



# ENVIRONMENTAL VIABILITY OF LAND TRANSPORT INFRASTRUCTURE IN THE AMAZON



CLIMATE  
POLICY  
INITIATIVE



POLICY BRIEF  
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Quality infrastructure in sufficient quantity reduces the costs involved in producing and providing basic services to the population, thus stimulating economic growth and increasing quality of life. This is particularly relevant in a post-COVID world. As such, infrastructure projects must be sufficiently robust to ensure that potential social and environmental impacts are duly addressed, thus making investors feel safer. According to a recent study by the Brazilian Chamber for the Construction Industry, more than 7,000 construction projects are currently halted around the country.<sup>1</sup>

The Brazilian government intends to implement a large portfolio of infrastructure projects, some located in the Amazon. As such, measuring social and environmental risks and finding opportunities to avoid or mitigate them is of the utmost importance. These projects must be aligned with long-term state plans and could benefit from properly-structured procedures and criteria for the pre-viability assessment.<sup>2</sup> Additionally, other studies to assess, in greater depth, the socio-environmental viability of the projects – in particular the Technical, Economic and Environmental Viability Studies (*Estudos de Viabilidade Técnica, Econômica e Ambiental* - EVTEA) and the Environmental Impact Study (*Estudo de Impacto Ambiental* - EIA) – must be carried out in accordance with transparent and well-defined procedures to enhance diagnostic capabilities, aid in finding new solutions, and mitigate risks.

In recent publications, researchers from Climate Policy Initiative/Pontifical Catholic University of Rio de Janeiro (CPI/PUC-Rio) have addressed (i) the quality of decision-making in the infrastructure sector in reference to EVTEA, the EIA, and the project planning phase,<sup>3</sup> (ii) the way the areas of influence for these projects are determined,<sup>4</sup> as well as (iii) the opportunity to regulate EVTEA through a legislative bill for a new concessions law, currently under consideration in the national Congress.<sup>5,6</sup> More recently, with the passage of the New Bidding Law, CPI/PUC-Rio also issued a recommendation for the regulation of the new law to include the pre-viability phase for infrastructure projects and clarify the proper order for conducting the EVTEA and the EIA.<sup>7</sup>

**In this policy brief, CPI/PUC-Rio researchers (i) identify and assess the main stages of the life cycle for land infrastructure projects under federal concession in the Legal Amazon;<sup>8</sup> (ii) identify issues in the viability phases of the projects under assessment; and (iii) issue recommendations to improve the way procedures related to this phase are defined and make the land transport sector more transparent.<sup>9</sup>**

## KEY FINDINGS

This analysis of 14 large-scale infrastructure projects reveals three important issues regarding the protocol for discussing land transport infrastructure projects in the Amazon. These issues add to the uncertainty surrounding the process, increasing the environmental risk and jeopardizing the quality of viability analyses and the ability to attract ethical companies, not to mention project execution.

- **LACK OF A CLEAR DEFINITION FOR THE PROCEDURE**  
**The order of the stages a project goes through in its life cycle is unclear.** More specifically, there are no clear procedural rules for the viability phase of federal railroad and highway concessions.
- **EVTEA AND EIA LACK A PROPER SEQUENCE, BOTH IN TERMS OF TEMPORAL PRECEDENCE AND LOGICAL CORRELATION**  
**There is no norm requiring that EVTEA be conducted prior to EIA.** Due to their scope, EVTEA should be conducted at the beginning of the viability phase and prior to the EIA. Additionally, the lack of a proper requirement as to when EVTEA must be carried out means that social and environmental analyses cannot be conducted in phases prior to environmental licensing. Such a requirement would allow projects to reach the implementation phase more robustly and with a higher quality.
- **LACK OF TRANSPARENCY**  
**57% of the main documents and information on federal highway and railroad concessions in the Amazon could not be found.** In most cases, it was impossible to ascertain whether a missing document or information is just unavailable or simply does not exist. Lack of transparency in the viability phase can jeopardize the ability to monitor concessions, make it difficult for potential investors to assess risks, and prevent a learning process that could otherwise improve project quality.

1 Frischtak, Cláudio et al. *Impacto econômico e social da paralisação das obras públicas*. Brasília: CBIC, 2018. [bit.ly/3fXWzYM](https://bit.ly/3fXWzYM).

2 Chiavari, Joana, Luiza Antonaccio, Ana Cristina Barros, and Cláudio Frischtak. *Ciclo de vida de projetos de infraestrutura: do planejamento à viabilidade. Criação de nova fase pode elevar a qualidade dos projetos*. Rio de Janeiro: Climate Policy Initiative, 2020. [bit.ly/2T47kjf](https://bit.ly/2T47kjf).

3 Chiavari, Joana, Luiza Antonaccio, Ana Cristina Barros, and Cláudio Frischtak. *Ciclo de vida de projetos de infraestrutura: do planejamento à viabilidade. Criação de nova fase pode elevar a qualidade dos projetos*. Rio de Janeiro: Climate Policy Initiative, 2020. [bit.ly/2T47kjf](https://bit.ly/2T47kjf).

4 Antonaccio, Luiza, Ana Cristina Barros, Arthur Bragança, and Joana Chiavari. *A importância de aprimorar a definição e a delimitação da Área de Influência de projetos de infraestrutura*. Rio de Janeiro: Climate Policy Initiative, 2020. [bit.ly/34YILrO](https://bit.ly/34YILrO).

5 Antonaccio, Luiza; Joana Chiavari, and Gabriel Cozendey. *Ajustes no projeto da nova lei de concessões podem garantir uma infraestrutura mais sustentável e de maior qualidade*. Rio de Janeiro: Climate Policy Initiative, 2020. [bit.ly/3w0X2iL](https://bit.ly/3w0X2iL).

6 Chiavari, Joana, Ana Cristina Barros, Luiza Antonaccio, and Gabriel Cozendey. *O futuro da infraestrutura do país em discussão: Visão integrada dos projetos de lei em tramitação é necessária para garantir avanços*. Rio de Janeiro: Climate Policy Initiative, 2019. [bit.ly/3g2iMVU](https://bit.ly/3g2iMVU).

7 Cozendey, Gabriel and Joana Chiavari. *Como a Nova Lei de Licitações abre oportunidades para melhor prevenir os impactos socioambientais de projetos de infraestrutura?* Rio de Janeiro: Climate Policy Initiative, 2021. [bit.ly/2S8MBeI](https://bit.ly/2S8MBeI).

8 For more details see: Chiavari, Joana, Luiza Antonaccio, and Gabriel Cozendey. *Regulatory and Governance Analysis of the Life Cycle of Transportation Infrastructure Projects in the Amazon*. Rio de Janeiro: Climate Policy Initiative, forthcoming.

9 The Legal Amazon is an official administrative region set forth by Federal Law no. 5173/1966, encompassing the states of Acre (AC), Amapá (AP), Amazonas (AM), Mato Grosso (MT), Pará (PA), Roraima (RR), Rondônia (RO), Tocantins (TO) and part of the state of Maranhão (MA).

## KEY RECOMMENDATIONS

Two key adjustments in the process could have a positive impact on the overall process, as well as reduce execution-related risks and enhance infrastructure quality.

- **Make it mandatory for EVTEA to be conducted before EIA:** As such, social and environmental risk assessments for federal highway and railroad concessions would be brought forward in time to the earliest project stage, as the environmental licensing stage has proven to be a stage too late in the process to adequately assess such risks. This new sequence would improve the structuring of the preparatory phase for the bidding process, increase the chance licenses will be granted, and avoid project interruptions and abandonment.
- **Require all documents and information about federal railroad and highway concessions be made systematically available in a centralized database** so projects can be monitored, and risks can be more accurately assessed.

## LIFE CYCLE OF LAND TRANSPORT INFRASTRUCTURE UNDER FEDERAL CONCESSION

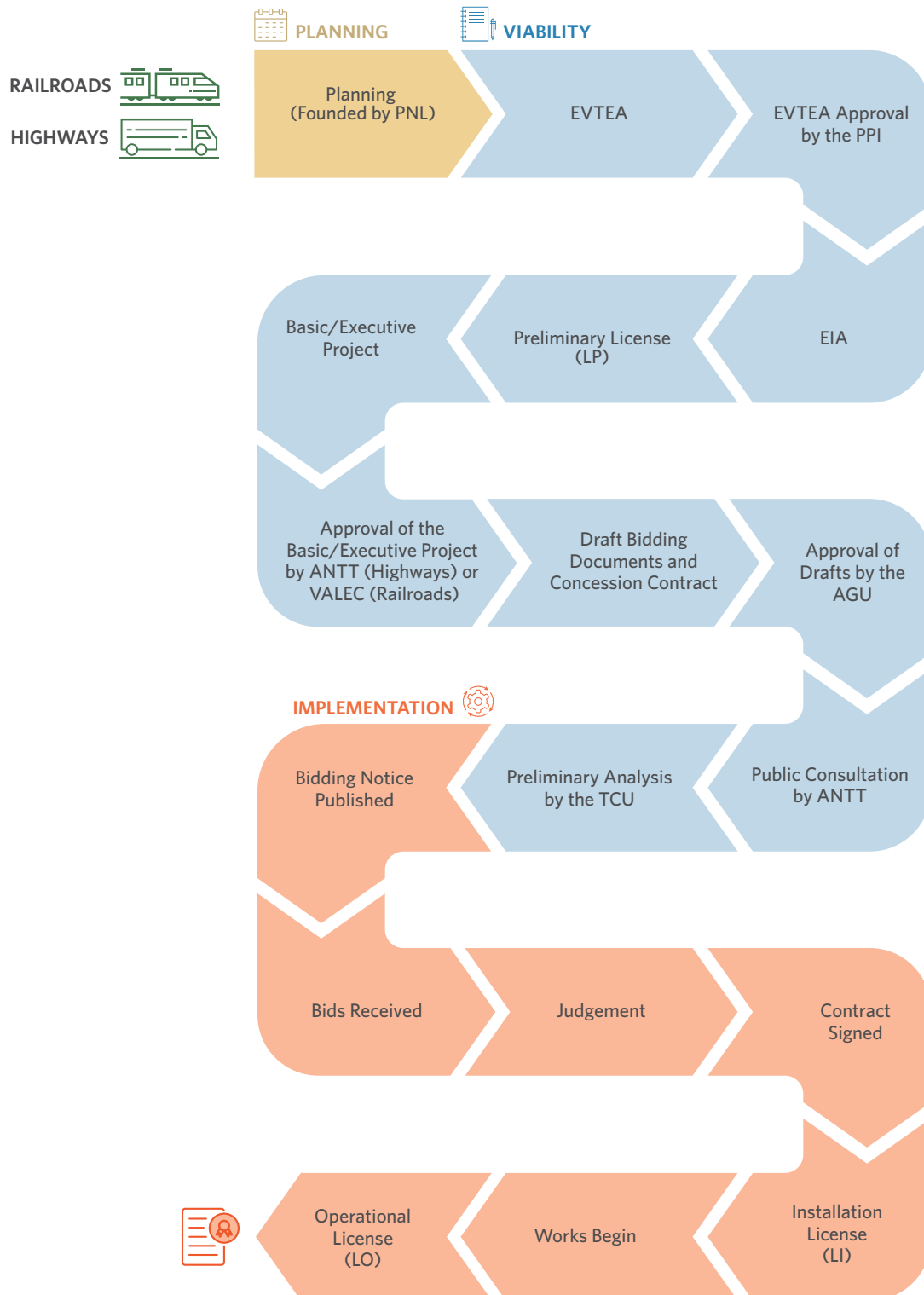
An assessment by CPI/PUC-Rio investigated the regulations applicable to federal railroad and highway concessions granted to the private sector.<sup>10</sup>

**What are concessions?** The Concessions Law (Federal Law no. 8987/1995) defines concessions as either (i) public service concessions; or (ii) public service concessions preceded by works. As such, in case (i) only the management of a public service is delegated to the private sector, whereas in case (ii), in addition to management, there is a requirement to build or improve the infrastructure used in service provision. All cases addressed in this paper are of the second type: concessions preceded by works. Railroads and highways not under concession may also be subject to works carried out by the private sector. Contracts for this purpose, however, are not concession contracts, but rather works contracts under the Bidding Law (Federal Laws no. 8666/1993 and no. 14133/2021). The Bidding Law is more general in nature than the Concessions Law and only partially applies to concessions.

<sup>10</sup> State highways and highways not under concession were excluded due to a significant lack (or unavailability) of data. The researchers did not find any railroads not under concession in the Legal Amazon.

Figure 1 shows the main phases and stages in the life cycle of land transport infrastructure concessions based on a review of the applicable regulation and select cases.<sup>11</sup>

**Figure 1.** Life Cycle of Federal Railroad and Highway Concessions



**Source:** CPI/PUC-Rio, 2021

<sup>11</sup> The flowchart was based directly on the following norms: federal laws no. 8666/1993, 8987/1995, 9074/1995, 9491/1997, 11079/2004 e 13334/2016; federal decrees no. 2594/1998 and 8791/2016; and Resolution 1/2016 of the Investment Partnerships Program (*Programa de Parcerias de Investimentos - PPI*).

**As illustrated in Figure 1, federal railroad and highway concessions can be broken down into three general phases – planning, viability, and implementation –, which, in turn, are divided into eighteen stages, as described below.**

The **planning** phase is when the government conducts a diagnostic of the country's infrastructure landscape, identifies gaps and challenges, and determines which of the existing projects will be executed to address these gaps and meet current and future needs.<sup>12</sup> In the logistics sector, the key document that underpins the planning phase is the National Logistics Plan (*Plano Nacional de Logística* - PNL).<sup>13</sup>

During the **viability** phase, cost-benefit analyses and technical, economic and environmental viability studies are carried out to determine whether a project is, in fact, feasible and at what cost. EVTEA are conducted to identify and describe these issues in detail. In the viability phase, the government also decides which public agency or institution will be centrally responsible for spearheading the project; in the cases considered in this brief, the National Land Transport Agency (*Agência Nacional de Transportes Terrestres* - ANTT) and/or VALEC Engenharia, Construções e Ferrovias S/A (VALEC) usually serve as the primary agency.

After that, the environmental licensing process begins. A Preliminary License (*Licença Prévia* - LP) is the first of three environmental licenses that must be granted to land transport infrastructure projects before implementation and operations can begin. The LP attests to the project's environmental viability and can be obtained by initiative of the government or the concessionaire. Issuance of the LP is based on the EIA, which, in turn, does not necessarily have to pre-date the EVTEA or even be logically correlated with them, according to the regulations currently in effect.

It is also in the viability phase that the following are submitted for approval: (i) the EVTEA, for approval by the Ministry of the Economy's Investment Partnerships Program (PPI), (ii) the draft notice and the draft concession contract, for approval by the Office of the General Counsel for the Federal Government (*Advocacia-Geral da União* - AGU), and (iii) engineering studies, for approval by ANTT or VALEC. After a mandatory public hearing, the concession project and all documents from the public hearing are submitted to the Federal Court of Accounts (*Tribunal de Contas da União* - TCU).

After approval from the TCU the **implementation** phase can begin, in which the railroad or highway is granted to the private sector by means of a bidding process. It is in this phase that the second of the three required environmental licenses must be issued. This license is called an Installation License (LI), which authorizes the beginning of the works required before the public service in question can be provided. At the end of this phase, the last of the three environmental licenses must be issued, called the Operational License (LO), which is required for the day-to-day management of the infrastructure under concession from a socio-environmental perspective.

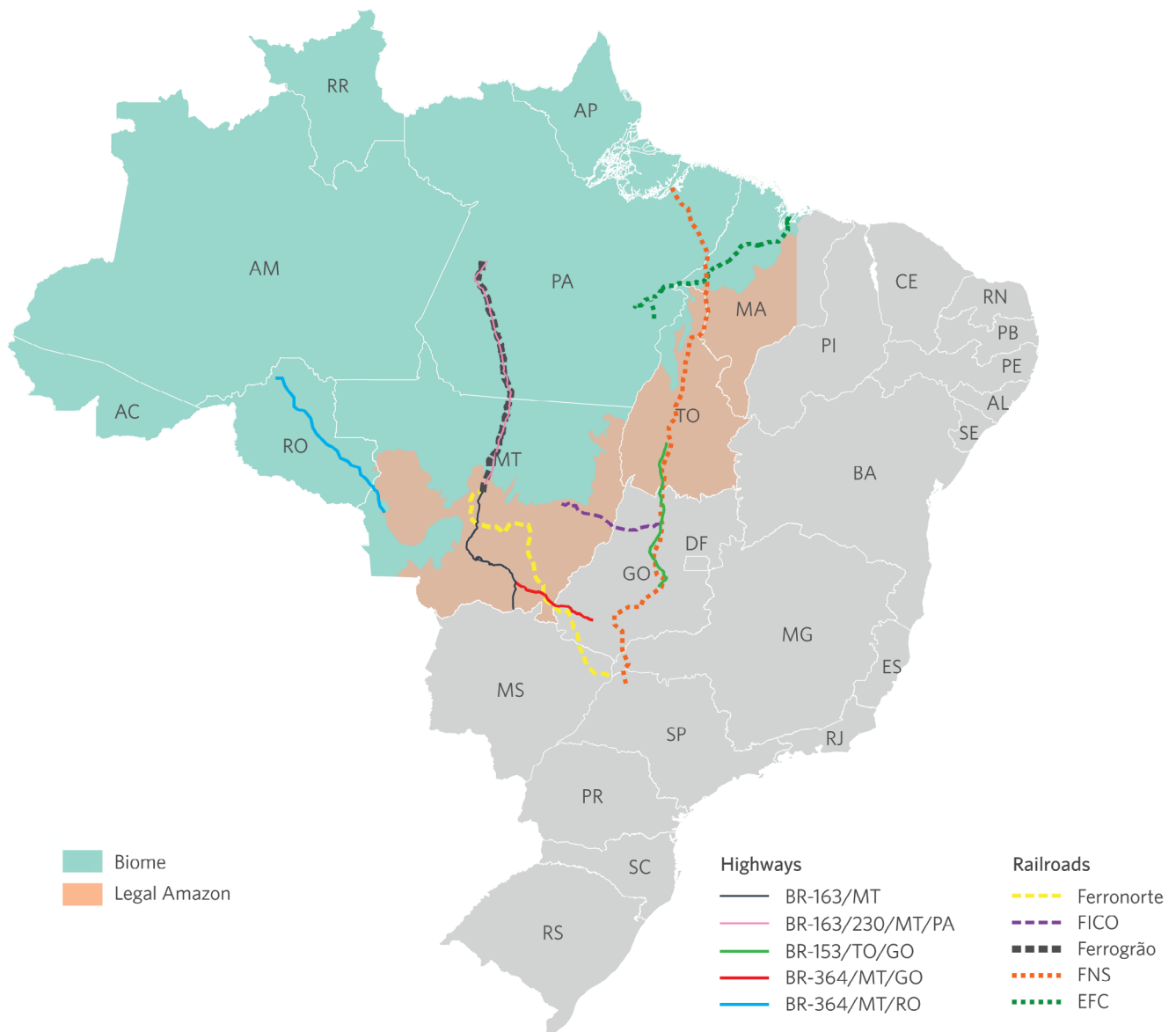
<sup>12</sup> Chiavari, Joana, Luiza Antonaccio, Ana Cristina Barros, and Cláudio Frishtak. *Ciclo de vida de projetos de infraestrutura: do planejamento à viabilidade. Criação de nova fase pode elevar a qualidade dos projetos*. Rio de Janeiro: Climate Policy Initiative, 2020. [bit.ly/2T47kjf](https://bit.ly/2T47kjf).

<sup>13</sup> EPL. *Plano Nacional de Logística*. [bit.ly/3w5cKsU](https://bit.ly/3w5cKsU).

## FEDERAL RAILROAD AND HIGHWAY CONCESSIONS IN THE LEGAL AMAZON

This analysis considered federal concession projects for 14 railroad and highway segments in the Legal Amazon,<sup>14,15</sup> as shown in Figure 2, and the current stage of each of these projects, according to the life cycle of land transport infrastructure concessions is shown in Figure 3.

**Figure 2.** General Layout of Federal Railroad and Highway Concession Projects in the Legal Amazon

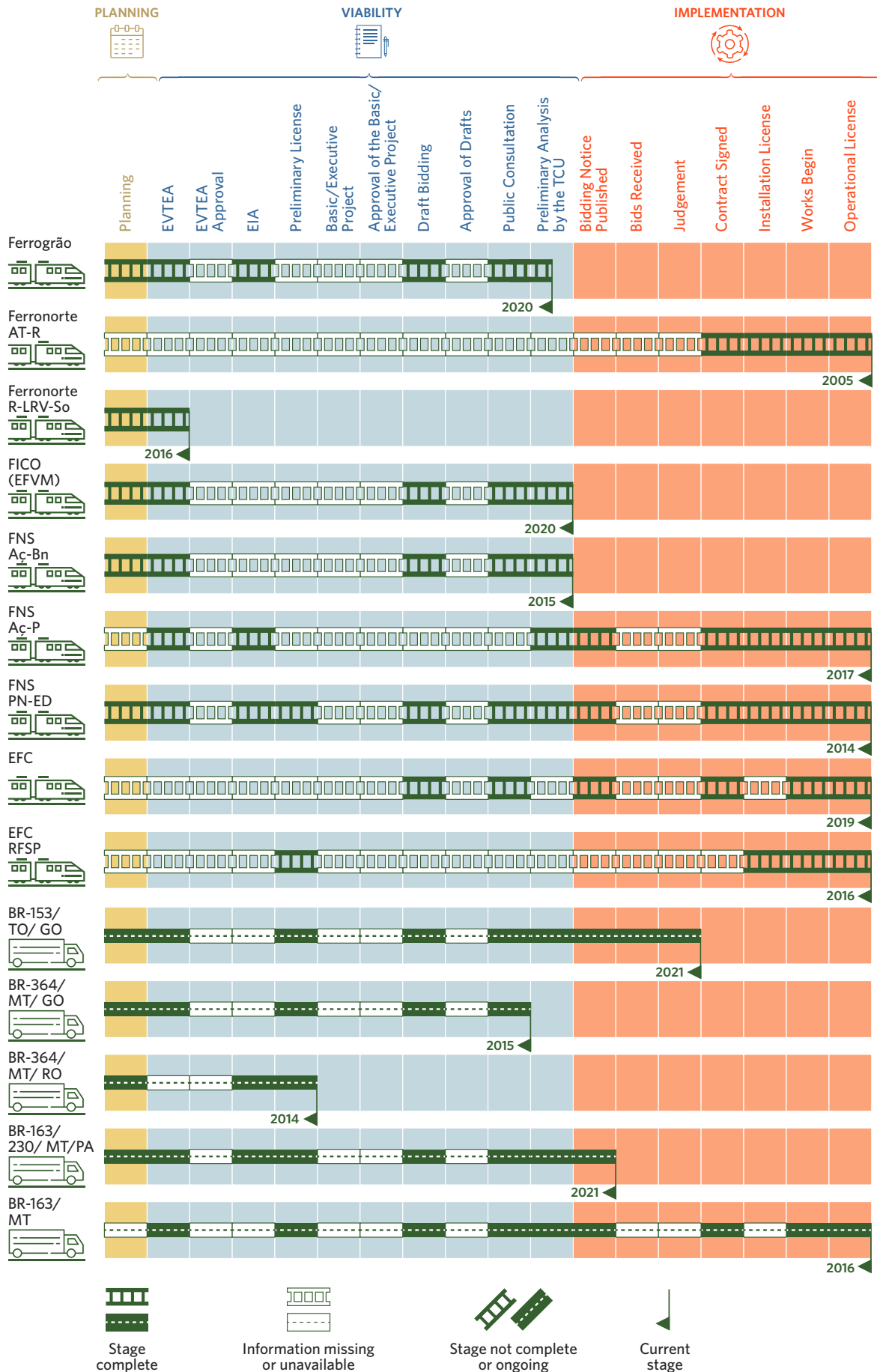


Source: CPI/PUC-Rio, 2021

14 After completion of the analysis presented herein, a process began for the concession of 1,135 km of BR/155/158/MT/PA (between Ribeirão Cascalheira/MT and Marabá/PA); however, this concession is still in the preliminary studies phase (yet to be concluded), so there is no data for an empirical analysis of the procedure vis-à-vis the viability phase. General information about the concession can be found in: PPI. *Estudos para Concessão das Rodovias BR-158/155/MT/PA*. [bit.ly/3z8z9Yd](https://bit.ly/3z8z9Yd).

15 Analyzed railroad projects include: Ferrogrão, Ferronorte (Aparecida do Taboado - Rondonópolis); Ferronorte (Rondonópolis - Lucas do Rio Verde - Sorriso); Ferronorte (Rondonópolis - Lucas do Rio Verde - Sorriso); Ferrovia de Integração do Centro-Oeste (FICO) (Mara Rosa - Lucas do Rio Verde); Ferrovia Norte-Sul (FNS) (Açailândia - Barcarena); Ferrovia Norte-Sul (FNS) (Açailândia - Barcarena); FNS (Açailândia - Palmas); FNS (Porto Nacional - Estrela D'Oeste); Estrada de Ferro Carajás (EFC); EFC, Ramal Ferroviário do Sudeste do Pará (EFC RFSP). Analyzed highway projects include: BR-153/TO/GO; BR-364/MT/GO; BR-364/MT/RO; BR-163/230/MT/PA; BR-163/MT.

**Figure 3.** Current Status of Federal Railroad and Highway Concession Projects in the Legal Amazon



Source: CPI/PUC-Rio, 2021

Figure 3 also shows that almost all projects – some already under concession, others still undergoing the concession process – have already completed (or are close to completing) the viability phase, which facilitates an empirical analysis of the procedure for this phase in federal railroad and highway concessions.

## FLAWS IN THE VIABILITY PHASE OF THE PROJECTS UNDER ANALYSIS

### LACK OF A CLEAR DEFINITION FOR THE PROCEDURE

CPI/PUC-Rio’s analysis reveals that **there are no clear procedural rules for the viability phase of federal railroad and highway concessions**. This is not unique to federal projects located in the Amazon. While the review of the applicable regulation already pointed in that direction, analysis of actual cases showed that they do not strictly follow the concession life cycle as outlined and illustrated in Figure 1.<sup>16</sup> This raises a number of questions, not only about the exact time when the Preliminary License must be obtained, but also about who must obtain it.

Although the issue of procedural vagueness and the occasional reversal of stages do not seem to constitute a legal problem *a priori*, this analysis shows how these issues can have a significant impact on the viability analysis of projects in the Amazon.

Take, for example, the lack of a proper sequence between EVTEA and the EIA, both in terms of temporal precedence and logical correlation. It seems reasonable that EVTEA, which includes a preliminary analysis of socio-environmental aspects tied to the project in question, should precede EIA. EIA are socio-environmental studies which, though different in nature (as they focus on environmental impacts), are more in-depth and should draw on the findings of the respective EVTEA as starting points, even if to refute them, with cause. This is not, however, necessarily what happens in practice.

Although some of the bidding documents used by private consultants in preparation for EIA expressly state that EIA must be tied to their respective and previously conducted EVTEA (e.g., the concessions for BR-153/TO/GO<sup>17</sup>, BR-364/MT/GO<sup>18</sup>, and BR-364/MT/RO<sup>19</sup>), the project for the aforementioned BR-153/TO/GO, for example, was issued an LP before the EVTEA had been completed.<sup>20</sup> It should be noted that LPs are issued based on EIA. This means that, in this case not only the LPs, but also the EIA, were concluded prior to the EVTEA.

**While EVTEA and EIA may be different in nature, the lack a proper sequence between them – both in terms of temporal precedence and logical correlation – undermines the coherence of the viability phase and squanders the opportunity to strengthen the socio-environmental component in the EVTEA so that it can later be used (and refined) by the EIA.** When evaluating

<sup>16</sup> Setting up the proper flow vis-à-vis the viability phase requires a meticulous comparison of sparse information collected from regulations and case studies. This means that the flow does not reflect the mandatory stages for federal railroad and highway concession projects.

<sup>17</sup> Reference to previously conducted EVTEA is made in item 6.1.2, C.1 of Annex II of the Public Notice: EPL. *RDC Eletrônico no. 08/2013*. [bit.ly/3g2EDwg](http://bit.ly/3g2EDwg).

<sup>18</sup> Reference to previously conducted EVTEA is made in item 6.5.2.1, C.2.6 of Annex I of the Public Notice: EPL. *RDC Eletrônico no. 04/2015*. [bit.ly/3pwMUvB](http://bit.ly/3pwMUvB).

<sup>19</sup> Reference to previously conducted EVTEA is made in item 6.1.2, C.1 of Annex II of the Public Notice: EPL. *RDC Eletrônico no. 04/2017*. [bit.ly/3cpEC3h](http://bit.ly/3cpEC3h).

<sup>20</sup> More specifically: (i) LP issued in September 2017, prior to the completion of the respective EVTEA (2019); and (ii) in the case of BR-153/TO/GO, a contract signed in 2014 provides for the execution of an EIA by December 2017, but it is not clear whether this EIA (to which CPI/PUC-Rio did not have access) was used a basis for the 2017 LP or whether a new license will be issued.



the preparatory studies for the Açailândia/MA - Barcarena/PA segment of the FNS, the TCU recognized the need for a minimum logical correlation between studies in the preliminary project phase.<sup>21</sup> There is, however, no similar requirement for the relationship between EVTEA and the EIA, as CPI/PUC-Rio has been able to confirm based on information gathered directly from the federal government's Planning and Logistics Company (*Empresa de Planejamento e Logística* - EPL). According to the EPL, "with regard to the need for the EVTEA to precede the EIA, we inform that there is no legal link or subordination between the two".<sup>22</sup>

## LACK OF TRANSPARENCY

CPI/PUC-Rio also identified the lack of transparency in the viability phase as another flaw. There is no information on the criteria used to approve EVTEA, and the approval documents are unavailable. This is one of the major weaknesses in the entire process, which also hampers the ability to monitor and control it. Such lack of transparency undermines the quality of both the viability and implementation phases. Greater transparency, on the other hand, can attract more companies and investors to new projects since they would have stronger foundations when considering potential projects.

Out of all the different stages of federal procedures for railroad and highway concessions illustrated in Figure 1, fourteen are deemed essential for assessing project viability. Most of these stages are in the viability phase itself; others, however, take place later and are also considered relevant for assessing the effective execution of concessions. Figure 4 below shows these fourteen stages and their respective degrees of transparency for the set of fourteen infrastructure segments under consideration. **CPI/PUC-Rio researchers did not have access to assessment and approval documents for EVTEA, draft notices and concession contracts, or engineering studies. It also did not have access to the engineering studies for the projects under analysis.**

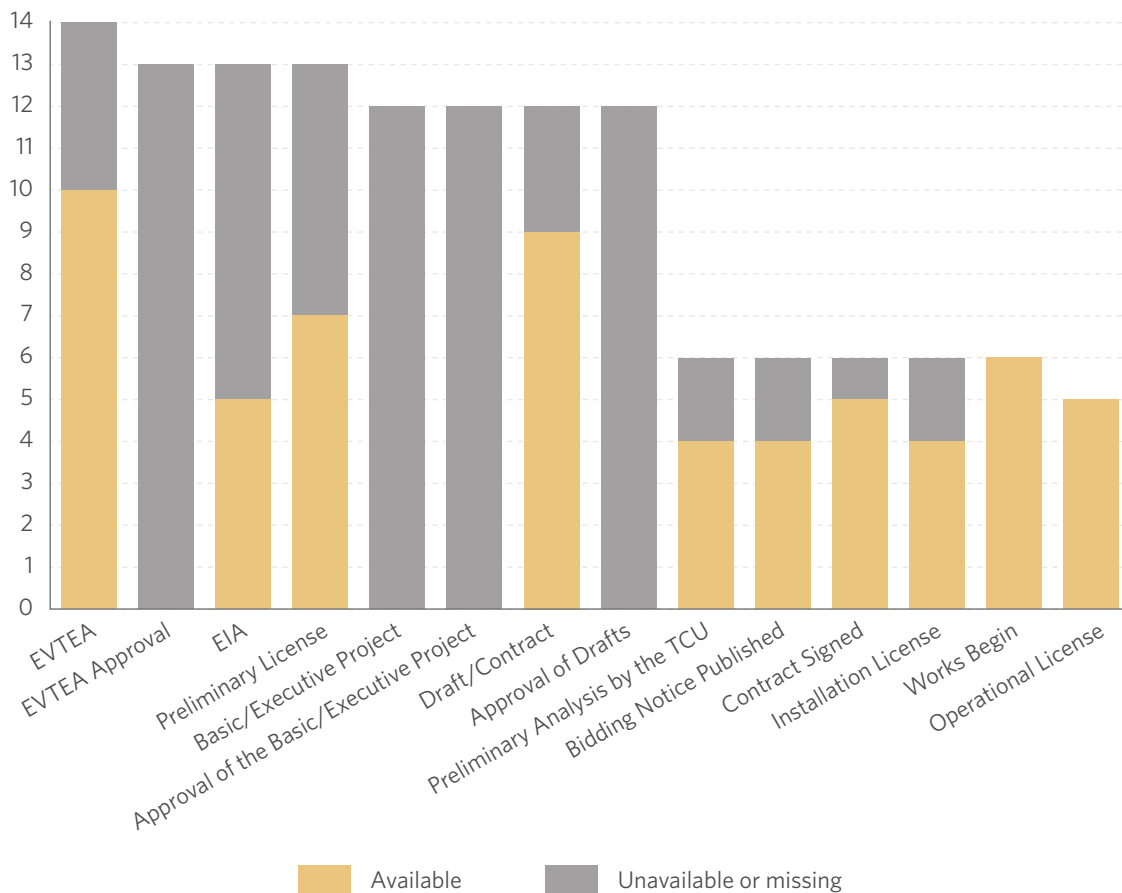
Overall, **57% of the documents and information on the fourteen main stages of the fourteen segments under analysis could not be found.** In most cases, it is impossible to ascertain whether a missing document or information is just unavailable or simply does not exist at all.<sup>23</sup>

<sup>21</sup> Appellate decision 1787/2015 by the Plenary. This case refers to the relationship between public policy instruments and government planning.

<sup>22</sup> The consultation was carried out using the Office of the Federal Controller General's Integrated Ombudsman and Access to Information Platform (Fala.BR): [bit.ly/3x3Avli](https://bit.ly/3x3Avli).

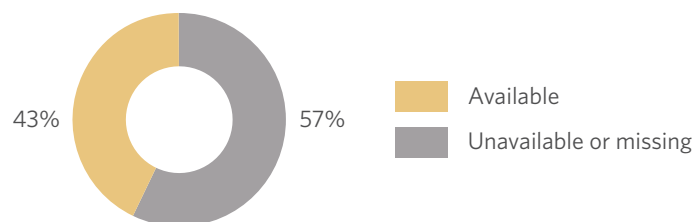
<sup>23</sup> In certain cases, for example, some of the projects had documents and information on EVTEA missing or unavailable but subsequent stages of the concession had been concluded, so the assumption is that they should have carried out an EVTEA. Under this assumption, the lack of information about EVTEA was counted as lack of transparency. On the other hand, not all cases required the completion of the stage referring to the availability of draft notices and concession contracts, for example. In such cases, the absence of information about this stage obviously did not count as lack of transparency.

**Figure 4.** Documents and Information Available on the Main Stages of Concession Procedures



Source: CPI/PUC-Rio, 2021

**Figure 5.** Documents and Information Available in General on the Main Stages of Concession Procedures



Source: CPI/PUC-Rio, 2021

Raw data were sourced from the websites of federal government agencies and entities participating in federal railroad and highway concessions.<sup>24</sup> Whenever any relevant document or information was unavailable, CPI/PUC-Rio sent requests to the relevant bodies and entities under the Freedom of Information Act (Law no. 12527/2011),<sup>25</sup> but those requests proved unsuccessful in securing the documentation needed. Regarding engineering studies in particular – basic and

24 Federal Attorney General's Office (*Advocacia-Geral da União - AGU*); Brazilian Land Transportation Agency (*Agência Nacional de Transportes Terrestres - ANTT*); National Bank for Economic and Social Development (*Banco Nacional de Desenvolvimento Econômico e Social - BNDES*); National Department of Transportation Infrastructure (*Departamento Nacional de Infraestrutura de Transportes - DNIT*); Planning and Logistics Office (*Empresa de Planejamento e Logística - EPL*); Brazilian Institute for the Environment and Renewable Natural Resources (*Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis - IBAMA*); The Ministry of Infrastructure (*MINFRA*); Logistics Investment Program (*Programa de Investimentos em Logística - PIL*); Investment Partnerships Program (*Programa de Parcerias de Investimentos - PPI*); Federal Court of Accounts (*Tribunal de Contas da União - TCU*); VALEC Engenharia, Construções e Ferrovias S.A. (VALEC).

25 Through the website [gov.br/acessoainformacao/pt-br](http://gov.br/acessoainformacao/pt-br).

executive projects – ANTT’s responses to requests from CPI/PUC-Rio exemplify the type of challenge faced in obtaining the data needed to analyze the projects in question.

According to ANTT’s Highway Exploration Regulation and Grant Office, the approval and availability of engineering studies are not under the agency’s responsibility because “the concessions do not include the task of building highways, only the delegation to carry out maintenance and investments in existing highways”. All highway concession projects under analysis, however, provide for the expansion and/or duplication of highway lanes, which requires the execution of engineering projects.

ANTT’s Railroad Project Office, on the other hand, did not deny the agency’s responsibility in approving engineering studies, but challenged the obligation to present them in full. According to that office, the Concessions Law states that only general data on these projects must be made available in concession notices and, since the Concessions Law is more specific than the Bidding Law (which, in turn, states that such information should be made available in full), the Concessions Law should prevail over the Bidding Law.

Therefore, in addition to important documents and information often being unavailable or unjustifiably missing, transparency is also hampered by legal interpretation issues. Whatever the case may be, lack of transparency in the viability phase has the potential to jeopardize the ability of civil society, academia, and potential investors to assess potential social and environmental impacts and risks involved in federal railroad and highway concessions in the Amazon.

## FRAGMENTED AND CONTRADICTORY INFORMATION

Regarding transparency issues and as a sign of apparently disjointed actions across government bodies in the scope of concession procedures, on more than one occasion CPI/PUC-Rio researchers came across information that was fragmented and contradictory – and perhaps indicative of governance problems in the sector:

- **Fragmentation of information between government agencies or entities:**  
ANTT, VALEC, EPL and PPI each have their own independent websites for the same infrastructure concessions.
- **Contradictory information between government agencies or entities:**  
The PPI states that the FICO segment under study starts in Mara Rosa/GO,<sup>26</sup> while according to VALEC it starts in Campinorte/GO.<sup>27</sup>

Throughout the study, it became clear that the federal government has taken steps to mitigate the problem of fragmented and disjointed information. For example, it has revamped the Ministry of Infrastructure website and taken down information on project flow that used to differ from information provided by other agencies or entities. It also redesigned the ANTT website to make the information clearer and more easily accessible. The problems, however, remain. It should be noted that only a fraction of federal infrastructure concession projects were considered in this analysis, so the problems with fragmented or contradictory information are likely to be much more pervasive.

<sup>26</sup> PPI. *Concessão da EF-354 - Ferrovia de Integração Centro-Oeste*. [bit.ly/2THgu5C](http://bit.ly/2THgu5C).

<sup>27</sup> VALEC. *A Ferrovia Transcontinental*. [bit.ly/3isgp0a](http://bit.ly/3isgp0a).

## CONCLUSION

In this paper, researchers from CPI/PUC-Rio have mapped the applicable regulation and analyzed key stages of the concession cycle for land transport infrastructure in the Amazon with a focus on the viability phase. They have shown that there are no clear procedural rules for this phase and that projects lack transparency.

Regarding procedural uncertainty, the lack of a proper sequence, both in terms of temporal precedence and logical correlation, between EVTEA and EIA undermines the coherence of the viability phase and prevents the preliminary analysis of socio-environmental issues at an earlier stage of the process (through EVTEA) from providing advance knowledge about social and environmental risks, from better structuring the preparatory phase of the bidding process and from reducing the likelihood projects will be interrupted or abandoned.

With regards to the lack of transparency, researchers from CPI/PUC-Rio did not have access to important documents about the viability phase, which can jeopardize the ability of civil society, academia, and potential investors to assess the potential social and environmental impacts and risks involved in federal railroad and highway concessions in the Amazon. There is no information on the criteria used to approve EVTEA, nor are the approval documents available - this is one of the major weaknesses of the entire process. This lack of transparency undermines the quality of the viability and implementation phases alike. Greater transparency can attract more companies and investors to new projects, as they would have stronger foundations when considering potential projects.

In this scenario, it seems advisable to establish some sort of relationship between EVTEA and EIA, both in terms of temporal precedence and logical correlation, with reference to the analysis of the social and environmental aspects of federal railroad and highway concessions. Another recommendation is to keep all documents and information about these concessions available in a centralized database, in an intuitive and orderly fashion.

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