

The Latin American Integration Route in the State of Mato Grosso do Sul - Brazil: Territorial Circulation, Transportation and Logistics*

Ana Paula Camilo Pereira< 

Mateus Boldrine Abrita^μ 


Angelo Rondina Neto[¥] 

Daniel Amorim Souza Centuriao[§] 

Rafaella Stradiotto Vignandi[~] 

Guilherme Espíndola Junior[£] 

Nelagley Marques^œ 

Vanessa Aparecida de Moraes Weber^ß 

Ruberval Franco Maciel^P 

* This work is the result of the project “Study of the dynamics of Local Productive Arrangements in the municipalities of Mato Grosso do Sul, their relationship with the Bioceanic Corridor and Transport Modals in Local and Regional Development”, generated by Agreement 919054/2021, signed on December 27, 2021, between the Midwest Development Superintendence/SUDECO and the Mato Grosso do Sul State University Foundation (UEMS).

< Universidade Estadual de Mato Grosso do Sul, Campo Grande – Brazil. ✉ apaulacape@uems.br. ORCID: 0000-0002-4963-4173.

μ Universidade Estadual de Mato Grosso do Sul, Campo Grande – Brazil. ✉ mateusabrita@uems.br. ORCID: 0000-0002-3327-4556.

¥ Universidade Estadual de Londrina, Londrina – Brazil. ✉ angelorondina@uel.br. ORCID: 0000-0002-2137-0751.

§ West Virginia University, Morgantown - United States. ✉ dancenturiao@gmail.com. ORCID: 0000-0001-8372-6269.

~ Universidade Estadual de Mato Grosso do Sul, Campo Grande – Brazil. ✉ rafaella.vignandi@uems.br. ORCID: 0000-0002-1867-7955.

£ Instituto Municipal de Meio Ambiente e Planejamento Urbano, Campo Grande – Brazil. ✉ guilhermeespindolajunior@gmail.com. ORCID: 0000-0002-3032-5928.

œ Universidade Estadual de Mato Grosso do Sul, Campo Grande – Brazil. ✉ nelagley@gamil.com. ORCID: 0000-0001-6630-9746.

ß Universidade Estadual de Mato Grosso do Sul, Campo Grande – Brazil. ✉ vanessaweber@uems.br. ORCID: 0000-0002-6688-369X.

P Universidade Estadual de Mato Grosso do Sul, Campo Grande – Brazil. ✉ ruberval@uems.br. ORCID: 0000-0003-0373-1047.

✉ Correspondence: Ana Paula Camilo Pereira, Travessa Dunas 25, Bairro Monte Castelo Campo Grande (MS), CEP: 79.019-172, Brasil.

Abstract

The Latin American Integration Route (RILA) is a bioceanic road under implementation that aims to connect the state of Mato Grosso do Sul to the ports of northern Chile for the flow of Brazilian production. This work presents a theoretical and analytical analysis of the current modes of transport infrastructure installed in RILA, in the state of Mato Grosso do Sul. Thus, it is understood that transport activities constitute a strategic sector, giving mobility and integration to the most diverse production and distribution chains of goods, as well as the mobility of people. The data and analyses presented seek to contribute to the specific approach related to the importance of transportation systems and the infrastructure network for territorial circulation in the spatial scope of RILA, envisioning the need to promote public policies articulated to long-term planning, offering theoretical and technical subsidies that enable the economic dynamism that this transport corridor can promote in all its articulation scales. This approach highlights the potential of transport and infrastructure modes and the role of Mato Grosso do Sul in the economic dynamics, considering its relevance for the RILA in the South American articulation and integration process, including the Atlantic-Pacific perspective.

Keywords: economic integration, Latin American Integration Route, Mato Grosso do Sul, territorial circulation, transport infrastructure.

Highlights: the article aims to map and identify the current transport infrastructure network in Mato Grosso do Sul and, in this sense, to address the contribution to the implementation of RILA. It highlights the relevance of the State in the South American integration, especially in the Atlantic-Pacific relationship, encompassing logistical, economic and socio-environmental elements, with a clear potential to influence development at multiple scales.



MARCH 28, 2022. | EVALUATED: AUGUST 5, 2022. | ACCEPTED: APRIL 26, 2023.

CÓMO CITAR ESTE ARTÍCULO

Camilo Pereira, Ana Paula; Boldrine Abrita, Mateus; Rondina Neto, Angelo; Centuriao, Daniel Amorim Souza; Stradiotto Vignandi, Rafaella; Espíndola Junior, Guilherme; Marques, Nelagley; Weber, Vanessa Aparecida de Moraes; Franco Maciel, Ruberval. 2025. "The Latin American Integration Route in the State of Mato Grosso do Sul - Brazil: Territorial Circulation, Transportation and Logistics". *Cuadernos de Geografía: Revista Colombiana de Geografía* 34 (1): 188-205. <https://doi.org/10.15446/rcdg.v34n1.107963>.

A Rota de Integração Latino-Americana no estado de Mato Grosso do Sul - Brazil: circulação territorial, transporte e logística

Resumo

A Rota de Integração Latino-Americana (RILA) é um corredor rodoviário bioceânico em implementação, que visa ligar o estado de Mato Grosso do Sul aos portos do norte do Chile, facilitando o escoamento da produção brasileira. O presente trabalho apresenta uma análise teórica e analítica dos atuais modais de infraestrutura de transporte instalados no trajeto da RILA, no estado de Mato Grosso do Sul. As atividades de transportes constituem um setor estratégico, conferindo mobilidade e integração às mais diversas cadeias produtivas e de distribuição de bens e aos deslocamentos de pessoas. As análises e os dados apresentados visam contribuir para uma abordagem sobre a importância dos sistemas de transportes e da rede de infraestruturas de circulação territorial, antecipando a necessidade de promover políticas públicas articuladas com um planejamento de longo prazo, oferecendo subsídios teóricos e técnicos que viabilizem a dinâmica econômica que este corredor pode fomentar em todas as suas escalas de articulação. Em suma, destaca o potencial dos modais de transporte e da infraestrutura, bem como o papel de Mato Grosso do Sul na dinâmica econômica, considerando a sua relevância para a RILA no processo de articulação e integração sul-americana, inclusive na perspectiva Atlântico-Pacífico.

Palavras-chave: integração econômica, Rota de Integração Latino-Americana, Mato Grosso do Sul, circulação territorial, infraestrutura de transporte.

Ideias destacadas: o artigo tem como objetivo mapear e identificar a rede de infraestruturas de transportes atualmente existente em Mato Grosso do Sul, abordando a sua contribuição para a implementação da RILA. Destaca a relevância do estado na integração sul-americana, sobretudo na relação Atlântico-Pacífico, abrangendo elementos logísticos, econômicos, socioambientais, com potencial para influenciar o desenvolvimento em várias escalas.

La Ruta de Integración Latinoamericana en el estado de Mato Grosso do Sul - Brasil: circulación territorial, transporte y logística

Resumen

La Ruta de Integración Latinoamericana (RILA) es un corredor de la carretera bioceánica en implementación que busca conectar el estado de Mato Grosso do Sul con los puertos del norte de Chile para facilitar el flujo de la producción brasileña. Este trabajo presenta un análisis teórico y analítico de los modos de infraestructura de transporte actualmente instalados en la RILA, en el estado de Mato Grosso do Sul. Las actividades de transporte constituyen un sector estratégico, proporcionando movilidad e integración a las más diversas cadenas de producción y distribución de mercancías, y a los movimientos de personas. Los datos y análisis presentados pretenden contribuir a un abordaje sobre la importancia de los sistemas de transporte y de la red de infraestructuras de circulación territorial, anticipándose a la necesidad de promover políticas públicas articuladas con la planificación de largo plazo, ofreciendo subsidios teóricos y técnicos que posibiliten la dinámica económica que este corredor puede fomentar en todas sus escalas de articulación. Este enfoque resalta el potencial del transporte y la infraestructura, así como el papel de Mato Grosso do Sul en la dinámica económica, considerando su relevancia para RILA en el proceso de articulación e integración sudamericana, incluso en la perspectiva Atlántico-Pacífico.

Palabras clave: integración económica, Ruta Integración Latinoamericana, Mato Grosso do Sul, circulación territorial, infraestructura de transporte.

Ideas destacadas: el artículo de investigación tiene como objetivo mapear e identificar la red de infraestructura de transporte actualmente en Mato Grosso do Sul y, en este sentido, abordar la contribución a la implementación de la de RILA. Destaca la relevancia del Estado en la integración sudamericana, especialmente en la relación Atlántico-Pacífico, abarcando elementos logísticos, económicos y socioambientales, con claro potencial para influir en el desarrollo en múltiples escalas.

Introduction

Theoretical discussions on territorial circulation are, from a geographical perspective, through the unequal and irregular articulation of transport systems. From this perspective, we have that territorial circulation [material and immaterial] can be defined as one of the bases of geographical differentiation (Arroyo and Cruz 2015), which is materialized by different interests through the use of territories by different socio-economic actors.

In identifying the concepts that support the most common explanations for the definition of circulation, we rely on Pini's synthetic explanation, for whom circulation is "the tangible manifestation in the form of flows of goods, people, capital, ideas, information and relationships between links" (1995, 140). In this logic, we also consider that the technical composition [contemporary] of territories requires the articulation between them, as a way to intensify spatial interactions (Corrêa 1997) and, therefore, to promote more intense and faster flows through the territories.

Within this context, we have the importance of the analysis of the Latin American Integration Route (RILA), a bioceanic transport corridor, from which we can conclude that its constitution integrates conditions to promote territorial circulation in a more fluid and dynamic perspective of material mobility (of goods and people), which has its elementary exponent in the implementation of transport infrastructures for the materialization of a more dense and active territorial fluidity, oriented towards the socio-economic demands of regional development, linked to national and globalized perspectives. RILA¹ is an international overland transportation corridor under implementation, that aims to connect the state of Mato Grosso do Sul to the ports of northern Chile for the flow of production, according to Figure 1 below:

Thus, we can understand that according to his logic, circulation constitutes an intrinsic element of the process of economic development and planning of territories that, in turn, require a qualified infrastructure in the realization of material geographic mobility, indispensable

1 The name "bioceanic" comes from the possibility of connecting Brazilian ports in the Atlantic Ocean to the ports of Northern Chile in the Pacific Ocean and contemplates the route that departs from the state of Mato Grosso do Sul.

to the globalized context of material and immaterial flows. Undoubtedly, RILA is tied to this logic of the global process of economic development that has circulation as one of its main vectors.

This global dynamic, that influences the actions of spatial planning, is linked to a growing and constant process of capital globalization (Chesnais 1996), which is found in the technical-scientific-informational environment² support for its development.

In this perspective, in recent decades the territories have undergone significant changes due to technical increases that have renewed their materiality. These additions are directly related to the effects of the technical-scientific-informational environment that define a new geographic environment, often enabling the connection of spatially discontinuous places and, sometimes, were not be inserted in the territorial logic linked to economic dynamics (Santos and Silveira 2004).

Thus, territorial circulation is an essential component to the organization of flows, which in turn require the fixed (infrastructure) to delineate an increasingly rapid and rational material mobility, as demands even of commercial globalization. In this sense, (from the commercial perspective) we can analyze national territories as national spaces of the international economy (Santos 1996) characterized as "globalization".

This perspective is tied to the idea of a geographical environment that incorporates the materiality of circulation in the territories, as one of the drivers of economic development, for this the (fixed) static transportation infrastructure is a substantial vector to its planning.

Exposed to this, we understand that territorial circulation is considered as a fundamental theoretical component to the analyses that deal with the implementation of RILA, being indispensable to economic and territorial development, specifically to the analysis, Mato Grosso do Sul (Figure 2).

2 The technical-scientific environment is formed by the technosphere (it is the result of the increasing artificialization of the environment. "The natural sphere is increasingly replaced by a technical sphere, in the city and in the countryside) and by the psychosphere (result of beliefs, desires, and habits that inspire philosophical and practical behaviors, interpersonal relationships and communion with the Universe)" (Santos 1994, 32).

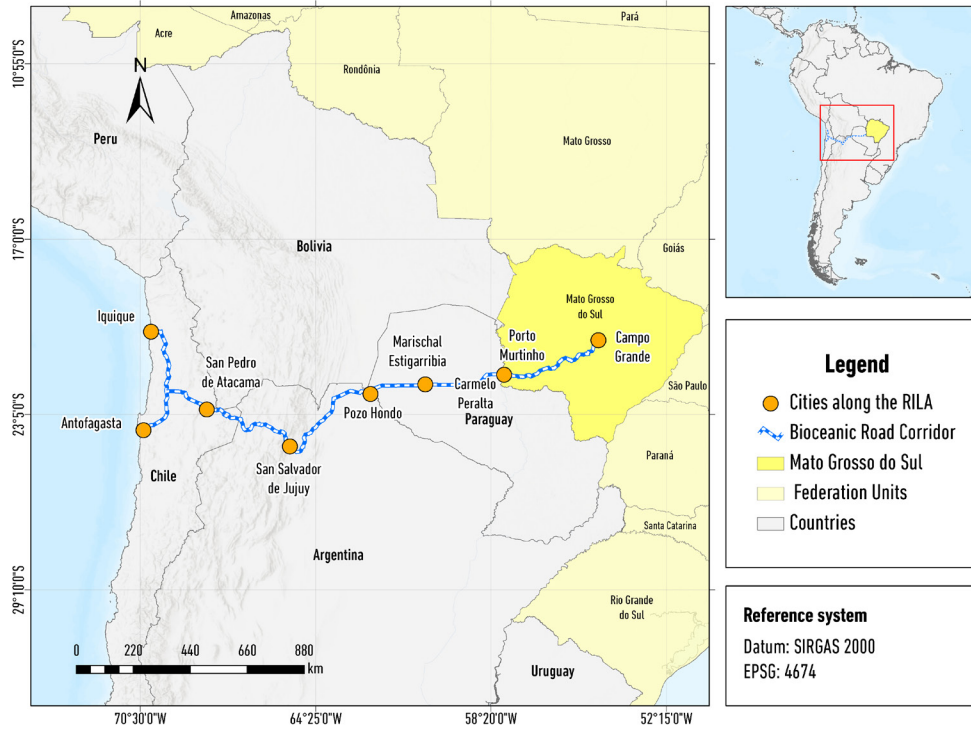


Figure 1. Bioceanic road corridor.
Source: based on IBGE data (2022).

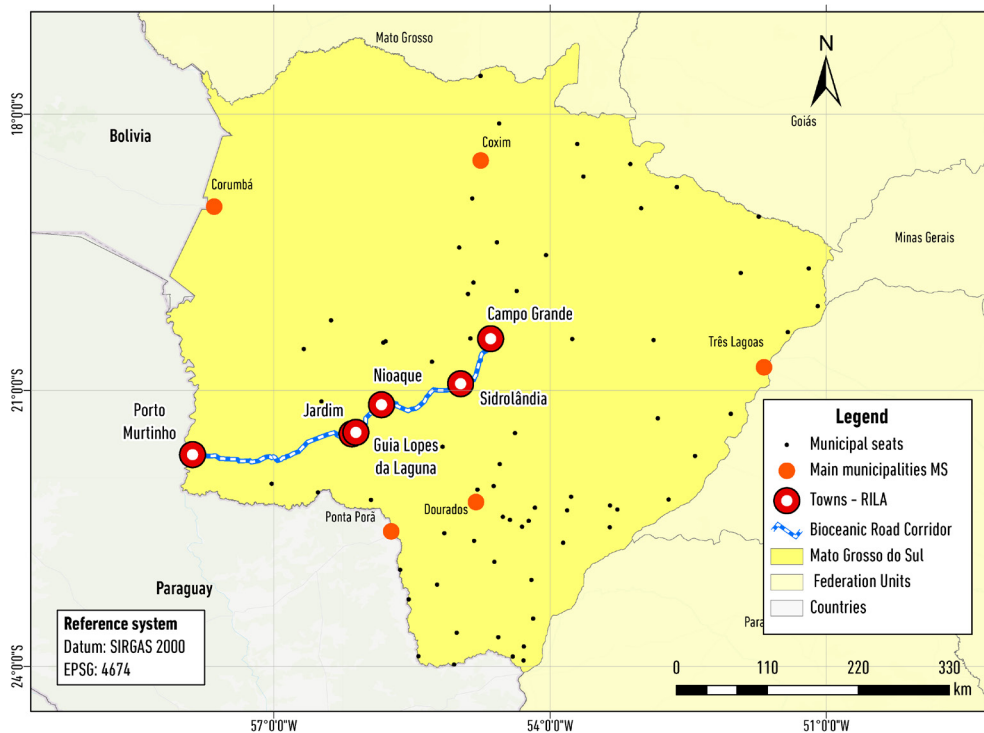


Figure 2. Bioceanic road corridor in the state of Mato Grosso do Sul.
Source: based on IBGE data (2022).

The difficulty of promoting territorial fluidity due to lack or precariousness in transport and logistics infrastructure can make determined portions of the territory depreciated, being also a primary factor of analysis for local and/or regional investment. This is a focal point for RILA's performance in the Brazilian route, that is, it is essential to constitute a network of engineering systems that promote consistency and continuity to territorial circulation.

Thus, this work aims to present an approach on RILA and its relationship with transportation modals in the state of Mato Grosso do Sul. For this, the contextualization on the theme stands out, referencing topics as: territorial circulation, logistics, territorial planning, public policies, and the State. Thus, we highlight a mapping and analysis of the main transportation and logistics plans and movement systems in the spatial area of RILA, from the new logistics network designed based on the Bioceanic Route, through analysis of flows and of fixed³. In particular, this work focuses on presenting an analysis regarding the characterization and potentialities of transportation modals in the RILA route in the Brazilian territory.

This perspective is justified by the fact that transportation activities constitute a strategic sector of the economy, conferring mobility and integration the most diverse production and distribution chains of goods, as well as the mobility of people through the territory. In this merit, its versatility is configured from the different modes of circulation, which in turn require compatible and rational infrastructures that can contribute to the processes of economic growth and development at multiple scales.

In summary, the analyses and data presented seek to contribute to the specific approach related to the importance of transportation systems and the territorial

3 Space is also formed of fixed and flows. Fixed ones are the working instruments of the productive forces in general, including the labor [and static engineering systems], that is, the fixed ones offer us relevant information for the analysis of the immediate work process; on the other hand, flows are movements, circulation, and thus also offer us information that explains the phenomena of distribution and consumption. Therefore, fixed ones generate flows and flows generate fixed. In this context, we can approach production, circulation, distribution and consumption through the analysis of these two elements present in space: fixed ones and flows (Santos 1997).

circulation infrastructure network in the spatial scope of RILA, envisioning the need to promote public policies linked to long-term planning, offering theoretical and technical subsidies that enable the economic dynamics that this transport corridor can foster in all its articulation scales.

Mapping and Territoriality of Transportation and Logistics Infrastructure Currently Installed in The State of Mato Grosso Sul

The movement systems in Brazil have an organizational logic of territorial circulation predominantly characterized by the imbalance of the transportation matrix in general, with too much use of the road modal, especially for the transport of cargo, even at long distances.

According to data from the National Transportation Confederation (2022), approximately 61.1 % of all cargo transported in Brazil in 2020 was carried out by means of highways, with the rail modal accounting for about 20.7 %, the waterways by 13.6 %, pipelines by 4.2 %, and airway by approximately 0.4 %.

According to the Ministry of Transport (2018), Brazil has the fourth largest highway network in the world, and about 75 % of all goods that are moved use the road modal on more than 1.7 million kilometers of roads in The Brazilian territory.

With regard to RILA, which is also characterized by the implementation of a road flow axis, this logic of circulation is not different from the prevailing transport matrix in Brazil, that is, the main modal used for the flow of production is based on highways.

However, even if we understand this prerogative and the benefits that this road corridor will promote to regional economic development, it is worth emphasizing the relevance of other movement systems that can be directly or indirectly vectors of functionality to the constitution and development of RILA, as modals: rails, waterways, and air.

Geographically, Mato Grosso do Sul has a strategic location, centrally located in South America, and has a unique territorial position in Brazil, bordering five states: Minas Gerais and São Paulo (Southeast region); Goiás and Mato Grosso (Midwest region) and Paraná (Southern region). In addition, the State of Mato Grosso do Sul also borders Paraguay and Bolivia.

From the point of view of economic relations and the functionality of circulation, this territorial contiguity with different states/regions and countries constitutes

a competitive advantage, since, among other factors, it promotes a greater composition of the production-circulation relationship, greater economic articulation and, mainly, considering RILA, it defines an important geographical junction of exit to the Pacific Ocean.

All this strategic continental and Brazilian geographical situation makes the state of Mato Grosso do Sul an essential component for the dynamics of economic articulation promoted by circulation, which in turn demands a transportation infrastructure that materializes the flows that originate in the state, as well as those that cross and/or may cross the state to connect the country by the Pacific Ocean.

In this logic, the following is the mapping and territoriality of the logistics infrastructure currently installed in the state of Mato Grosso do Sul (Figure 3) referring to all modals and later disaggregated by modal.

Regarding the railway modal, Figure 4 expresses the existence of two railway networks dispersed longitudinally in Mato Grosso do Sul territory: Rumo Malha Oeste - RMO (Ferroeste), spanning 1,243.75 km and Rumo Malha Norte - RMN (Ferro norte) with an extension of 375.32 km.

In its extension the Rumo Malha Norte railway runs through the state and connects the municipality of Costa Rica to Aparecida do Taboado. This railway focuses on the railway circulation of agricultural cargo to the port of Santos and fertilizers with return load (SEMAGRO-ONTL-EPL 2022).

The Rumo Malha Oeste railway penetrates the state from east to west, and territorially articulates the municipalities of Três Lagoas to Corumbá, in addition, it also has an extension to the south that connects Ponta Porá to Campo Grande. Regarding cargo movement,

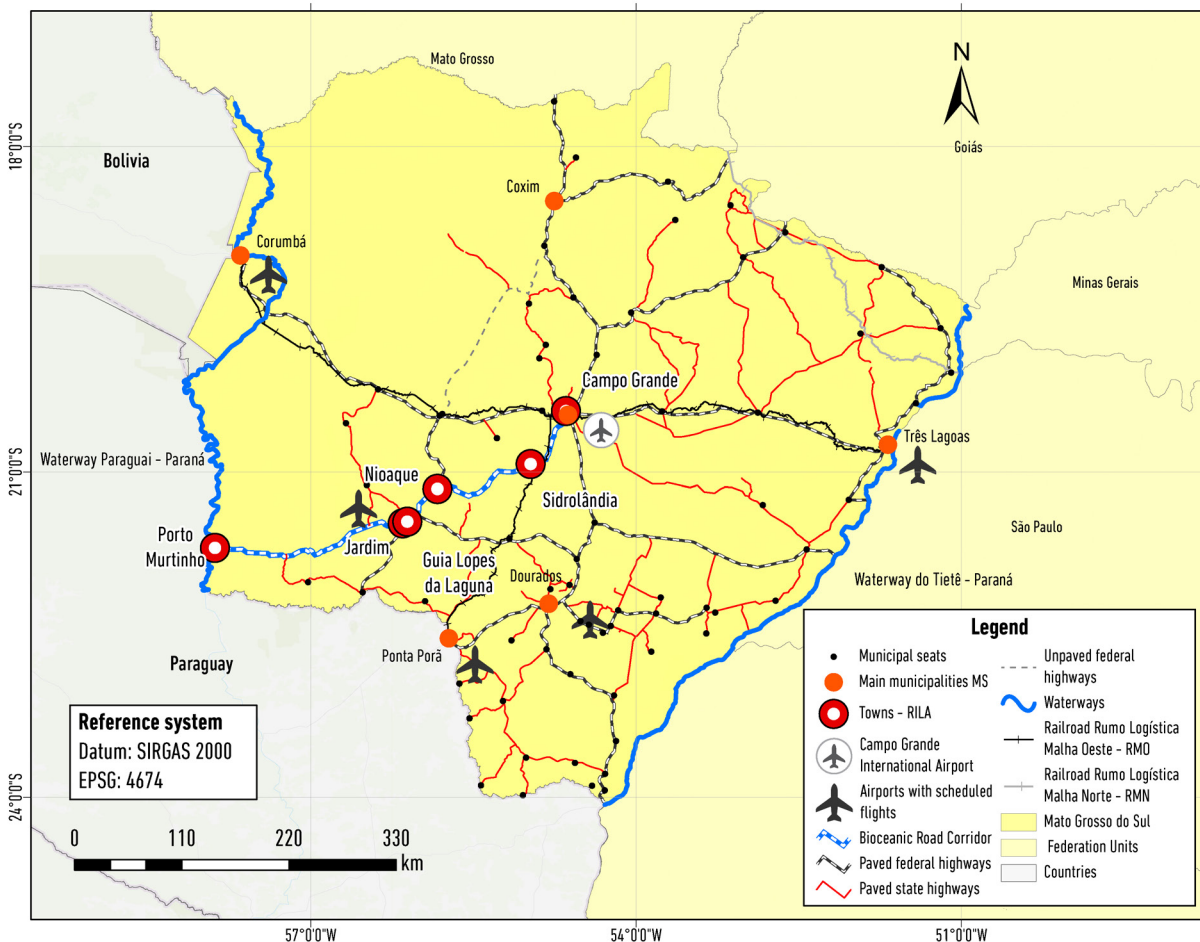


Figure 3. Transportation and logistics infrastructure of Mato Grosso do Sul (2022). Source: based on IBGE data (2022).

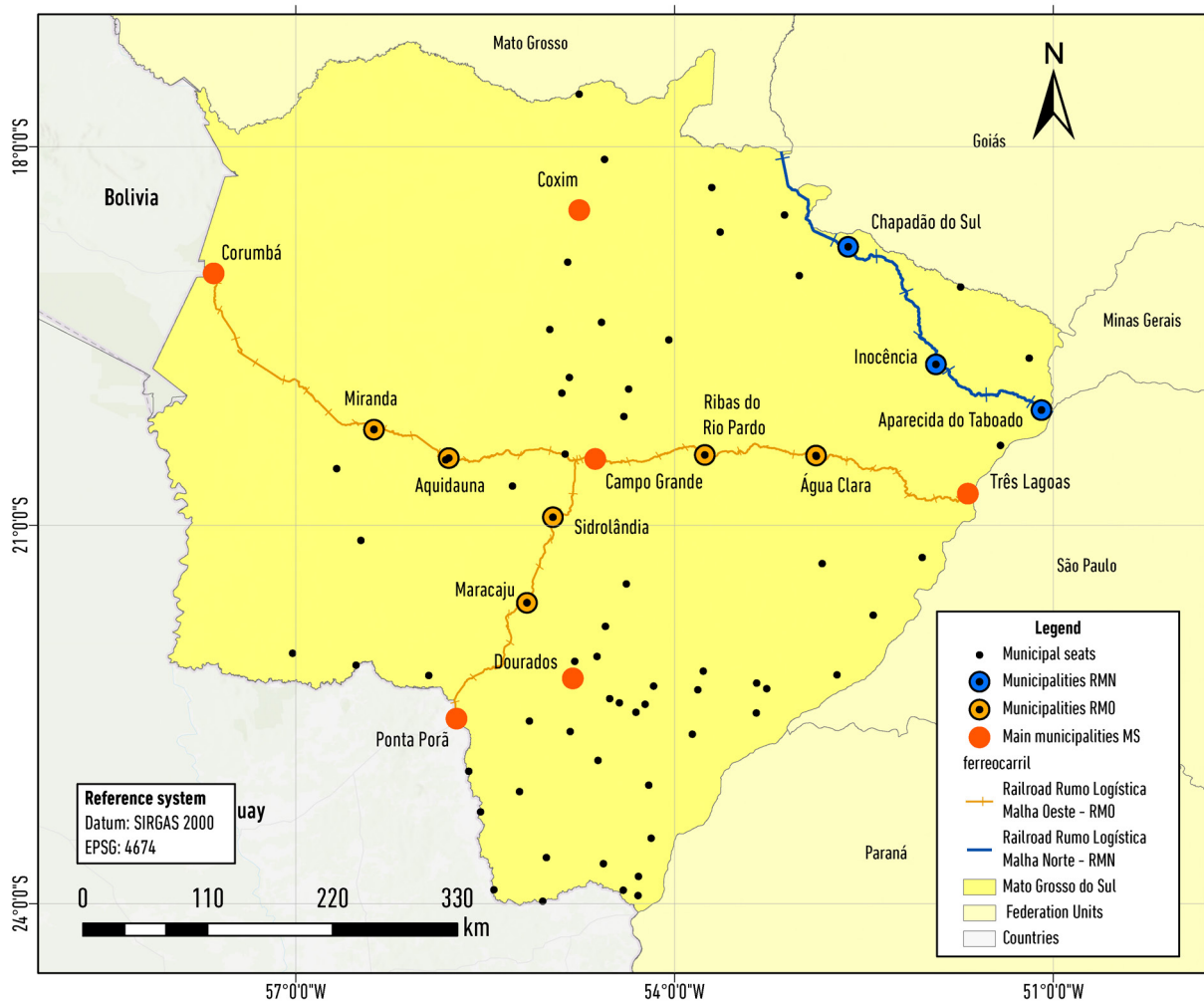


Figure 4. Rail map of Mato Grosso do Sul (2022).
Source: based on IBGE data (2022).

it is evident the transportation of mineral cargo from Maciço do Urucum in Corumbá-Ladário, as well as the transportation of pulp for export in the connection between Três Lagoas and the Port of Santos-SP (SEMAGRO-ONTL-EPL 2022).

There is an important point of differentiation between the two railways. While Rumo Malha Norte focuses on the flow that comes from other states, Rumo Malha Oeste focuses on the circulation of domestic production. It is also noted that the most significant amount of rail traffic is due to Rumo Malha Norte, which aims to drain agricultural production from the state of Mato Grosso to the Port of Santos. It is evident that the state of Mato Grosso do Sul functions more as a territory of passage for the flow of rail cargo, since agricultural production does not originate in the State, and “more than 80 % of the load moved by the RMN only passed through the

territory of Mato Grosso in 2020, while just over 18 % originated in the state and destined for the state of São Paulo – priority, also, to the port of Santos” (SEMAGRO-ONTL-EPL 2022, 18).

Undoubtedly, the road modal adds all the relevance of RILA's development, obviously for feasible reasons it is a road corridor for the flow of production, which has a convergent focus on the production-circulation relationship to promote initiatives that capture investments for this modal.

Concomitantly with the predominant transport matrix used in Brazil, the State of Mato Grosso do Sul is also equipped with predominance in the road modal. Figure 5 below illustrates the federal and state highways located in the State of Mato Grosso do Sul, that directly or indirectly articulate RILA.

The State's road infrastructure has approximately 20,000 km of highways (state and federal), being 14,793.66 km of state administration and 4,959.90 km of federal highways, considering the paved, duplicated highways, being paved, implemented, and planned or natural foundation (SEMAGRO-ONTL-EPL 2022).

Like railroads, highways in the state of Mato Grosso do Sul have a distinct character, and state ones have a more concentrated character in the circulation of domestic consumption and trade and the federal ones an amplified role in the logic of territorial movement, characterized as logistic corridors, as is the case of BR-267, a highway comprising part of the RILA route.

It is worth noting the fact that the BR-267 is considered a logistic corridor for cargo, but it also stands out in the flow of passengers, that evidences the correlation between

territorial circulation and regional development that RILA can foster, increase for various sectors of this chain, as tourism, hospitality, passenger transport services, etc.

In this merit, it is also emphasized that the promotion of these sectors can be enhanced throughout the RILA path, that is, in the municipalities of Campo Grande, Sidrolândia, Nioaque, Guia Lopes da Laguna, Jardim and, mainly, Porto Murtinho; in addition to other municipalities that directly and/or indirectly will be impacted by RILA, since it has a connection with BR-267 through other state or federal highways that surround them, as federal highways: BR-163, BR-262, and BR-463 and state highways: MS-040, MS-060, MS-080.

Mato Grosso do Sul has a waterway potential (Figure 6) that can serve in advising the flow of production via Porto Murtinho, that brings prerogatives to RILA and

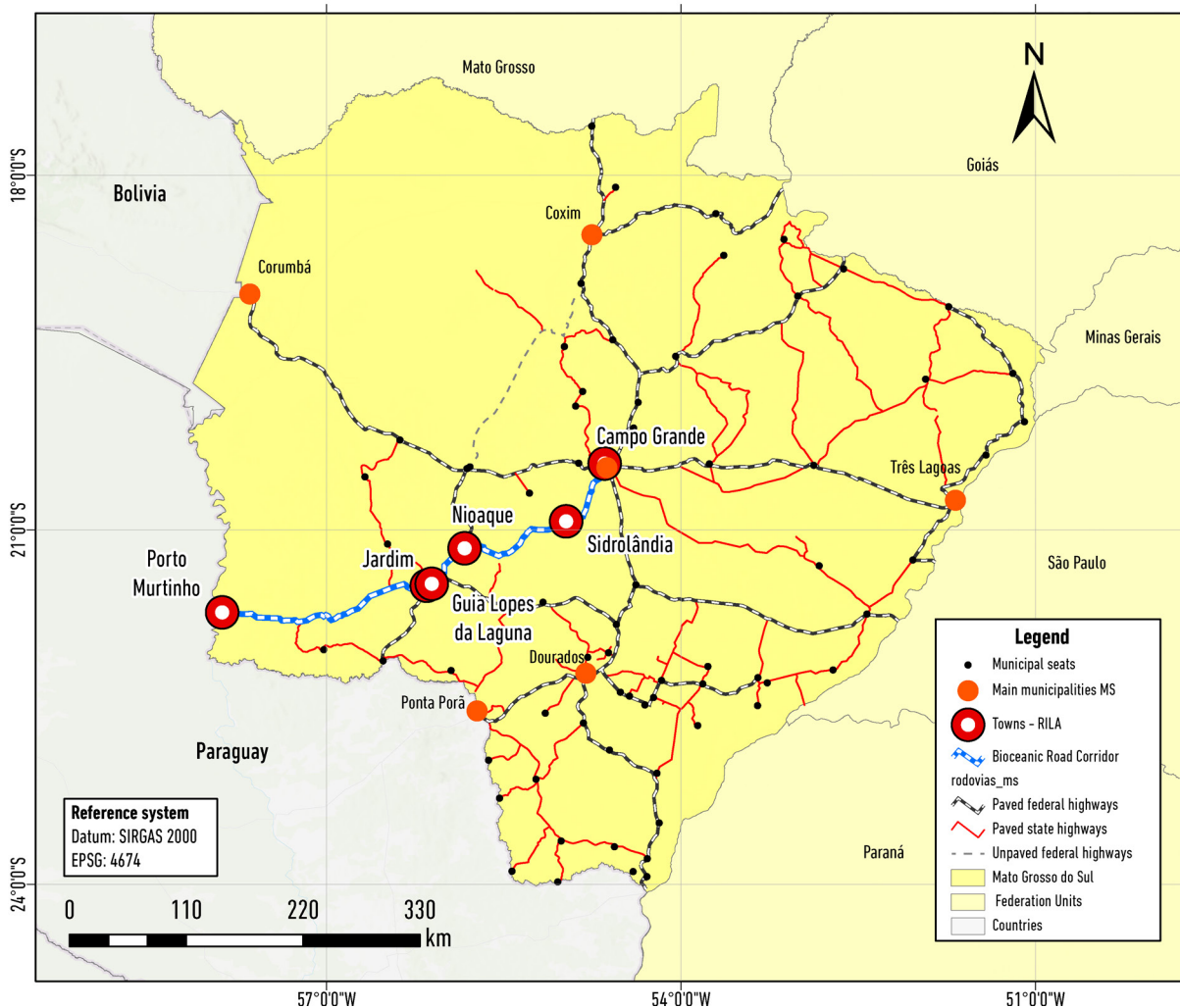


Figure 5. Road map of Mato Grosso do Sul (2022). Source: based on IBGE data (2022).

the development of a multimodal system from this road corridor to the Pacific Ocean.

The state is located between two hydrographic basins, Paraná and Paraguay. These hydrographic regions include: Porto Murtinho (Paraguay River), Corumbá Complex (Paraguay River), Mundo Novo (Paraná-Tietê System), and Três Lagoas (Paraná-Tietê System) (SEMAGRO-ONTL-EPL 2022).

Although the entire hydrographic system can experience externalities produced by RILA, Porto Murtinho is the locality with port system that will have the greatest impact with the feasibility of the corridor. It is not accidental that transport infrastructure activities are being promoted in the municipality. Regarding cargo movement in Porto Murtinho, in 2020 168,178,000 tons of diversified products were transported (SEMAGRO-ONTL-EPL 2022).

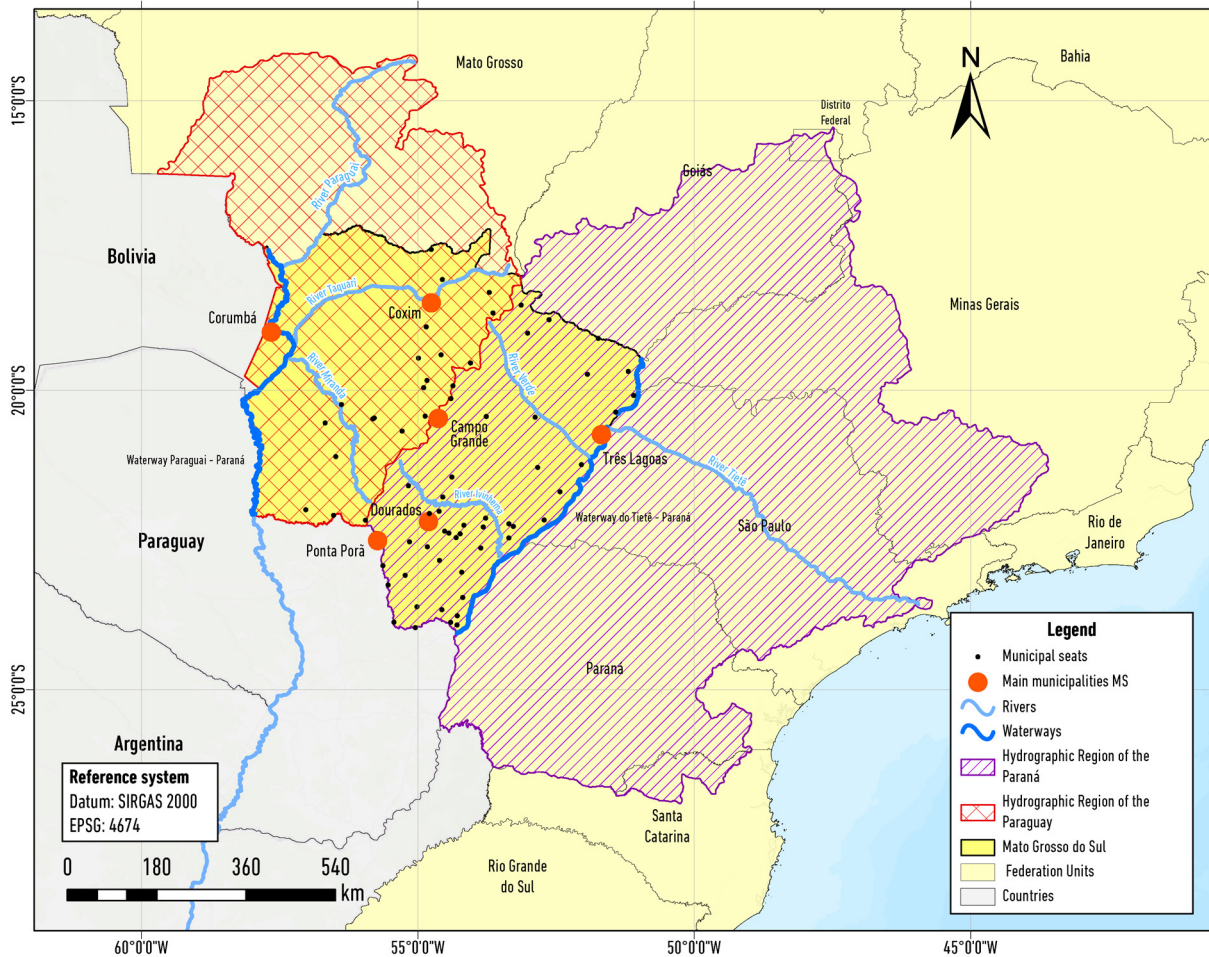


Figure 6. Waterway map of Mato Grosso do Sul (2022). Source: based on IBGE data (2022).

As for air transportation (Figure 7) can be considered a sector adjacent to the consequences of the feasibility of RILA, either with regard to the effectiveness it can promote in the flow of production, or in the transportation of passengers to the countries that are in the path of the corridor (Paraguay, Argentina, and Chile).

Regarding the sector, currently the state of Mato Grosso do Sul has, according to the National Civil Aviation Agency (ANAC), six airports with regular flights: Campo

Grande, Dourados, Bonito, Três Lagoas, Corumbá, and Ponta Porã. Of the total passenger movement in the state, 90 % is concentrated in the airport of the capital Campo Grande (SEMAGRO-ONTL-EPL 2022).

The passenger branch in commercial aviation is fundamentally important in the market flow that RILA can provide. Still from this perspective of the passenger air sector, we have two fundamental profiles: business passengers and passengers for tourism. The speed provided by the air modal along with the greater availability of flight

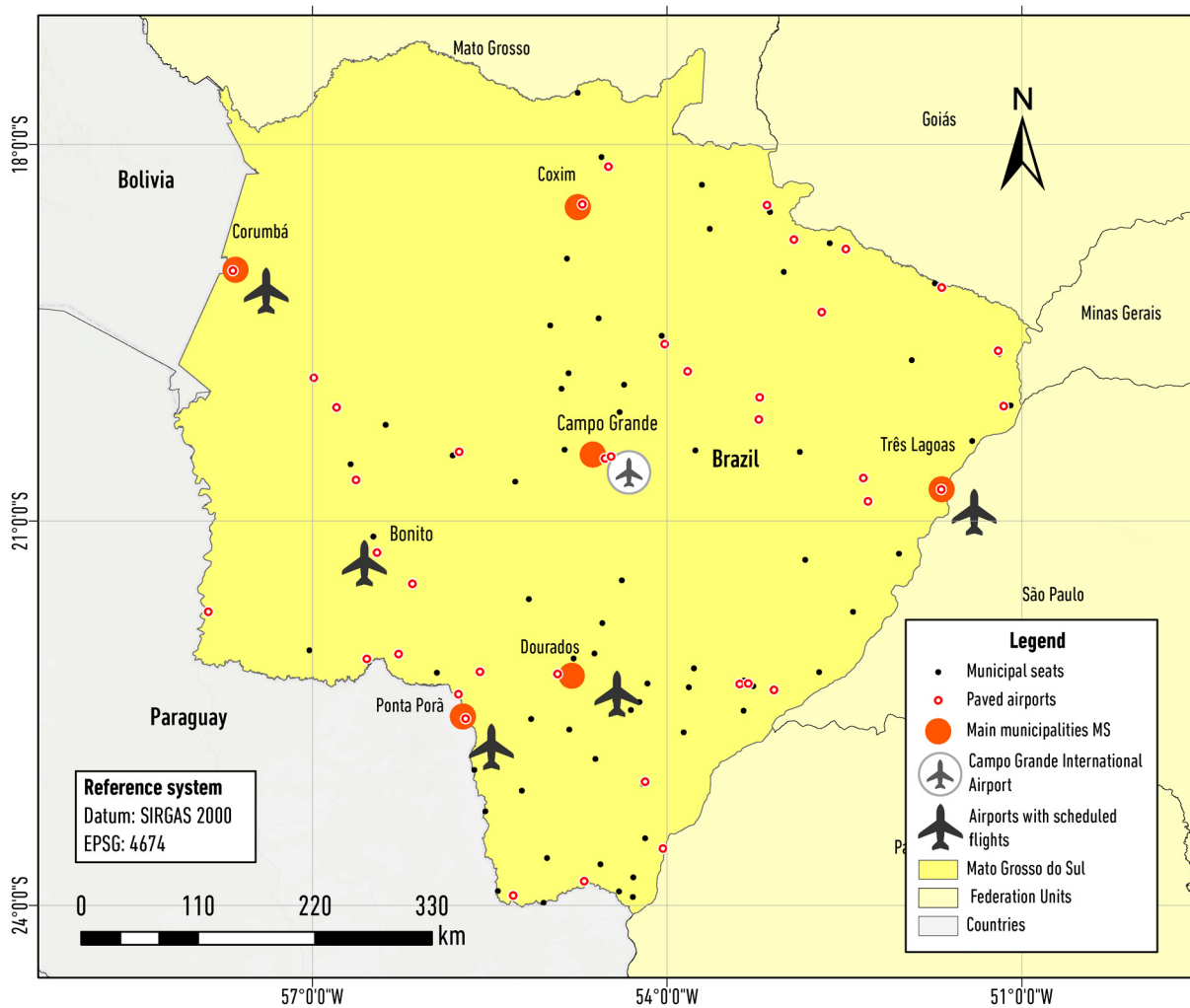


Figure 7. Aeroroad map of Mato Grosso do Sul (2022).
Source: based on IBGE data (2022).

dispersion associated with the concentration of these in the capital impel a dynamic of business passenger flights and passengers for tourism, due to the reason that it is an international airport, therefore being able to carry out this offer, that can even be expanded due to a greater demand that the implementation of RILA can generate.

Campo Grande International Airport received investments of R\$ 71 million, which are consistent with the possibility of growth in demand and supply. These investments were focused on expanding passenger capacity from 2.5 million passengers/year to 4.5 million passengers/year.

From this perspective, the air dynamics in the state have already caused inferences not only at the airport of the capital, but also in the border airports. Currently, the Federal Government approved the privatization

plan of airports in the country, which included three airports in Mato Grosso: Campo Grande International Airport, Corumbá International Airport, and Ponta Porã International Airport.

It should be noted that Porto Murtinho Airport has also received resources for transportation infrastructure to support the RILA. In early 2022, the State Government signed the contract for works at the airport, totaling R\$ 2.15 million of state investment.

In summary, the operationalization of territorial circulation, whether with regard to the flow of goods or people, demands the materialization of the contribution of transport infrastructure, that supports the geographical mobility of flows. In turn, this demand is at the heart of political and economic relations and, for this, another demand is effective, the need to identify important economic agents in this sphere of articulation.

Investments for Transportation Infrastructure in the Wake of Economic Relations

It is understood, as previously stated, that infrastructure is essential to the effectuation of territorial circulation in the Bioceanic Corridor, which has as its premise the possibility of enabling faster mobility, especially the movement of goods, especially to Asian countries.

In this sense, we add the understanding that infrastructure is the support for the production, circulation and consumption of goods generated by productive activities and one of the organizing and space-producing elements (Lamoso 2009).

Based on these contributions, this sub-item of the Report aims to present a characterization of the infrastructure of the main transportation modals with potential to be used in a perspective of complementarity the implementation of RILA.

At this stage we have that investments in transportation infrastructure for RILA are logically concentrated in the road modal, given all the predominance of this modal in the transportation matrix in Brazil, and that in the case of the state of Mato Grosso do Sul and, more precisely in the spatial configuration of the corridor, it is not done differently.

In this sense, even if we understand that the viability of territorial circulation is concentrated in the road modal, we will start from an approach that consists of the framework of the analysis on the infrastructure of the different modes of transportation that can possibly be used.

As illustrated in Figure 3, it is possible to observe the transport infrastructure currently installed in the state of Mato Grosso do Sul. In the specific case of RILA, the understanding is inherent that the highway, the main means of circulation in Brazil, already exists, and that it is the main transport system for the operation of this territorial circulation enterprise. In this geographical configuration delimited to the state of Mato Grosso do Sul, the map indicates the main paved highways that will serve as an infrastructure support to the flow of production through the Bioceanic Corridor, also indicates the railroads that can be used, the waterway that projects the viability of the flow through Porto Murтинho, as well as the regular airports in operation currently.

Although there is a transportation infrastructure that has currently been configured focus on the political and economic articulations of the State in the improvement and demand for investments, especially with regard to the road modal, that materializes the viability of RILA,

since stretches of BR-060 and BR-267 project the path of RILA, it is related to this logic of economic development that private investments are considered in this process, for example, through public-private partnerships.

Pizzo (1997) already pointed out in the early 2000s that the financing of infrastructure investments, in the case of transportation, for example, was increasingly difficult to obtain and related this evidence with the exhaustion of the historical pattern of state operation and the financial bottleneck of the public sector.

In this sense, Tiryaki (2008, 503) states: "the recognition of the need for investments in infrastructure for the viability of economic growth has led countless countries to attract the participation of the private sector". He adds: "For developing countries, more specifically, the performance of the private sector becomes fundamental, given the financial difficulties faced by the public sector".

The constitution of RILA from Mato Grosso do Sul needs to recognize the importance of this economic agent in the feasibility of investments in transportation infrastructure, both due to the continuous exhaustion of state funding and the emergence of the need for the implementation of RILA, as a way to promote local, regional and national economic development, in view of the feasibility of timely flow of production that the Corridor will implement.

In this perspective, we agree and corroborate Rangel (2005, 417), for whom: "the State cannot continue to bear the responsibility of the capital formation effort required by such services [...] nor can the private company continue with its present diet of slimming investment opportunities".

In this understanding of the articulation with the private sector, it is understood that the planning and realization of investments in transportation infrastructure for the feasibility and empowerment of RILA, permeates not exclusively by the constitution of highways, but by the rigging and use of idle capacity reflected in other transportation modes and also through intermodality.

This perspective can be used to mobilize the effectiveness of the territorial circulation of goods in this axis, generating the overflow of economic-regional development, not only for the movement of products, but also for other sectors that can benefit from the results arising from investments in transportation infrastructure, such as tourism, hospitality, commerce, services, etc.

Therefore, we understand that these opportunities for investments in transportation infrastructure for RILA need to be relativized through what Rangel (2005) considers

by institutional reform models, thus seeking ways to release investment possibilities for a public sector lacking potential resources. In other words, private investments can be used as a way to supply, particularly sectors with investment lag, as transportation infrastructure.

With regard to the potential presented in the state of Mato Grosso do Sul regarding the possibility of using the movement systems for RILA, we have BR-060 and BR-267 that constitute its path and that has been reflecting the main investment interests, since it is the modal of greater adherence, but beyond this system, there are possibilities for infrastructure investments for high-capacity modals, as rail and waterway.

With regard to rail, productivity opportunities through multimodality with the road and/or waterway system, for example, are relevant possibilities to be considered for RILA, since this modal has high capacity for cargo handling, in addition to other attributes essential to the dynamics of logistics, as safety and transport cost.

Mato Grosso do Sul has the possibility to implement this prerogative through the articulation with the private initiative for investments to the railway sector, mobilizing with this the connectivity with other railway systems from which RILA will take advantage, as the Paranaguá-Antofagasta Railway Corridor, and can be articulated until its full implementation through the connection of the Bioceanic Corridor to the planned railway stretch from Cascavel-PR to Maracaju.

This logic would generate even positive externalities to the development of other municipalities, whereby the current path of RILA does not contemplate territorially, as Dourados, which is configured as an important warehouse of urban-regional centrality, to which generates influence in an important producing region of the state. For this, the need for investments that enable this stretch of rail is essential to this advantage of territorial integration via rail.

To which the functionality of the waterways for the optimization of RILA is appropriate, it is essential to consider the Paraguayan Waterway, constituted by the Prata Basin. The integration of Mato Grosso do Sul by the waterway system is a possibility for both the Atlantic Ocean and the Pacific Ocean, reflecting the strategic geographical position of the state, ratifying its potential for regional and international integration, especially via the Pacific Ocean.

This last possibility, that is, by the Pacific Ocean, can be verified by the exit by way of Porto Murтинho⁴, which currently has installed capacity for movement of 500,000 tons per year (Antaq 2022). The viability of the use of the waterway and the port of the municipality is expressed in state government documents regarding its importance for the context of production flow, which in turn also reflects in the opportunism of state, regional and local economic development, also considering that this movement system can benefit from the implementation of intermodality:

Porto Murтинho presents excellent positioning for the flow of grain from the Maracaju-Dourados region (the largest producers of MS), destined to soybean processing in Argentina (Rosario) or grain export via sea navigation (Rosario and Nueva Palmira). It can also become a hub for the internalization of Mercosur products (wheat, barley, malt, white salt, etc.) and Chilean products such as fruits, wines and fish for the Brazilian market. (Agesul 2015, 49)

However, to materialize these possibilities of flow of production, the greater movement of people, the opportunity of development of other sectors that can benefit from RILA, through the systems of movement and transportation, it is essential that they promote public policies that understrain the consistency of investments in transportation infrastructure. These policies can benefit from the articulation with the private sector, to promote the development of an aggregate value chain to different sectors that can be subsidized by this infrastructure.

These opportunities can materialize by granting public services to the private sector and not from privatization itself, if applicable. Obviously, because it is a road corridor, this movement system has prevalence in this context, for reasons evident to the territorial formation process of the country and the state of Mato Grosso do Sul.

In this sense, whether in the articulation between the State and the private sector, or through exclusively public investments, the State has been conducting a cross-sectoral planning for short, medium, and long-term horizons resulting in numerous actions on the transportation system of Mato Grosso do Sul, according to the following relationship:

4 Despite its excellent location, Porto Murтинho has attracted fewer loads than its logistical potential allows (Agesul 2021).

1. Rebidding process for the concession of the BR-163 highway;
2. MS-306 highway concession for 30 years (until 2050);
3. Auction forecast for concession of the MS-112 highway and sections of highways BR-158 and BR-463;
4. Paving and/or restoration of various stretches of state highways (project, bidding, progress or finalized), as: MS-010, MS-145, MS-156, MS-157, MS-162, MS-165, MS-166, MS-178, MS-180, MS-223, MS-229, MS-258, MS-270, MS-276, MS-278, MS-286, MS-295, MS-320, MS-338, MS-339, MS-345, MS-352, MS-357, MS-379, MS-382, MS-384, MS-425, MS-427, MS-455, MS-472, MS-475, MS-480, among others;
5. Construction, paving and/or restoration of contour and road rings (project, bidding, progress or finished): Bonito, Itaporã, Nova Andradina, Ponta Porã, Porto Murinho, Santa Rita do Pardo, Três Lagoas, among others;
6. Construction of the Brazil-Paraguay international bridge connecting Porto Murinho/MS to Carmelo Peralta-PY;
7. Completion of the Campo Grande Contour Road;
8. Project of the new Contour Road of Campo Grande, expanding the route between the exits to São Paulo and Cuiabá;
9. Nova Ferroeste project, expected to be auctioned on B3 in 2022, which will expand the current railway stretches of Ferroeste connecting Maracaju-MS to Paranaguá-PR;
10. Eldorado Brasil Celulose railway project, between Três Lagoas and Aparecida do Taboado;
11. MRS rail project, between Três Lagoas and Panorama-SP;
12. Suzano Papel e Celulose railway project, between Ribas do Rio Pardo and Inocência;
13. Reactivation project of the entire main layout of the state of Mato Grosso do Sul of the Malha Oeste Railway, reaching Corumbá;
14. Ponta Porã Dry Port Bidding;
15. Implementation of new port terminals in Porto Murinho;
16. Expansion, renovation and revitalization of airport infrastructure in project, bidding, progress or finalized): Bonito, Campo Grande (Santa Maria), Coxim, Dourados, Porto Murinho, among others;
17. Authorization of the concession process of the airports of Campo Grande (International), Corumbá and Ponta Porã.

Finally, all are investments in the sector infrastructure of transportation that contribute, directly and/or indirectly, to a rational logic of operationalization of

RILA, enhancing its possibilities of action, in addition to a specific stretch of Mato Grosso do Sul between Campo Grande and Porto Murinho, offering other intrastate or even interstate possibilities and, in this sense, enabling public-private actions can generate a greater start to RILA.

Final Considerations

This paper presents an analysis of the Latin American Integration Route through the understanding of two perspectives of analysis: (i) to emphasize the relationship of the strategic issue that is around the whole theme correlating the essentiality of transport, circulation and logistics infrastructure as a first element of all the dynamics; (ii) to relate this analysis with the practical configuration of implementation and feasibility of RILA, based on some possibilities of analysis to be performed and shared and joint approaches.

In this line of analysis, the topics of discussion have reinforced the approaches that discuss practical studies on the possible results of this implementation of RILA. And, in this sense, promoting these analyses refers to numerous possibilities of visualizing RILA and the development that this kind of enterprise can generate if the transportation infrastructure, movement systems, public-private articulations among other aspects are conducted to give conditions the effectiveness of territorial circulation and, consequently, to the economic-regional development that RILA can foster.

Considering RILA's transport, circulation and logistics infrastructure, five most significant elements can be highlighted:

1. Terms in focus that infrastructure is an organizing element of the territory and promoter of positive and negative externalities that need to be measured in the most different aspects, the conduct of infrastructure overflows need to be designed through strategic planning;
2. Public territorial planning policies linked to the dynamics of transportation and logistics, to understand this corridor not only as a corridor for the movement of goods, but also of local and regional development.
3. The issues of obstacles to be overcome in relation to logistics and transportation, with a focus on considering the importance of intermodality as a potential for the development of RILA, to generate viability to an effective, fast, and socially functional territorial circulation;

4. The possible relations between the State and the private sector in the organization of investments in transportation infrastructure, to consider partnerships and measure these public-private actions;
5. The redefinition of Mato Grosso do Sul's role in the national economic dynamics, considering its relevance to RILA, also in the sense of reinventing its essentiality in the process of articulation and national integration, since RILA opens possibilities for the state to be a great and important agent that can actively contribute to the Process of South American integration, even in the Atlantic-Pacific Oceans perspective.

The Bioceanic Corridor is not only restricted to territorial integration, but a global integration of economic, logistics, transportation and, above all, circulation.

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Ana Paula Camilo Pereira

PhD in Human Geography from the University of São Paulo (USP). She completed a research internship at the Université Sorbonne Nouvelle Paris III. Master's degree in Geography from the State University of São Paulo (UNESP). Degree in Geography from the Federal University of Grande Dourados (UFGD). She has a CNPq/Fundect Productivity Scholarship Teacher. Teacher of Geography and in the *Stricto Sensu* Postgraduate Masters in Geography at the State University of Mato Grosso do Sul (UEMS). Fields of research: Economic geography, transport, and aviation.

Mateus Abrita Boldrine

PhD in Economics from the Federal University of Rio Grande do Sul (UFRGS). Master's in Economics from the State University of Maringá (UEM). Degree in Economics from the Federal University of Mato Grosso do Sul (UFMS). Teacher of Geography and the *Stricto Sensu* Postgraduate Master's Programme in Geography at the State University of Mato Grosso do Sul (UEMS). Currently with the Executive Secretariat for Strategic Management and Municipalism at SEGOV-MS. Lines of research: Economic geography and regional development.

Angelo Rondina Neto

PhD in Economics from the State University of Maringá (UEM with a research internship at Bryant University (USA). Master's in Economics from the State University of Maringá and Bachelor's in Economics from the State University of Londrina (UEL). Adjunct Professor in the Department of Economics at the State University of Londrina (UEL). Lines of research: Macroeconomics and monetary economics, regional and industrial economics.

Daniel Amorim Souza Centuriao

PhD student in Economics at West Virginia University (USA). Economist, with a degree in Economics from the Federal University of Mato Grosso do Sul (UFMS), and a master's degree in Economics from the State University of Western Paraná (UNIOESTE). Lines of research: regional economics, regional planning, regional development, and public policies.

Rafaella Stradiotto Vignandi

PhD in Economics from the Federal University of Minas Gerais (UFMG) - Centre for Development and Regional Planning (CEDEPLAR). Master's in Economics and undergraduate degree in Economics from the State University of Maringá (UEM). Lines of research: regional economics and development, spatial econometrics, regional analysis methods, index studies, and multivariate analysis.

Guilherme Espíndola Junior

Degree in Geography from the State University of Mato Grosso do Sul (UEMS). Specialized in Environmental Consultancy and Licensing at Faculdade Única de Ipatinga (MG). Lines of research: geosciences, geosystems, geotechnologies, geographic information systems, geoprocessing, remote sensing, environmental modelling, applied statistics, watersheds, surface water resources monitoring, environmental legislation, and geospatial data analysis.

Nelagley Marques

PhD in Literature from the University of São Paulo (USP). Master's degree in Literature from the State University of Mato Grosso do Sul (UEMS). She completed a postdoctoral internship at the National University of Jujuy in Argentina. She has a specialization in Contemporary Trends in English Language Teaching from the University for the Development of the State and Region of the Pantanal (UNIDERP) and a Bachelor's degree in Literature - Full Degree and Bachelor's Degree from the same university. She is a researcher at the Research Center for Language Studies and Applied Linguistics/UEMS. She is a pedagogical advisor for the KUBMAKER Project

Vanessa Aparecida de Moraes Weber

PhD in Environmental Sciences and Agricultural Sustainability from the Don Bosco Catholic University. Master's in Applied Computing from the Federal University of Mato Grosso do Sul (UFMS), Specialization in Public Management from the Federal University of Mato Grosso do Sul (UFMS), and undergraduate degree in Systems Analysis from the Federal University of Mato Grosso do Sul (UFMS). Lines of research: computer vision, artificial intelligence, and emerging technologies

Ruberval Franco Maciel

PhD in Linguistic and Literary Studies in English from the University of São Paulo (USP). He completed a post-doctoral internship in the PhD in Urban Education programme at the City University of New York (USA) and a post-doctoral internship at the Universidad Nacional de Jujuy in Argentina. He has a CNPq Productivity Scholarship and teaches undergraduate and postgraduate courses in Literature and undergraduate courses in Medicine at the State University of Mato Grosso do Sul (UEMS). Coordinator of the University Network of the Latin American Integration Route (UNIRILA - Brazil, Paraguay, Chile and Argentina).

