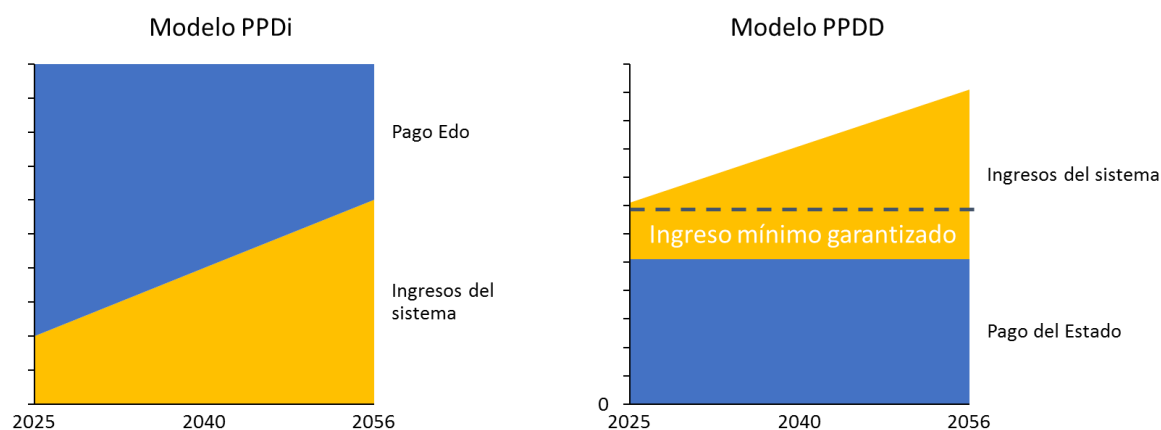


Annex

Transaction Structure Models

For the development of the Electric Train project, two transaction structures or business models were presented, differentiated mainly in the distribution of demand risk, which are presented in the following figure. Likewise, the consultant IDOM defines three evaluation scenarios under these two structures: base scenario (demand projections with a growth rate of 1.3%¹), conservative scenario (demand projections with a growth rate of 0.6%) and optimistic scenario (demand projections with a growth rate of 2%).

Figure 1 Conceptual payment behaviour based on concession model (figure not to scale)



Source: IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic-financial analysis, page 66 (figure 4).

The following is a summary of the two models proposed by the Consultant based on the information of the FSR²:

- Model PPDi - Payment by Availability and Transfer of Income:

In this model the concessionaire's revenues are pre-determined in the concession contract as a fixed amount that covers the investment, operation and maintenance, and profitability³. This value is covered by the tariff system revenues and the payment made by the State covering the differential between the defined fixed amount and the tariff revenues received (user tariff). In case of a surplus in the fare revenues from the system (user fee) these are for the State. The concessionaire's revenues are subject to possible deductions only in the case of service failures or lack of availability of infrastructure.

For this model, the consultant IDOM considered in its structuring a target rate of 10% of the concessionaire's cash IRR, which means 275 basis points higher than the country risk rate⁴, and 100% of the demand risk is assumed by the state entity. Therefore, a decrease in projected demand increases the need for public resources to make up for the shortfall of the fixed amount established in the concession contract.

¹ Demand projections obtained from IDOM. 2020. Technical Feasibility Study. Report 10 Demand model.

² IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic and Financial Analysis, page 64.

³ Composed of what the IDOM Consultant calls: CAPEX Tariff and OPEX Tariff.

⁴ IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic and Financial Analysis, page 74.

One of the main advantages of this model is that, as it has no demand risk and is guaranteed by the National Government for the payment of the fixed amount established in the concession contract, it is attractive to financiers and concessionaires and is easy to bank and place in the market.

- PPDD Model - Pay per Availability with Demand Transfer:

This model transfers part of the demand risk to the concessionaire. The concessionaire's revenues are determined by a fixed payment from the State ⁵ and the system revenues (user tariff) that take into account a Minimum Revenue Guarantee (MGR) are defined in the concession contract. The payments made by the State as in the PDDi model will be subject to deductions or discounts for compliance with availability, quality and service levels.

The Minimum Revenue Guarantee (MGR) seeks to mitigate the demand risk assumed by the private party and to cover the costs of investment, operation, maintenance and a minimum profitability that are considered below the market⁶, it is understood that if the revenues of the system are lower than a base previously established in the concession contract, the State must pay the difference between the amount of the MGR and the revenues actually received (user fees). This MGR is understood as a revenue support that would allow the concessionaire to meet debt payments and generates guarantees for the benefit of the bankability of the project and its financial closure.

In this transaction model, falls in demand affect the concessionaire's IRR by having transferred part of the demand risk. The transfer of demand risk assumes that the concessionaire carries a higher return, which has been set at 13.5% of the concessionaire's cash IRR⁷. Based on the calculations made by the consultant IDOM, when demand falls by 30%, the resulting IRR is 10% (the same as the target IRR of the PPDi scenario).

One of the main advantages of this model is that the State's payments are stable since the demand risk is shared, which means a conservative fiscal scenario and less risk for the State in case the demand projections move away from the projections of the structuring (base scenario). So by assuming a higher risk the concessionaire has a higher rate of return.

The comparative characteristics of the business models proposed by the consultant IDOM are presented below (see table).

⁵ Composed of what the consultant IDOM calls: CAPEX Tariff and OPEX Tariff.

⁶ The consultant IDOM indicates that it is assumed that the minimum income should not cover the full target IRR but, because of the risk transfer, something lower. In this case an 8% return is assumed to calculate this income - approximately the Costa Rican risk-free rate (considering the rates at which the government can place debt on the international market) plus 0.5%.

⁷ IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic and Financial Analysis, page 75.

Table 1 Characteristics of the business model or transaction

Variable	Business model	
	PPDi	PPDD
Target IRR	10%	13.5%
Assigned demand risk	100% Public	Shared Public and Private
Guaranteed Minimum Income (GMI) demand	No	Yes
Surplus system tariff revenues	100% State	Shared Public and Private
Compliance with quality and operational performance indices	Yes	Yes

Source: Grütter Consulting based on IDOM. 2020. Fourth Report: Economic and Financial Study.

Document 1. Economic and Financial Analysis

Calculation of the financial indicators of the two models analysed

The financial indicators calculated are the Net Present Value (NPV) and the Internal Rate of Return (IRR) of the investor's cash flow, taking into account the target IRR established for the two operating models presented⁸.

The following tables show the payments that the public entity would have to make according to each of the business models in the base scenario. In the case of the PPDi, the annual fare corresponds to USD174,063,882 (including CAPEX fare and OPEX fare) of which USD76,470,953 are revenues via user fares (via passenger demand) and therefore the remaining payment must be covered by State resources, since under this model the Concessionaire's revenues are fixed and the demand risk is 100% State-owned.

Under the PPDD model, the CAPEX and OPEX tariffs in the concession contract are set at USD123,327,210, which are annual payments by the State. Now, under this scenario a Minimum Guaranteed Demand Revenue is set at USD29,920,516. In the base scenario demand revenues are estimated at USD76,470,953, under this demand revenue projection scenario the IMG would not be activated. In the event that the tariff revenues were lower than USD29,920,516, the State would be required to cover the differential demand revenue up to the IMG limit (USD29,920,516).

⁸ For each of the transaction models, the consultant IDOM ran three scenarios (baseline, conservative and optimistic). However, the data presented refer to the baseline scenario.

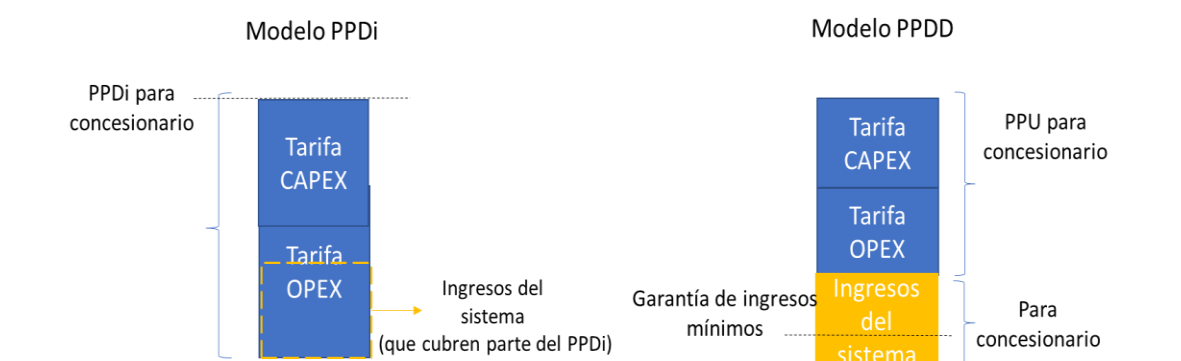
Table 2 Estimated annual payment under transaction models by the State

Payment under the PPDi model	Constant USD 2019	Payment under PPDD model	Constant USD 2019
CAPEX tariff (fixed in the concession contract)	129,335,047	CAPEX tariff (fixed in the concession contract)	78,598,375
OPEX tariff (fixed in the concession contract)	44,728,835	OPEX tariff (fixed in the concession contract)	44,728,835
Total	174,063,882	Total	123,327,210
User fee revenues	76,470,953	Guaranteed Minimum Income (demand) - fixed in the Concession Contract	29,920,516
Payment of the administration ⁹	96,229,818		

Source: Grütter Consulting, based on information from IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic-financial analysis, pages 82 (table 103) and 92 (table 113).

The figure shows conceptually how payments would be distributed in the project under the two transaction models according to the explanation above.

Figure 2 Award and payment models for the project



IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic-financial analysis, page 66 (figure 3).

The results of the financial indicators obtained for the base scenario, for the two models of analysis, show that the profitability for the Concessionaire is better in the PPDD scenario because it assumes part of the demand risk, so it is evident that the higher the risk, the higher the profitability (13.50%). For the PPDi model the IRR is lower (10%) as the demand risk is assumed 100% by the State, therefore there is no transfer of demand risk to the Concessionaire (see table below).

⁹ The difference is not exact, and as explained by the consultant IDOM for the PPDi the annual payment is the average annual payment paid by the administration after deducting the system revenues, considering only the full years of operation with factor to be applied to the PPDi at 100% on all lines.

Table 3 Financial indicators for the business models for the baseline scenario

Scenario	IRR	Project IRR	NPV Project	Annual payment (USD cte.) ¹⁰	Total payment (USD cte.)
PPDi Base	10.00%	9.16%	304,459,718	96,229,818	2.813 million
PPDD Base	13.50%	10.68%	368,180,644	123,327,210	3.621 million

Source: IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic-financial analysis, page 103 (table 122).

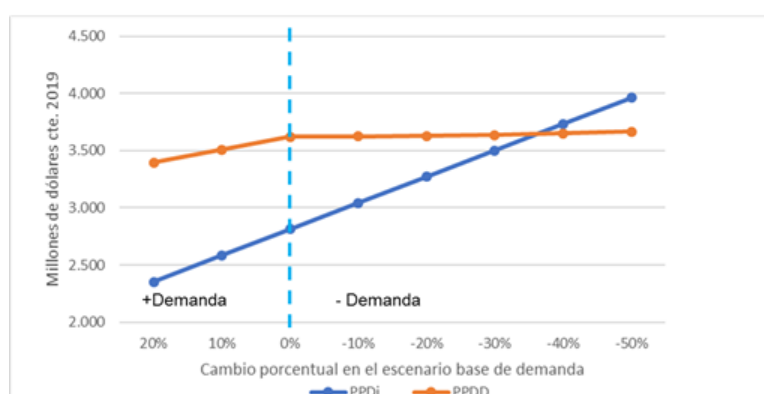
However, in the case where demand falls by more than 37.5% with respect to the baseline scenario, the PPDi model is more costly for the state than the PPDD model, considering higher payments for the state, as shown in the figure below. Although the PPDD model may initially be considered more costly, it is less risky in terms of fiscal stability for the State, taking into account that it is a long-term concession contract.

However, if the level of demand is certain and demand falls by less than 37.5% compared to the baseline scenario, the PPDi model represents lower costs compared to the PPDD scheme, which could reach USD 800 million (see figure below).

Figure 3 Comparison of transaction models payments on demand

	Variación sobre la demanda base							
	20%	10%	0%	-10%	-20%	-30%	-40%	-50%
PPDi	2.353	2.583	2.813	3.043	3.273	3.502	3.732	3.962
PPDD	3.394	3.508	3.621	3.623	3.630	3.637	3.650	3.665

Millones de dólares constantes



Source: IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic and Financial Analysis, page 153 (Figure 27).

Conclusions:

- The two transaction models, PPDi and PPDD, presented and developed in the project feasibility provide results to consider them viable for the development of the project. The PPDi may be a good option if there is certainty in the level of demand, but in case of sharp drops in demand, this scheme may become the most burdensome; therefore, it may be better to have the PPDD scheme as it allows limiting the demand risk assumed by the public entity.

¹⁰ Idem

- The results of the financial indicators obtained for the base scenario show that the profitability for the Concessionaire is better in the PPDD scenario because it assumes part of the demand risk, so it is evident that the higher the risk, the higher the profitability (13.50%). For the PPDi model, the IRR is lower (10%) since the demand risk is assumed 100% by the State; therefore, there is no transfer of demand risk to the concessionaire.
- In the case of sharing the demand risk with the private sector under the PPDD model, the analyses and results of the financial modelling carried out by IDOM, support this scenario and its advantage over the other alternative evaluated (PPDi) in case of a scenario of a drop in demand greater than 37.5%, since in this case the Guaranteed Minimum Income is activated, generating stability in the payments to be made by the State. However, in the PPDi model with a fall in demand of less than 37.5% with respect to the base scenario, the difference in costs could be of 800 million dollars less than the PPDD scheme.
- Under the PPDi model, the payments made by the State are fixed for the concessionaire, regardless of fluctuations in demand. The PPDi model is a very attractive alternative for financiers and concessionaires, as it is easy to bank and place in the market, taking into account that the demand is not a risk attributed to the private party but 100% to the State and the resources to remunerate the concessionaire are fixed and guaranteed.
- Bearing in mind that the two models are feasible for implementation, the IDOM Consultant proposed as an alternative that a comparison and evaluation mechanism could be established within the bidding requirement that would allow for the comparison of proposals under the two models proposed, in the event that in the consultation process with potential bidders provided for in the national legislation, it is determined that this option generates the greatest possibilities of competitive participation¹¹.

Technical Tariff

The technical fare, presented by IDOM, is understood as the fare that allows the concessionaire to recover its investment, pay operation and maintenance costs and obtain profitability. This fare is calculated on the basis of revenues (CAPEX fare, OPEX fare and trip revenues¹²) and passenger demand.

Under the PPDD model, the concessionaire receives three sources of income over the operation and maintenance period:

- Revenue per passenger carried¹³: pay-as-you-go, there is a transfer of demand risk since fewer passengers carried means a lower demand payment to the concessionaire; however, a minimum value of demand revenue is guaranteed, i.e. the MGR demand).
- OPEX Tariff Revenue: revenue from the provision of the transport service, which is an availability payment calculated on the basis of annual OPEX costs. This revenue is affected by the optimal performance of the service.
- CAPEX Tariff revenues: revenues associated with the availability of the project covering investment and interest.

¹¹ IDOM. 2020. Fourth Report: Economic and Financial Study. Document 1. Economic and Financial Analysis, page 153.

¹² Commercial tariff (user) by demand.

¹³ A demand IMG is guaranteed.

Under the PPDi model, the concessionaire receives two sources of revenue throughout the operation and maintenance period i) OPEX Fare Revenue and ii) CAPEX Fare Revenue, as it does not receive revenue from passengers transported since there is no transfer of demand risk under this model to the concessionaire, this risk is assumed in its entirety by the State.

Once the total revenue is estimated for each model, during the operation and maintenance period of the project, it is divided into the total estimated demand for the base scenario and the Technical Tariff is obtained.

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