadero (Peru)	53%		84%		8%	
Iñapari (Peru)	88%		51%		8%	
Iberia (Peru)	86%		62%		9%	
San Antonio del Táchira (Venezuela)	69%	62%	92%	85%	s. d.	s. d.
Pedro María Ureña (Venezuela)	73%		93%		s. d.	

Note: Green indicates that access to the service in the border territory is greater than or equal to 95% of the national value; yellow indicates that access is between 80% and 95% of the national level, and red indicates that it is below 80% of the national level. In all cases, the highest possible level of territorial disaggregation was sought. For more details, see Table A.2.3 in the appendix of Chapter 2 of the report, which presents the variables used in each case.

While an analysis of productivity of the border territories involved in the border crossings goes beyond the scope of this report, it is important to take into account certain factors that determine it. First, in many cases these are small territories whose main economic activity is agriculture (for example, La Hachadura, Pedro de Alvarado, Barú, and Canoas), making agricultural productivity the most relevant factor. Additionally, activities directly linked to the operation of the crossing (commerce, tourism, or logistics) also influence the productivity of these territories. For example, the territories of Tacna in Peru, Desaguadero, both in Peru and in Bolivia, Tecún Umán in Guatemala and Ciudad Hidalgo in Mexico have wholesale or retail trade

among their main activities, while El Naranjo in Guatemala, Puerto Iguazú in Argentina, Foz do Iguaçu in Brazil and Ciudad del Este in Paraguay stand out for their tourist relevance. Table 6 summarizes the main economic activities of the border territories analyzed.

Table 6
Main economic activities of the analyzed border territories

Source: Prepared by the author based on Steer (2023a, 2023b, 2023c), Álvarez et al., (2023), CAF and Mcrit (2024) and information provided by the Regional Integration Department of CAF.

Order	Land border crossing	Economic activities
1	Assis Brasil-Iñapari	
	Assis Brasil (Brazil)	Agriculture, livestock, and trade
	Iñapari (Peru)	Agriculture and trade with Brazil
2	Chacalluta	
	Tacna (Peru)	Retail trade, hospitality, restaurants, transportation, industry (textile, leather, chemical, tobacco, food and beverages), mining, and fishing
	Arica (Chile)	Agriculture, retail trade, industry, mining, and fishing
3	Cobija-Brasiléia/Epitaciolândia	
	Cobija (Bolivia)	Livestock, Amazonian fruits, tourism, fish farming, coffee
	Brasiléia/Epitaciolândia (Brazil)	Livestock, Amazonian fruits, coffee
4	Desaguadero	
	Desaguadero (Peru)	Trade
	Desaguadero (Bolivia)	Trade, industry (from food to household appliances)
5	San Lorenzo-Extrema	
	Iberia (Peru)	Livestock, Amazonian fruits, tourism, fish farming, coffee
	-	
6	Puerto Iguazú-Foz do Iguaçu	
	Puerto Iguazú (Argentina)	Tourism, trade, agriculture
	Foz do Iguaçu (Brazil)	Trade, tourism, construction, transportation, and storage
7	Ciudad del Este-Foz do Iguaçu	
	Ciudad del Este (Paraguay)	Trade, manufacturing industry, professional activities (scientific and technical), tourism
	Foz do Iguaçu (Brazil)	Trade, tourism, construction, transportation, and storage
8	Cúcuta/Villa del Rosario - San Antonio del Táchira/Pedro María Ureña Border system	
	Cúcuta/Villa del Rosario (Colombia)	Agriculture (sugarcane, palm, and banana), commerce, services, industry (coal, manufacturing of non-metallic mineral products) and tourism
	San Antonio del Táchira/Pedro María Ureña (Venezuela)	Agriculture (coffee), commerce, mining (coal and copper), services, automotive industry, tourism
9	El Ceibo	
	El Naranjo (Guatemala)	Tourism, commerce
	Tenosique de Pino Suárez (Mexico)	Agriculture (corn, dates, pineapples, and avocados), livestock, industry (food and timber), commerce
10	La Hachadura-Pedro de Alvarado	
	La Hachadura (El Salvador)	Agriculture
	Pedro de Alvarado (Guatemala)	Agriculture (sugarcane)
11	Paso Canoas	
	Barú (Panama)	Agriculture, commerce, hospitality, transport, and logistics
	Canoas (Costa Rica)	Agriculture, commerce
12	Tecún Umán-Suchiate	
	Tecún Umán (Guatemala)	Agriculture, commerce, communications, transport services, cargo, and storage
	Ciudad Hidalgo (Mexico)	Commerce, river transport

Given the wealth of resources in these areas and their strategic location, many of these territories have the potential to develop new economic activities (including cross-border production chains) that would allow them to increase the productivity of their economies and promote socioeconomic development. Such examples can be seen in the Pando region in Bolivia, where there are significant opportunities in the livestock sector (with the possibility of exporting to Peru), agriculture (including Amazonian fruits such as Brazil nuts, açai, and cupuaçu, among others), and tourism (specifically, for rural tourism). Additionally, the lithium sector shows significant potential in Argentina, Bolivia, and Chile—countries that form the so-called “lithium triangle” (ECLAC, 2023). Moreover, the development of cross-border free-trade zones may have implications for productive activities and labor dynamics that take place in border areas (Montejo Villa, 2017; Ahumada et al., 2018). Examples of such zones include Desaguadero and Cobija in Bolivia, Tacna in Peru, and Cúcuta in Colombia, as well as those already established in the triple border region between Argentina, Brazil, and Paraguay.

The economic dependence on low-productivity activities, along with other factors such as institutional weaknesses and budgetary constraints, limits social development and encourages informal activity in border areas (Rodríguez Rodríguez et al., 2018). A clear example of informal activities can be seen in the border regions of Tacna and Arica, where the trade of used clothing, cigarettes, and alcohol—often in quantities not flagged by customs—is common (Álvarez et al., 2023). Another case

occurs at the Desaguadero crossing, where a significant amount of border crossings involve everyday interactions that go unrecorded at migration control posts (Álvarez et al., 2023).

The development of border areas and their integration into logistical and migratory corridors represents a **fundamental link in the integration** of countries in the region. In terms of movement of goods, land border crossings serve as key nodes connecting various modes of transport, such as ports, airports, and railways. This facilitates a more efficient flow of goods along these corridors, enhancing the role of border areas as providers of complementary services, such as warehouses, fuel stations, rest areas, and vehicle maintenance and repair services, which support the smooth operation of supply chains. In the migratory sphere, land border crossings serve as entry points for people into countries. As reception areas for migrants, border territories play a role in providing the necessary information and infrastructure needed for migration to occur safely and efficiently. However, human movement often takes place under vulnerable conditions. For example, the Tacna-Arica corridor has seen a significant rise in the number of undocumented migrants since approximately 2015 (Álvarez et al., 2023). Similarly, the Desaguadero crossing also represents a significant hub for the movement of people between Peru and Bolivia (IOM and UNICEF, 2022). It sees a high flow of refugees and migrants who arrive in Puno, often in groups or with their families, traveling day and night via the bus terminal. They then continue their journey to Desaguadero on wooden rafts.

Opportunities for Intervention in land border crossings and border areas

Land border crossings serve as key nodes within integrated logistical corridors, which can either facilitate or hinder the flow of people and goods depending on the level of their infrastructure, operability, and other specific characteristics. They are also part of border areas whose main dynamics largely depend on the interactions between populations of neighboring nations, the historical construction of their identity, and local and

regional development, potentially contributing to socioeconomic progress. Improving the operation of land border crossings and enhancing their positive effects requires comprehensive actions that incorporate their multiple roles. The cases studied in this report help identify intervention opportunities across a range of necessary components for an integrated management of border crossings. These include roads and access routes to the

crossings, control centers and digital tools to facilitate the flow of people and goods, as well as issues related to territorial planning in border areas, coordination of public policies among countries, and consideration of environmental and social aspects in border investment projects. Moreover, depending on the area of application, these opportunities are classified into categories such as border

infrastructure, border operations, territorial development and governance, and regulatory frameworks. This chapter explores the various development opportunities for border crossings and border areas based on their components, highlighting lessons learned from case studies and other previous experiences. Table 7 serves as a reference for identifying each of these opportunities with their corresponding category.

Table 7
Opportunities for the development of border crossings and border areas

Source: Prepared by the author.

Category	Components	Opportunities for the development of border crossings and border areas
Border Infrastructure	Roads and Access Routes	• Development of roads and access routes to prevent congestion at border crossings. • Maintenance, upgrading, or expansion of existing roads.
	Control Centers	• Implementation of integrated binational control centers. • Flexible infrastructure to accommodate the needs and characteristics of traffic flows. • Development of complementary infrastructure near control centers (warehouses, parking areas, etc.).
	Digital Tools	• Improvement of telecommunications infrastructure.
	Territorial Planning	• Expansion of basic service coverage.
	Environmental and Social Aspects	• Design of resilient border infrastructures.
Border Operations	Digital Tools	• Implementation of digital tools and promotion of their interoperability. • Training of personnel and users in the use of digital tools. • Data generation and data sharing among agencies.
	Control Centers	• Development of training programs for the groups involved. • Adaptation of control center services to the needs and characteristics of traffic flows (e.g., operating hours).
Territorial Development and Governance	Control Centers	• Coordination between national and foreign agencies.
	Territorial Planning	• Border area planning with a multinational approach, promoting current and potential productive developments. • Binational coordination for the joint provision of basic services. • Provision of complementary services as an opportunity for the development of the private sector (lodging, mechanical services, etc.).
	Environmental and Social Aspects	• Coordination of projects with local agendas (municipalities, civil society, etc.).
	Public Policy Coordination	• Cross-border cooperation for prioritizing border projects. • Involvement of local groups in decision-making at the national and international levels.
Regulatory Frameworks	Roads and Access Routes	• Compliance with technical standards at the regional level.
	Digital Tools	• Adaptation of cybersecurity systems in different countries.
	Environmental and Social Aspects	• Inclusion of environmental safeguards in border infrastructure projects.
	Public Policy Coordination	• Regulation and standardization of entry-exit requirements between countries.



Roads and access routes

The absence of roads and access routes, alongside the deficiencies in existing infrastructure (primarily due to poor condition and congestion), hampers access to border crossings, directly impacting the crossing times. For this reason, it is essential to plan and implement actions aimed at improving access to these crossings. These actions should consider the crossing from both a functional perspective (as being part of logistical chains) and a territorial one (evaluating its connection to the rest of the border area and the corridors involved). It is important that infrastructure designs analyze the needs of border services in relation to the volume of flows passing through the crossing at different times of the day. Such planning studies will identify the key needs in terms of new roads, maintenance, and the expansion of existing ones.

From the cases studied, it is observed that the development of new roads and routes can address the need to connect border crossings with the interior of countries, as well as among countries themselves. Such was the case with the construction of the Desaguadero-Huachacalla highway on the Bolivian side, which makes the connection between the Desaguadero border crossing and the city of La Paz possible. The new infrastructure can also respond to the need to alleviate congestion in existing access routes and affected urban areas. This is exemplified by the second international bridge between Presidente Franco (Paraguay) and Puerto Meira in Foz do Iguaçu (Brazil), which helps to reduce traffic congestion on the International Friendship Bridge between Ciudad del Este and Foz do Iguaçu.

Another type of investment that should be considered when prioritizing projects is the maintenance and refurbishment of existing roads and access routes. Opportunities for such investments exist in sections of the Peru-Brazil Interoceanic Highway, the Cobija-Extrema connection, certain segments of the logistical corridors leading into Venezuela (e.g., the route facilitating movement between Cúcuta and the port area of Maracaibo), and roads in Guatemala connecting to border crossings such as La Hachadura-Pedro de Alvarado (the Escuintla-Taxisco-El Obraje-Pedro de Alvarado road) and Tecún Umán-Suchiate (the Escuintla-Santa Lucía Cotzumalguapa-Mazatenango-Retalhuleu-Tecún Umán/El Carmen road). On the other hand, there are also investment

opportunities in the expansion of roads and access routes, such as the CA-2 Occidente, specifically the stretch between La Hachadura and Acajutla.

At the national level, most of the studied countries have technical standards and norms for the construction of this road infrastructure. However, it would be beneficial to standardize technical norms at a regional level to facilitate cross-border circulation. In this context, notable efforts include the Central American Manual of Standards for Geometric Road Design by SIECA (Secretariat for Central American Economic Integration) and the Andean Road Infrastructure Committee of CAN (Andean Community of Nations).

Control centres

Improvements in control centers toward a more integrated, and eventually, binational framework offer benefits to the various groups directly or indirectly involved in border crossings, particularly in cases where conventional control methods are still in use. Such is the case with the crossings at El Ceibo, Tecún Umán-Suchiate, Cobija-Brasileia/Epitaciolândia, and Assis Brasil-Iñapari. At the latter, a CENAF (National Customs and Border Control Center) is being implemented on the Peruvian side. Similarly, a binational integrated control center is being established at San Lorenzo-Extrema. On the other hand, in cases where control centers are already nationally integrated, as with the CENAFs at Tienditas and Villa Rosario, there is an opportunity to expand this integration to a binational scale. Even at the CEBAF (Border Control System for People and Vehicles) in Chacalluta, there are improvement opportunities if binational integrated control is extended to freight movement.

However, operational infrastructure alone is not enough to ensure the efficient functioning of an integrated control center. Institutional and regulatory coordination is equally important, both among agencies within the same country and between different states. Single-stop integrated control centers provide ideal spaces to promote such coordination while helping to avoid issues associated with service discrepancies on both sides of the border, which lead to delays in the crossing. These centers also offer a suitable environment for

coordinating tasks such as data collection, defining service hours, complying with procedures, and streamlining control processes. At the tri-border area between Argentina, Brazil, and Paraguay, there are opportunities to improve governance among the countries so that ACIs (Integrated Control Areas) can function as such, given that, in practice, integrated national controls are already being implemented.

Additionally, the proper functioning of these centers depends significantly on the quality of the human capital that manages and operates them. Therefore, the development of physical infrastructure must be accompanied by extension programs and training initiatives targeting groups directly or indirectly involved in land border crossings (AUDA-NEPAD and JICA, 2022). Furthermore, regulations are needed to promote performance measurement and monitoring at binational integrated control centers. These efforts will contribute to generating valuable information for identifying operational challenges and determining the necessary actions to overcome them.

Finally, it is also crucial for these centers to adapt to the types of flows they handle, whether related to people (migration, tourism, or local transit) or goods (primary, industrial, perishable products, etc.), considering their volume, frequency, and seasonality. To this end, it is necessary to conduct flow studies that determine the particularities of demand throughout the day and the year. These studies will allow for the analysis of infrastructure and operational needs connected to various nodes. For example, if cargo flows exhibit seasonality, as seen with agricultural products that increase during harvest periods, it would be useful for the infrastructure to be flexible enough to adapt to annual variations. This could include opening additional lanes, hiring additional staff, or implementing a queuing system that allows for more efficient management of vehicle entry at border crossings. Another option would involve adapting operating hours to the specific characteristics of the flows at a given crossing. For instance, allowing the transport of certain goods (like perishables) outside of regular working hours. (UNECE, 2012).

Digital tools

Another key element to improve the functioning of border crossings is the adoption of digital tools that streamline pre-crossing procedures, promoting a more efficient and secure control process. Additionally, the implementation of these tools can significantly contribute to the acquisition and availability of data and information on land border crossings, which is often limited, for taking informed decisions. In this sense, the use of information and communication technologies (for example, the interconnectivity between customs and migration systems) and platforms for tracking goods promotes the efficient performance of control centers (AUDA-NEPAD and JICA, 2022).

For cargo or passenger crossings, the digitalization of required forms is the first step that countries have begun to implement, and where these tools are used most frequently. For instance, the Single Window Interface for Trade (SWIFT) implemented in countries across the region requires the digital submission of necessary data for cargo clearance. For passenger crossings, the development of real-time information transmission systems play a critical role in facilitating the passage of visitors (IOM, 2021). For example, this type of technology is already being applied between Guatemala and El Salvador. Similarly, Paraguay and Brazil have also implemented digital systems for digitalizing immigration procedures at their border crossings (Government of Brazil, 2023; Government of Paraguay, 2024).

To make the best possible use of all the gathered information, progress can be made towards the interoperability or interconnection of the information technology systems used by the various authorities involved at the border (SICA, 2023), avoiding data duplication and thus reducing control times. Some countries have advanced in this direction at the national level, with operational systems for the steps in which different institutions are involved. Such is the case with SINTIA, system used at the CEBAF in Desaguadero (Álvarez et al., 2023), and of SOFIA, the main IT tool used by Paraguay's customs (CAF y Mcrit, 2024). At the regional level, initiatives such as the DUCA (Central American Single Declaration), the PDCC (Central American Digital Trade Platform) and TIM (International Freight Transport) are also prominent in Central America. Another important initiative soon to be implemented by the Andean Community is the Intercom

project, which aims to streamline foreign trade procedures between Bolivia, Colombia, Ecuador, and Peru.

In all cases, it is important to review whether the necessary conditions are met for the adoption and proper implementation of these technologies, which includes the provision of adequate ICT services in the area, training of the staff and users, and improvements in cybersecurity, among others. In addition to the development of these conditions, the standardization of regulations is required to ensure coordination for data collection and sharing, generating common statistical information that allows measuring the status of the border crossings and the projects developed.

Territorial planning

The interaction of the crossing and its activities with the border territories can generate friction in the border area if it is not done in an organized and planned manner. Examples of these frictions are the congestion of the border areas and the uncontrolled flows of people and goods.

Countries can minimize these frictions and externalities through border territories planning with a multinational approach. This should consider the role of the territories as providers of complementary services to the crossing, their current and potential productive development, and the importance of providing basic services to promote the socioeconomic development of the border area. Territorial planning should not only be aligned with the existing or planned transportation infrastructure in that area, but should also be coordinated among local governments, evaluating the advantages and benefits of each area collectively. This is an aspect to improve in terms of cross-border coordination, considering that territorial planning at the district level often does not take into account developments on the other side of the border.

Part of the analysis of territorial planning includes considering the needs driven by existing and potential productive development. An example of this productive development is the commercial activities linked to the free trade zones established nearby (Global and International Free Trade Zone in Ciudad del Este, ZofraTacna, ZofraCobija, Puerto Iguazú Free Trade Zone, Desaguadero Free Trade Zone, Arica Free Trade Zone, and Cúcuta Free Trade Zone).

Additionally, border territories provide complementary services to the crossing, which must be taken into account in land use planning to ensure that these activities promote their growth. For example, the construction of stations similar to Michi-No-Ekii⁸ or accommodation for tourists can be mentioned. In this latter case, projects aimed at increasing the supply of accommodation can be an opportunity for border development in the cases of Iñapari, Assis Brasil, Desaguadero (both on the Bolivian and Peruvian sides), Ureña, San Antonio del Táchira, Villa del Rosario, Cúcuta, Tecún Umán, La Hachadura, Pedro de Alvarado, and Barú, which are territories with a low level of accommodation per capita.

Beyond the current productive development, border areas have a potential that could alter their economic structure, and this potential must be considered in any land use planning. For example, in the Integral Development Program of Tabasco, the development of the El Suspiro-El Ceibo regional logistics corridor was identified, among other initiatives, as a project of great relevance for connecting Tabasco with Central America, facilitating trade and productive development, particularly in sectors such as agro-industry and livestock. In the latter sector, there are opportunities to establish productive linkages with the livestock industry of Guatemala, which is more competitive than the Mexican one.

The provision of basic services is an area that needs improvement in border regions, particularly in terms of social infrastructure and telecommunications coverage, where the most significant deficiencies are found compared to national averages. At the territorial level, opportunities include the interventions aimed

⁸ The Japanese model Michi-No-Eki consists of designing stations to offer resting spaces for road users and promote local revitalization. These stations, managed by local governments and communities, also provide food services, indigenous products, free parking, and tourist information, thus contributing to regional development (CERI, 2021).

at improving drinking water coverage in Ciudad del Este, Cobija, Iñapari, Iberia, Tecún Umán, and El Naranjo; electricity in Desaguadero (Peru); healthcare in Puerto Iguazú, Ciudad del Este, Iñapari, Tacna, Desaguadero (Peru), and Suchiate; and education in Desaguadero (Peru), Iñapari, Cobija, La Hachadura, Pedro de Alvarado, Tecún Umán, Suchiate, El Naranjo, and Tenosique de Pino Suárez. In general, although there are a few exceptions, the most significant deficiencies are observed in territories with smaller populations.

Given the costs of expanding infrastructure in peripheral territories, a potential advantage of border crossings classified by their territorial distribution into categories such as conurbations or proximity between cities is the possibility of binational collaboration in the provision of basic services (SELA, 2012). In these cases, the implementation of binational infrastructure projects could be considered, allowing for joint service provision of services, thus leveraging the benefits of achieving greater scale in projects. In some services, particularly in education and healthcare, this joint provision is already occurring without being formalized in specific agreements between local governments. For instance, in the Desaguadero territories of Peru and Bolivia, networks of cooperation and collaboration have been established in education and healthcare. Meanwhile, Tacna, in Peru, has specialized in providing medical services to residents in Northern Chile. In a more coordinated manner, the RIFU (Border University Integration Network) promotes collaborative work among universities located in border territories. There are also initiatives within the MERCOSUR framework, such as the special border document or the border neighbor card, which allows, among other activities, studying in the locality of the neighboring country.

Environmental and social aspects

In the analysis of opportunities, the environmental and social aspects specific to each border area are important to consider. The environmental dimension includes the environmental externalities that infrastructure development projects may cause, as well as the potential impacts that the environment and climatic conditions may have on the infrastructure, affecting its long-term maintenance needs. On the other hand, considering social aspects involves reviewing whether the proposed projects have the support of the local population or, at the very least, do not conflict with their interests.

The consideration of environmental aspects becomes particularly important in border infrastructure projects, as all the border territories analyzed in this report—except for San Lorenzo-Extrema—have protected areas within a 100 km radius (Protected Planet, n.d.). Environmental impact on infrastructure maintenance is especially relevant for border investments since these areas are often exposed to natural disasters such as extreme storms, floods, and earthquakes, among other phenomena. Some of the most affected border crossings include those in the Amazon region, such as Assis Brasil-Iñapari, Cobija-Brasiléia/Epitaciolândia, and San Lorenzo-Extrema⁹, as well as those in the triple border area between Argentina, Brazil, and Paraguay, and crossings like Chacalluta, El Ceibo, and La Hachadura-Pedro de Alvarado. For this reason, it is essential to prioritize the development of resilient infrastructure, which involves identifying critical road segments vulnerable to climate change and making investments to ensure year-round accessibility, even under adverse weather conditions (Olaya González et al., 2022).

Given this relevance, CAF has incorporated into its agenda lines of work that include the sustainability of projects and the efficiency of investments aimed at enhancing the resilience of transport infrastructure. Among other initiatives, the *Guide to Good Practices for Climate Adaptation of Roads* (De la Peña et al., 2018) stands out, focusing on the development of rural roads with a strong emphasis on

⁹ However, this crossing is located at a linear distance of 125 km from the Rio Acre Ecological Station, 150 km from the Chico Mendes Extractive Reserve, and 175 km from the Manuripi National Park, which are part of the Amazon biome.

environmental considerations (Fernández Ordoñez, 2023). Another key initiative is the *Analysis of Investments in the Latin American Interurban Land Transport Sector to 2040* (AC&A & Cenit, 2020), whose sectoral goal is to reduce adverse environmental and social impacts through mitigation and adaptation measures for climate change, and the development of courses on planning and financing road infrastructure, emphasizing the sustainability of road projects (CAF, 2023b).

At the regional level, SICA (2023) developed a Strategic Environmental Assessment (SEA) framework aimed at ensuring that projects and policies align with the concept of sustainable development. This type of assessment evaluates the suitability of areas for transport infrastructure development based on two criteria: 1) the environmental sensitivity of the areas, considering conservation and protected areas, water bodies, forests, and other elements of the nearby natural heritage and, 2) natural disaster risk analysis, which evaluates the likelihood of disasters caused by hydrometeorological phenomena. Taking social aspects into account, IIRSA developed EASE (Strategic Environmental and Social Assessment) methodology, which aims to evaluate and manage the environmental and social impacts of infrastructure projects (IIRSA, 2009). Unlike the SEA framework, this initiative specifically considers the impact of infrastructure projects on local communities, the equitable distribution of the benefits derived from these projects, and the involvement of key groups.

In line with this, the implementation of infrastructure projects at border crossings can have social impacts that are not always desired by the local population. For instance, the development of border crossings for tourism purposes may attract visitors to the area and increase the demand for basic services such as accommodation and healthcare. Similarly, streamlining border crossings might reduce the income of local populations whose livelihoods depend on providing complementary services to travelers waiting to cross. Involving local groups in border projects helps prevent such impacts and ensures that social conditions and the popular will are considered. This approach allows decisions to be based on accurate information and a thorough understanding of the area and the specific border crossing.

Coordination of public policies

The opportunities to improve the functioning of border crossings and promote the development of border areas, as mentioned earlier, require effective coordination of public policies between countries. To strategically guide the improvement of border posts, this coordination must encompass planning, monitoring, and evaluating initiatives (SICA, 2023) and should involve various aspects. These aspects include **prioritizing investment projects, defining financing schemes, regulating and complying with entry and exit requirements, and decentralizing decision-making, giving more power to local actors.**

A primary aspect that requires coordination among countries is the selection of **border infrastructure projects to prioritize**. With this objective in mind, some integration mechanisms have advanced in defining portfolios of relevant projects to move forward in this process. Such is the case of SICA, which has identified priority projects in the Regional Master Plan for Mobility and Logistics by 2035 to improve connectivity and economic development in the Central American region. This plan includes covering subsectors such as road, rail, river transport, coordinated border management, and land border crossings (SICA, 2023). FOCEM, for its part, is a fund dedicated to financing projects that promote structural convergence, develop competitiveness, foster social cohesion, and support the functioning of the institutional structure and the strengthening of the integration process in Mercosur countries. This mechanism emphasizes the improvement of transport infrastructure and the facilitation of physical integration among member states (FOCEM, 2021). Meanwhile, the Pacific Alliance has developed a portfolio of investment opportunities in infrastructure, with strategic projects in sectors such as transportation, energy, and telecommunications, seeking to strengthen connectivity and competitiveness among Chile, Colombia, Mexico, and Peru (Pacific Alliance, 2021).

Cross-border infrastructure projects not only face the typical challenges of any infrastructure project but also the challenges associated with the allocation of expenses, risks, and responsibilities that involve the required coordination between countries for their financing. These **financing schemes** require higher levels of coordination and specific

strategies. In previous experiences, countries have overcome these challenges through various solutions, ranging from binational agreements to the establishment of binational funds, the creation of binational companies, or special purpose vehicles (SPVs). The first scheme enabled the construction of control posts in Paso Canoas, which was part of the “Framework Agreement to Implement Binational Integrated Control Systems at the Border Posts between Costa Rica and Panama” (Government of Costa Rica, 2022; IDB, 2024). An example of a binational fund is the development fund for the border integration zone between Peru and Colombia (Ministry of Foreign Affairs of Colombia, 2018). Regarding SPVs, a formula in which all investment funds are allocated to the created entity instead of separately to each country, two notable experiences are the construction projects of the Yacyretá dams, between Argentina and Paraguay, and Itaipú, between Paraguay and Brazil.

At the regional level, other mechanisms have emerged to address the challenges involved in carrying out cross-border infrastructure projects, such as the previously mentioned FOCEM and the FIAP (Pacific Alliance Infrastructure Fund).

Finally, the implementation of projects under the PPP (public private partnership) modality helps to bridge financing gaps in large-scale projects, while leveraging the expertise, innovation, and financing of the private sector, which shares the risks with the public sector, depending on which of the two is more efficient in addressing and managing the risks. This financing alternative has been frequently recommended in the Regional Mobility and Logistics Plan 2035 for Central America, particularly for urban logistics projects. In South America, a notable example is the Los Andes Puerto Terrestre (Los Andes Land Port) in Chile, which has received significant investments through the concession mechanism, a type of PPP (public private partnership).

Another aspect that demands coordination between countries is the harmonization of **regulations and the standardization of entry and exit processes and requirements**. To achieve this, the approach of Coordinated Border Management has become a priority¹⁰.

This practice consists of coordinating public and private sector services with the aim of improving fiscal and parafiscal control, border security, and trade facilitation, as well as the transit of people, within a framework of effectiveness and efficiency in the use of resources (Márquez, 2014; Canales Ewest, 2019).

Particularly for the movement of people, countries have reached agreements that aim to facilitate border procedures within the frameworks of their respective integration mechanisms. In Central America, the Central American Free Mobility Agreement (CA-4) between El Salvador, Guatemala, Honduras, and Nicaragua stands out, allowing the intraregional transit of nationals from the signatory countries by only presenting identification documents, such as a valid identity card or residence permit (IOM, 2021). In the countries that make up Mercosur, the regulations of this integration mechanism establish that individuals exiting one member state to enter another through a border crossing with an ACI (Integrated Control Area) benefit from compatible and similar administrative and operational procedures, carried out sequentially and, whenever possible, simultaneously. Additionally, agreements between neighboring countries to ease cross-border movement are also common, such as the smooth passage for the mobility of people between Guatemala and El Salvador (IOM, 2021) and the special border document or border neighborhood card between Brazil and Bolivia (Álvarez et al., 2023).

Moreover, the trade facilitation tools that require institutional coordination among countries have been proven useful in reducing crossing times and increasing security, although there are still opportunities for further improvement. Such is the case with tools like the Single Window Interface for Trade (SWIFT), the Central American Customs Form (DUCA), and the International Transit of Goods (TIM). To promote the use of instruments that facilitate the movement of goods, the CAF Trade Facilitation Tool strengthens institutional coordination and capacities in border management, primarily for commercial aspects, by promoting the adoption of a comprehensive approach to border management. In this way, it seeks to identify the major bottlenecks for trade facilitation at the national level or at border points, and

¹⁰ An example of this is that the Coordinated Border Management approach represents one of the main agenda items of the WTO Trade Facilitation Agreement.

then propose specific solutions to address them, framed within the commitments made by countries in the World Trade Organization (WTO) Trade Facilitation Agreement.

Another important factor for ensuring that potential developments in border areas achieve their desired impact is the **coordination of different levels of government within a country**. One way to accomplish this is through the formal decentralization of the definition and implementation of certain policies, which requires involving local actors through various forums or participation frameworks. These actors should include national and local leaders, representatives of the main supply and production chains on both sides of the border, small and medium-sized enterprises (SMEs), academia, civil society, and the local community.

At times, this decentralization tends to occur informally, based on decisions made by local governments, without a framework to support them. In this context, the challenge lies in effectively institutionalizing decentralization by creating the necessary conditions for such a framework. In Central America, efforts have been made to promote collaborative intersectoral organizations and working groups among governments and local actors to create favorable conditions that attract investments and opportunities for cross-border economic development. In the triple border region between Argentina, Brazil, and Paraguay, this has been achieved through the establishment of development councils at the municipal level in Ciudad del Este (CODELESTE), Presidente Franco (CODEFRAN), Foz do Iguaçu (CODEFOZ), and Puerto Iguazú (CODESPI). The goal of these councils is to coordinate efforts among local public and private actors to promote strategic agendas for local development, improve economic competitiveness, foster sustainable tourism, and address infrastructure needs and territorial planning (CAF and Mcrit, 2024).

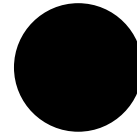
On the other hand, it is important to include the possibility for local actors to participate directly in international matters, which falls under the concept of *paradiplomacy*¹¹. In Central America, the CTPT (Tri National Commission of the Trifinio Plan), composed of El Salvador, Guatemala, and Honduras, stands out, focusing on the comprehensive management of natural resources and the economic development of the region. In South America, the Chile-Peru Border Committee, restructured into the CIDF (Border Integration and Development Committee) in 2012, and the CVIF (Vice-Ministerial Commission and Border Integration) between Peru and Brazil are notable. Both institutions, while having national representation, directly involve representatives from subnational governments and other local actors in discussions and decisions regarding border areas. Finally, committees composed of representatives from municipal authorities and local civil society are also highlighted. An example of the latter is the CIF (Intermunicipal Border Consortium), among the Brazilian municipalities of Barracao, Bóm Jesus do Sul, and Dionisio Cerqueira, and the Argentine municipality of Bernardo de Irigoyen, and the CODETRI (Development Council of the Triple Frontier), which groups the aforementioned CODELESTE, CODEFRAN, CODEFOZ, and CODESPI. (CAF y Mcrit, 2024).

To conclude, it is important to highlight that the interventions presented in this report provide a useful starting point for effectively addressing the challenges faced by land crossings in the region. This process must be continuous and requires adaptability, innovation, and a sustained commitment to dialogue and cooperation among all involved parties. These elements, combined with local and national political will, international coordination, infrastructure development, integration of border controls, and border area planning, are crucial for transforming border crossings into efficient hubs that stimulate the movement of people, goods, and the growth of surrounding areas.

¹¹ Regional universities located in border areas also play a relevant role in fostering cooperation for development and integration, benefiting communities that share borders and common challenges. An example of this decentralized approach is observed in Chile, where the creation of regional governments in 1992 granted specific powers to the regions, strengthening their capacity for international cooperation and the provision of cross-border services (Carrión and Enriquez Bermeo, 2019)



References



AC&A, y Cenit (2020). Análisis de inversiones en el sector transporte terrestre interurbano latinoamericano a 2040. [Analysis of investments in the Latin American intercity land transport sector up to 2040] Caracas: CAF. <https://scioteca.caf.com/handle/123456789/1537>

Ahumada, L. I., Torres, N. T. y Rodríguez, R. R. (2018). La zona franca de Iquique y su impacto en el trabajo informal de mujeres migrantes fronterizas. [The free trade zone of Iquique and its impact on the informal work of migrant border women.] Polis. Revista Latinoamericana, vol. 51.

Alianza del Pacífico (2021). Portafolio de oportunidades de inversión en infraestructura de la Alianza del Pacífico. [Portfolio of investment opportunities in infrastructure of the Pacific Alliance] <https://alianzapacifico.net/wp-content/uploads/2021/11/Portafolio-de-Oportunidades-de-Inversion-en-Infraestructura-de-la-Alianza-del-Pacifico-esp.pdf>

Álvarez Torres, C. (2019). Comité de Integración y Desarrollo Fronterizo Perú-Chile: aproximaciones al mundo social y empresarial en torno a la frontera. Si Somos Americanos, vol.19(2). [Peru-Chile Border Integration and Development Committee: approaches to the social and business world around the border. Si Somos Americanos, 19(2).] <http://dx.doi.org/10.4067/S0719-09482019000200049>

Álvarez, D., Bondorevsky, D. y Cruz, S. (2023). Caso Perú-Bolivia-Brasil-Chile: pasos de frontera Tacna-Arica, Desaguadero y la triple frontera amazónica Sur-Oeste. [Peru-Bolivia-Brazil-Chile case: Tacna-Arica border crossings, Desaguadero, and the South-West Amazonian triple frontier.] Unpublished manuscript.

AUDA-NEPAD y JICA (2022). *One-Stop Border Post Sourcebook, 3rd Edition*. Midrand, South Africa: African Union Development Agency and Japan International Cooperation Agency. <https://www.nepad.org/publication/one-stop-border-post-sourcebook>

CAF (2023a). CAF y Gobierno de Tabasco presentan un programa de desarrollo integral para facilitar el comercio con integración territorial y desarrollo social y productivo [página web]. Noticia del 2 de marzo. [CAF and the Government of Tabasco present a comprehensive development program to facilitate trade with territorial integration and social and productive development [web page]. News from March 2] <https://www.caf.com/es/actualidad/noticias/2023/03/caf-y-gobierno-de-tabasco-presentan-unprograma-de-desarrollo-integral-para-facilitar-el-comercio-con-integracion-territorial-y-desarrollosocial-y-productivo/>

CAF (2023b). Realiza los cursos especializados de CAF sobre planificación y financiamiento de infraestructura vial [sitio web]. Noticias. [Take CAF's specialized courses on planning and financing road infrastructure [website]. News.] <https://www.caf.com/es/actualidad/noticias/2023/10/realiza-loscursos-especializados-en-planificacion-y-financiamiento-de-infraestructura-vial/>

CAF y FOA Consultores (2022). Hoja de ruta para el fortalecimiento del corredor logístico estructurante de Tabasco: Versión final del programa de fortalecimiento a corto y medio plazo del corredor logístico estructurante de Tabasco. Documento inédito. [Roadmap for strengthening the structuring logistics corridor of Tabasco: Final version of the short-and medium-term strengthening program of the structuring logistics corridor of Tabasco. Unpublished document.]

CAF y Mcrit (2024). Hoja de Ruta del Ámbito de Desarrollo Integral (ADI) de la Triple Frontera. Informe 3. Diagnóstico integral y propuesta estratégica. Documento inédito. [*Roadmap of the Comprehensive Development Area (ADI) of the Triple Border. Report 3: Comprehensive diagnosis and strategic proposal.* Unpublished document.]

Canales Ewest, G., Sarria, A., Méndez, E., Castro, P., Alfaro, C., Libby, M. H., Castrillo Morales, R., Aguirre, C., Castillo, M. y Castillo, S. (2019). Guía dinámica: Cómo gestionar un proyecto de puesto de frontera. [*Dynamic guide: How to manage a border post project.*] <https://doi.org/10.18235/0002028>

Carrión, F. M. y Enríquez Bermeo, F. (eds.) (2019). Dinámicas transfronterizas en América Latina: ¿de lo nacional a lo local? Organización Latinoamericana y del Caribe de Ciudades Fronterizas (OLACCIF). [*Transborder dynamics in Latin America: From national to local?* Latin American and Caribbean Organization of Border Cities (OLACCIF).] <https://www.flacso.edu.ec/portal/pnTemp/PageMaster/vpt7w5mnpnquy862bpwxyz8kn1sqh.pdf>

CEPAL (2014). Integración regional: hacia una estrategia de cadenas de valor inclusivas. Comisión Económica para América Latina y el Caribe. [*Regional integration: Towards a strategy of inclusive value chains.* Economic Commission for Latin America and the Caribbean.] <https://www.cepal.org/es/publicaciones/36733-integracionregional-estrategia-cadenas-valor-inclusivas>

CEPAL (2023). Extracción e industrialización del litio: oportunidades y desafíos para América Latina y el Caribe. Comisión Económica para América Latina y el Caribe. [*Lithium extraction and industrialization: Opportunities and challenges for Latin America and the Caribbean.* Economic Commission for Latin America and the Caribbean.] <https://repositorio.cepal.org/items/176659b6-cc18-4f3c-9ae0-ba007ff45a8d>

CERI (2011). Manual sobre Michi-no-Eki para cooperación internacional. Agencia Nacional de Investigación y Desarrollo, Instituto de Investigación en Ingeniería Civil para Regiones Frías (CERI), Equipo de Paisaje Local, Agencia de Cooperación Internacional del Japón, Centro de Hokkaido. [*Manual on Michi-no-Eki for international cooperation.* National Agency for Research and Development, Cold Region Civil Engineering Research Institute (CERI), Local Landscape Team, Japan International Cooperation Agency, Hokkaido Center.] https://scenic.ceri.go.jp/michi_no_eki_handbook/pdf/michi-no-eki-handbook202002es.pdf

Chi, G., Fang, H., Chatterjee, S. y Blumenstock, J. E. (2022). Microestimates of wealth for all low-and middle-income countries. *Proceedings of the National Academy of Sciences*, vol. 119(3).

Chiarella Quinhoes, R. (2016). Territorial development and Amazon integration: A new management perspective on the tri-border between Peru, Brazil and Bolivia. *Athens Journal of Tourism*, vol. 3(1), 53-74.

Cordero, M. (2016). Integración económica centroamericana. Base de datos 2016. Comisión Económica para América Latina y el Caribe. Sede subregional México. [*Central American economic integration. 2016 database.* Economic Commission for Latin America and the Caribbean. Mexico Subregional Headquarters.] <https://repositorio.cepal.org/server/api/core/bitstreams/cfdf4f1a-b572-4722-8e5b-19be3004b29c/content>

Dammert Guardia, M., Bensús, V., Sarmiento, K. y Prieto, G. (2017). Una aproximación a las fronteras desde los mercados ilegales en el Perú. PUCP y FLACSO. [*An approach to borders from the perspective of illegal markets in Peru.* PUCP and FLACSO.] <https://repositorio.pucp.edu.pe/index/handle/123456789/171228>

De la Peña, E., Díaz, J., Rodrigo, M., Miralles, E., Díaz, L., Valdés, S. y Canalda, L. (2018). Guía de buenas prácticas para la adaptación de las carreteras al clima. Caracas: CAF. [*Best practices guide for climate adaptation of roads.* Caracas: CAF.] <https://scioteca.caf.com/handle/123456789/1221>

Fernández Ordoñez, H. O. (2023). Caminos rurales, una puerta al desarrollo y la conectividad territorial -América Latina. Bogotá, D. C.: CAF. [*Rural roads: A gateway to development and territorial connectivity in Latin America.* Bogotá, D.C.: CAF.] <https://scioteca.caf.com/handle/123456789/2135>

FOCEM (2021). Fondo para la Convergencia Estructural del MERCOSUR. Montevideo: Unidad Técnica FOCEM (UTF) y Secretaría del Mercado Común del Sur. [*Structural Convergence Fund of MERCOSUR*. Montevideo: Technical Unit of FOCEM (UTF) and Secretariat of the Southern Common Market.] https://focem.mercosur.int/docs/FOCEM_es_v8.pdf

Gimenez, D. A. (2017). La frontera de lo posible [presentación]. Integración de frontera Argentina-Brasil. XXXI Reunión del Foro Técnico IIRSA. Participación de Organizaciones Sociales Suramericanas. Iniciativa para la Integración de la Infraestructura Regional Suramericana (IIRSA). [*The frontier of the possible* [presentation]. Argentina-Brazil border integration. XXXI Meeting of the IIRSA Technical Forum. Participation of South American Social Organizations. Initiative for the Integration of Regional Infrastructure in South America (IIRSA).] https://www.iirsa.org/admin_iirsa_web/Uploads/Documents/cn31_buenos_aires17_Anexo%2010_Integracion_Argentina-Brasil.pdf

Global Data Lab (n.d.). *Subnational Human Development* [database]. Accessed in January 2024. Retrieved from <https://globaldatalab.org/shdi/>

Gobierno de Brasil (2023). Pré-cadastro migratório. [*Pre-migration registration*.] <https://www.gov.br/pt-br/servicos/pre-cadastromigratorio>

Government of Costa Rica (2022). Acuerdo marco para implementar sistemas de control integrado binacional en los puestos fronterizos entre Costa Rica y Panamá. [*Framework agreement to implement integrated binational control systems at border posts between Costa Rica and Panama*.] <https://www.comex.go.cr/media/9182/pif-acuerdo-marco-panam%C3%A1-v-170322.pdf>

Government of Paraguay (2024). Digitalización de trámites migratorios se implementa con éxito en pasos fronterizos. Ministerio de Tecnologías de la Información y Comunicación de Paraguay (MITIC). [*Digitalization of migration procedures successfully implemented at border crossings*. Ministry of Information and Communication Technologies of Paraguay (MITIC).] <https://mitic.gov.py/digitalizacion-de-tramites-migratorios-se-implementa-con-exito-en-pasos-fronterizos/>

IDB (2022). *Migrant Population of Latin America and the Caribbean*. DATAMIG [database]. Inter-American Development Bank. Accessed in August 2023. <https://datamig.iadb.org/en/migrant>

IDB (2024). Costa Rica y Panamá inauguran innovador paso fronterizo con apoyo del BID [Comunicado de prensa]. [*Costa Rica and Panama inaugurate an innovative border crossing with IDB support* [Press release] Inter-American Development Bank.] <https://www.iadb.org/es/noticias/costa-rica-y-panamainauguran-innovador-paso-fronterizo-con-apoyo-del-bid>

IIRSA (2005). Facilitación del transporte en los pasos de frontera de Sudamérica. Programa de Proyectos Piloto en Pasos de Frontera - Fase II. Asistencia Técnica Bilateral y Apoyo en Implementación de Ejercicios de Controles Integrados. Iniciativa para la Integración de la Infraestructura Regional Suramericana. [*Facilitation of transportation at South American border crossings*. Pilot Projects Program for Border Crossings - Phase II. Bilateral Technical Assistance and Support in the Implementation of Integrated Control Exercises. Initiative for the Integration of Regional Infrastructure in South America.] http://www.iirsa.org/admin_iirsa_web/uploads/documents/pfd_ftpf2_completo.pdf

IIRSA (2009). Metodología de Evaluación Ambiental y Social con Enfoque Estratégico – EASE- IIRSA. Iniciativa para la Integración de la Infraestructura Regional Suramericana. [*Environmental and Social Assessment Methodology with a Strategic Approach – EASE-IIRSA*. Initiative for the Integration of Regional Infrastructure in South America.] https://www.iirsa.org/admin_iirsa_web/Uploads/Documents/ease_metodologia_iirsa.pdf

IOM (2019). *Integrated border management*. Immigration and Border Management Division of the International Organization for Migration. <https://www.iom.int/sites/g/files/tmzbdl486/files/documents/integrated-border-management.pdf>

IOM (2021). Estudio sobre la relación entre movilidad de personas, desarrollo económico e integración comercial en Centroamérica. San José: Organización Internacional para las Migraciones. [*Study on the relationship between human mobility, economic development, and trade integration in Central America*. San José: International Organization for Migration.]

IOM and Unicef (2022). Informe sobre la situación actual en la frontera Perú-Bolivia. [Report on the current situation at the Peru-Bolivia border.] <https://www.r4v.info/sites/default/files/2022-03/InformesobrelasituacionactualenDesaguadero24Mar2022.pdf>

Maloney, W., Riera-Crichton, D., Ianchovichina, E. I., Beylis, G. y Vuletin, G. (2023). The promise of integration: Opportunities in a changing global economy. *Latin America and the Caribbean Economic Review*. Washington, D. C.: World Bank. <https://openknowledge.worldbank.org/entities/publication/9128f96e-727f-4635-925d-0f6f386ede39>

Márquez, M. (2014). Importancia y retos de la gestión coordinada de fronteras en la región [presentación]. Sector de Integración y Comercio, Vicepresidencia de Sectores y Conocimiento, Banco Interamericano de Desarrollo. [*Importance and challenges of coordinated border management in the region* [presentation]. Integration and Trade Sector, Vice Presidency of Sectors and Knowledge, Inter-American Development Bank.] <https://www2.aladi.org/sitioaladi/reuniones/ManuelMarquez.pdf>

Meza Monge, N. (2010). Espacios regionales fronterizos. *Paideia XXI*, vol. 1(1): 33-44. [*Regional border spaces*. *Paideia XXI*, vol. 1(1): 33-44.] <https://doi.org/10.31381/paideiaxxi.v1i1.2365>

Migración Colombia (2024). Flujos Migratorios [base de datos]. Ministerio de Relaciones Exteriores. Consulta realizada en enero de 2024. [*Migration flows* [database]. Ministry of Foreign Affairs. Accessed in January 2024.] <https://public.tableau.com/app/profile/migraci.n.colombia/viz/FlujosMigratorios-2022/Inicio>

Ministry of Foreign Affairs of Colombia (2018). Colombia y Perú suscribieron acuerdo con el BID para la administración del Fondo de Desarrollo de la Zona de Integración Fronteriza. Cancillería de Colombia. [*Colombia and Peru signed an agreement with the IDB for the administration of the Border Integration Zone Development Fund*. Colombian Ministry of Foreign Affairs.] <https://www.cancilleria.gov.co/newsroom/news/colombia-peru-suscribieron-acuerdo-bidadministracion-fondo-desarrollo-zona>

Montejo Villa, L. (2017). ¿Cuál es el papel que juegan las zonas francas en el desarrollo industrial? Perspectiva jurídica en el caso colombiano y algunos aspectos puntuales del derecho comparado. [*What role do free trade zones play in industrial development? A legal perspective on the Colombian case and some specific aspects of comparative law*.]

OECD (2023). *Trade Facilitation Indicators* [database]. Organisation for Economic Co-operation and Development. Accessed in August 2023. <https://sim.oecd.org/default.ashx?ds=TFI>

Olaya González, J. C., Suardí Gómez, A., Lefevre, B. y Rodríguez Porcel, M. (2022). Transporte resiliente al cambio climático: ¿cómo priorizar la inversión? Caso de República Dominicana. Banco Interamericano de Desarrollo. [*Climate Change Resilient Transport: How to Prioritize Investment? Case of the Dominican Republic*. Inter-American Development Bank.] <https://publications.iadb.org/es/transporte-resiliente-al-cambio-climatico-como-priorizar-lainversion-caso-de-republica-dominicana>

OMA (2014). Coordinated Border Management. Permanent Technical Committee, Sessions No. 205/206. World Customs Organization. <http://www.wcoomd.org/en/topics/facilitation/resources/~/media/FB6565494A104541BF2E89B1CC6923E2.ashx>

Protected Planet (s.d.). South America protected areas. UNEP-WCMC and IUCN. Accessed in August 2024. <https://www.protectedplanet.net/region/SA>

Rías, J. C. y Gaitán, J. V. (2019). Reconfiguración de la frontera norte de Santander-Táchira: ilegalidad, crimen organizado y corrupción. *OPERA*, vol. 24. [*Reconfiguration of the northern border of Santander-Táchira: illegality, organized crime, and corruption*. *OPERA*, vol. 24.] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3338103

Rodríguez Rodríguez, A., De la Puente Pacheco, M. A. y Trejos Rosero, L. F. (2018). Análisis de la frontera Colombia-Venezuela. [*Analysis of the Colombia-Venezuela border*.] Editorial Universidad del Norte. <https://www.jstor.org/stable/j.ctvczzh4>

Sanguinetti, P., Moncarz, P., Vaillant, M., Allub, L., Juncosa, F., Barril, D., Cont, W. y Lalanne, Á. (2021). RED 2021. Caminos para la integración: facilitación del comercio, infraestructura y cadenas globales de valor. [*Paths for integration: trade facilitation, infrastructure, and global value chains*.] Caracas: CAF. <https://scioteca.caf.com/handle/123456789/1823>

SELA (2012). La integración fronteriza en el marco del proceso de convergencia de América Latina y el Caribe. Sistema Económico Latinoamericano y del Caribe. [*Border integration within the framework of the convergence process in Latin America and the Caribbean*. Latin American and Caribbean Economic System.] <https://www.sela.org/es/centro-dedocumentacion/base-de-datos-documental/bdd/34046/la-integracion-fronteriza-en-el-marco-del-proceso-de-convergencia-de-america-latina-y-el-caribe>

SICA (2023). Plan Maestro Regional de Movilidad y Logística. Sistema de la Integración Centroamericana. [*Regional Master Plan for Mobility and Logistics*. Central American Integration System] https://repcionwebsieca.s3.ca-central-1.amazonaws.com/web_sieca/Conectividad+Regional/Plan+Maestro+2035/Plan+Maestro+Regional+2035+CARTA+HIGH.pdf

SICA (n.d.). Comisión Trinacional del Plan Trifinio. Sistema de la Integración Centroamericana. [*Trinational Commission of the Trifinio Plan*. Central American Integration System.] <https://www.sica.int/trifinio/breve.aspx>

Steer (2023a). Caso paso fronterizo Cúcuta San Antonio/Ureña. Documento inédito. [*Case of the Cúcuta San Antonio/Ureña border crossing*. Unpublished document.]

Steer (2023b). Caso pasos fronterizos Eje Mesoamérica. Documento inédito. [*Case of the Mesoamerica border crossings*. Unpublished document.]

Steer (2023c). Marco general para el estudio de pasos de frontera en los procesos de integración regional. Documento inédito. [*General framework for the study of border crossings in regional integration processes*. Unpublished document.]

SUNAT (2022). Anuario estadístico 2021. Superintendencia Nacional de Aduanas y de Administración Tributaria de Perú. [*Statistical yearbook 2021*. National Superintendence of Customs and Tax Administration of Peru.] <https://www.sunat.gob.pe/estadisticasestudios/index.html>

UNCTAD (n.d.). Costos de transporte. UNCTAD STAT [base de datos]. Conferencia de las Naciones Unidas sobre Comercio y Desarrollo. Consulta realizada en agosto de 2023. [*Transport costs*. UNCTAD STAT [database]. United Nations Conference on Trade and Development. Accessed in August 2023.] <https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>

UNDP (2006). Monografía sobre desarrollo humano y Objetivos de Desarrollo del Milenio: Municipio de Guaymango, departamento de Ahuachapán. El Salvador: Programa de las Naciones Unidas para el Desarrollo. [*Report on human development and the Millennium Development Goals: Municipality of Guaymango, Ahuachapán department*. El Salvador: United Nations Development Programme.] <https://www.undp.org/sites/g/files/zskgke326/files/migration/sv/Monografia-ODM-Municipiode-Guaymango.pdf>

UNDP (2022). Desafíos y oportunidades para Guatemala: hacia una agenda de futuro. La celeridad del cambio, una mirada territorial del desarrollo humano 2002-2019. Guatemala: Programa de las Naciones Unidas para el Desarrollo. [*Challenges and opportunities for Guatemala: towards a future agenda. The speed of change, a territorial view of human development 2002-2019*. Guatemala: United Nations Development Programme.] https://indhguatemala.org/app/uploads/2022/07/IDH_Guatemala_FINAL_WEB.pdf

UNDP (n.d.). Índice de desarrollo humano de Perú a nivel departamental, provincial y distrital, año 2017 [base de datos]. Programa de las Naciones Unidas para el Desarrollo. Consulta realizada en enero de 2024. [*Human development index of Peru at the departmental, provincial, and district levels, year 2017* [database]. United Nations Development Programme. Accessed in January 2024.] <https://www.undp.org/sites/g/files/zskgke326/files/migration/pe/8624fa5f0070c47aea699a2be6adfab7552b9a45c2446a267fec91a116c3150a.xlsx>

UNECE (2012). Handbook of best practices at border crossings – A trade and transport facilitation perspective. Comisión Económica para Europa de las Naciones Unidas. [Economic Commission for Europe of the United Nations.] <https://unece.org/info/publications/pub/2688>

Volpe Martincus, C. (2016). Cómo salir del laberinto fronterizo: Una evaluación de las iniciativas de facilitación del comercio en América Latina y el Caribe. Banco Interamericano de Desarrollo. [*How to Exit the Border Labyrinth: An Evaluation of Trade Facilitation Initiatives in Latin America and the Caribbean*. Inter-American Development Bank.] <https://publications.iadb.org/es/publicacion/17200/como-salir-del-laberinto-fronterizo-una-evaluacion-de-lasiniciativas-de>

World Bank (2021). *Doing Business – Case Study Update* [database]. Accessed in August 2023. https://archive.doingbusiness.org/content/dam/doingBusiness/excel/db-2021/DB2021_TAB_Case-study-update.xlsx

