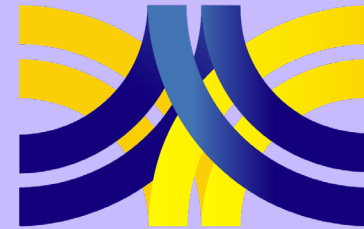


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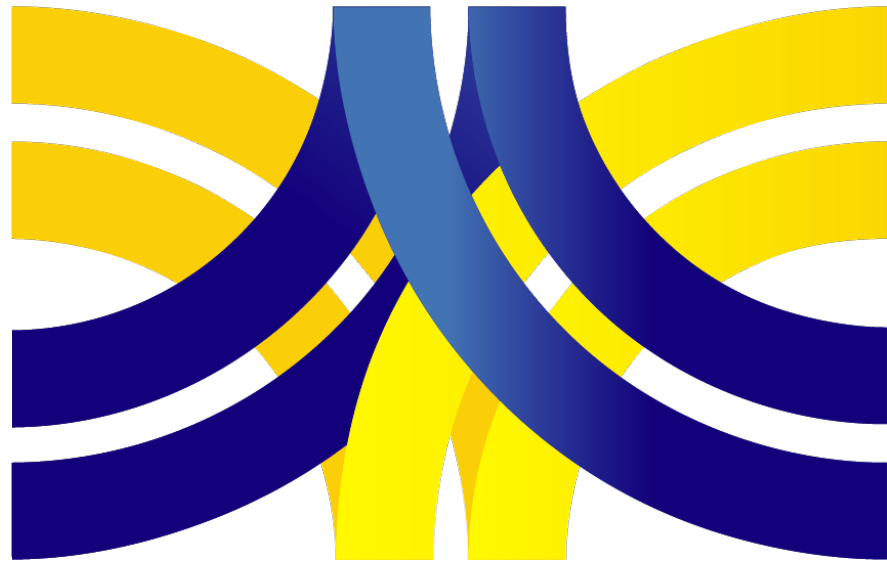


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Cost-Benefit Analysis of the last 10 years of road PPP's in Portugal

Rui Manteigas

APCAP Secretary General



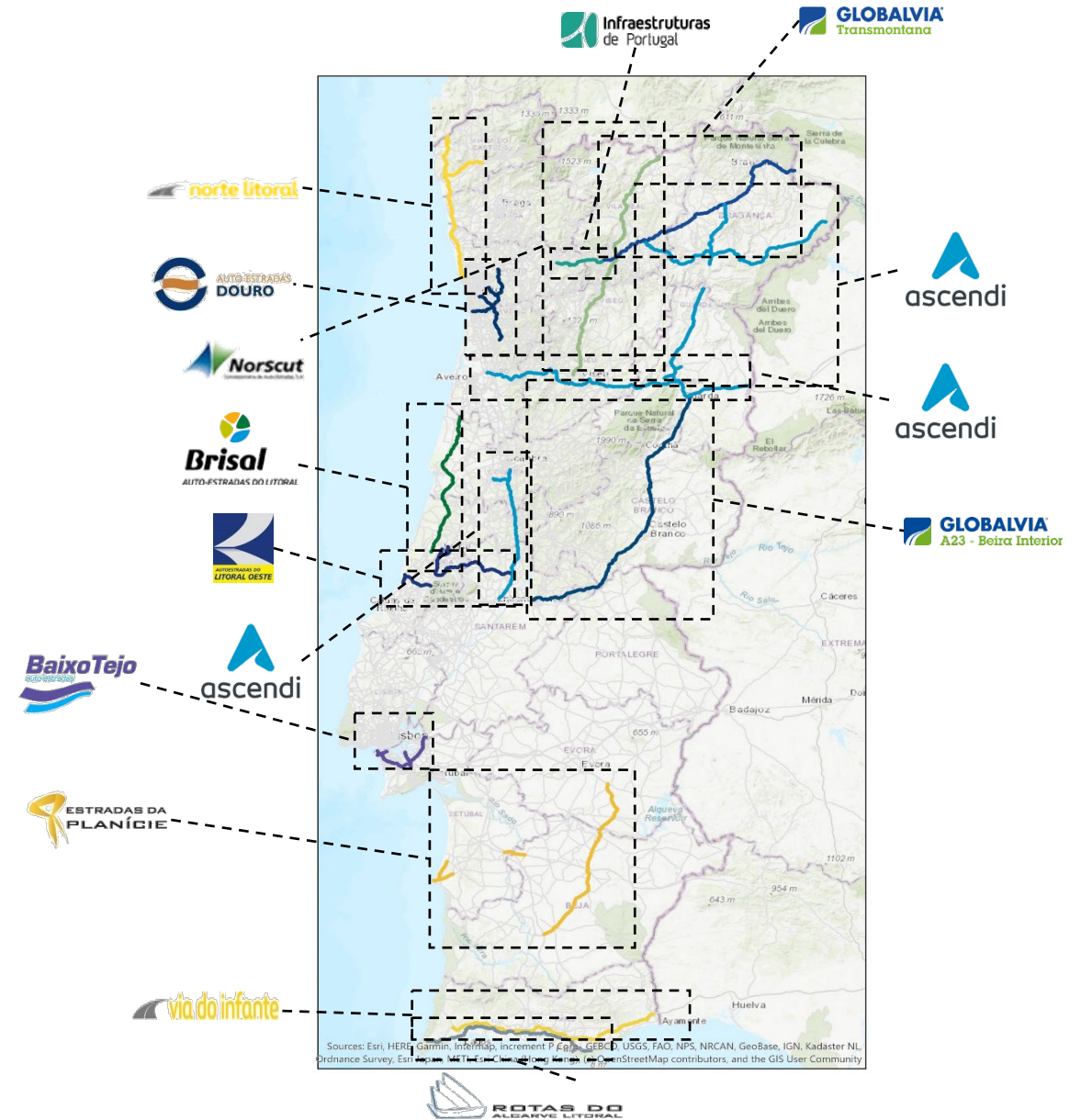
Cost-Benefit Analysis of the last 10 years of road PPP's in Portugal

Study Object

➤ 15 PPP

➤ Concession agreements:
1999 to 2040

➤ 1.844 km motorways



Traffic Analysis – Scenarios with and without PPP



	1	2	3	Tot
1	[Car]			
2		[Truck]		
3			[Truck]	
Tot				

Traffic Model + Travel Matrix

1999 a 2018

With PPP (real scenario)

Without PPP (do nothing)

Assumptions

- Operational Cost (including fuel + maintenance + depreciation)
- Value of Time*
- Tolls (average costs per km in Portugal)
- GNP – OCDE (long term, 2018) + correction Covid-19
- Fuel Costs – EIA (“Annual Energy Outlook 2019”)

Vehicles	€ / km
Light	0,125
Heavy	0,289

Vehicles	€ / h
Light	11,24
Heavy	46,02

* HEATCO: Developing Harmonized European Approaches for Transport Costing and project assessment

Methodology



Travel time

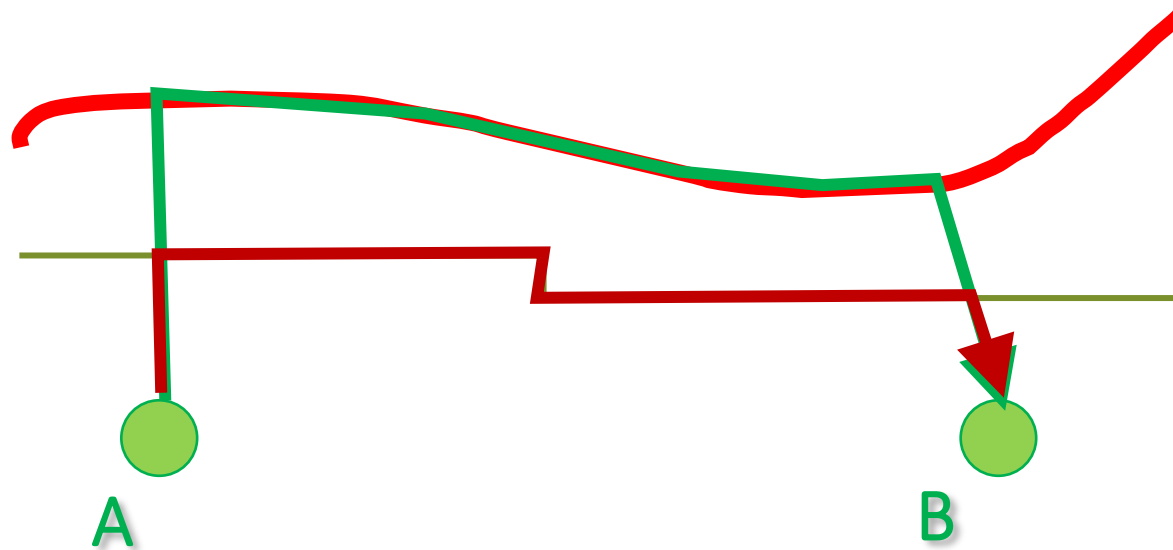


Distance



Traffic Volume

- Not easy to explain the time savings from point to point and not only by the same intersections...

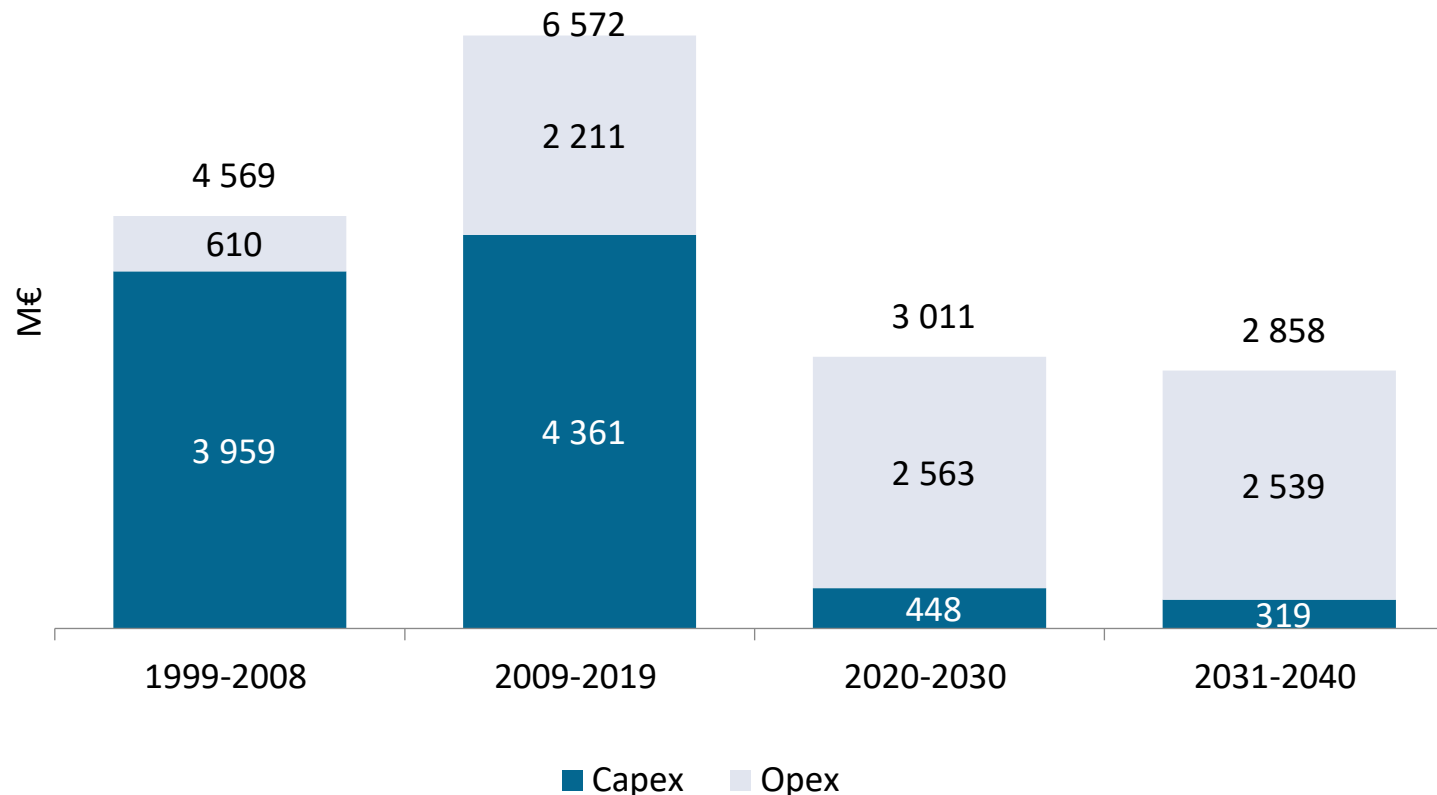


Methodology

- The Cost-Benefit Analysis was calculated by the rules of the “*Guide to Cost Benefit Analysis of Investment Projects 2014-2020 Economic appraisal tool for Cohesion Policy (Dec.2014)*” – European Commission
- This methodology is based on the **incremental approach**, where the investment impact is valued by comparing 2 scenarios:
 - Final scenario** (with the real investments)
 - Minimum scenario** (do nothing)
- *Rule of Half Method (same guide above mentioned)*

Investment and Operating Costs

Estimated Costs – CAPEX and OPEX for 1999/2040
(2018 prices)

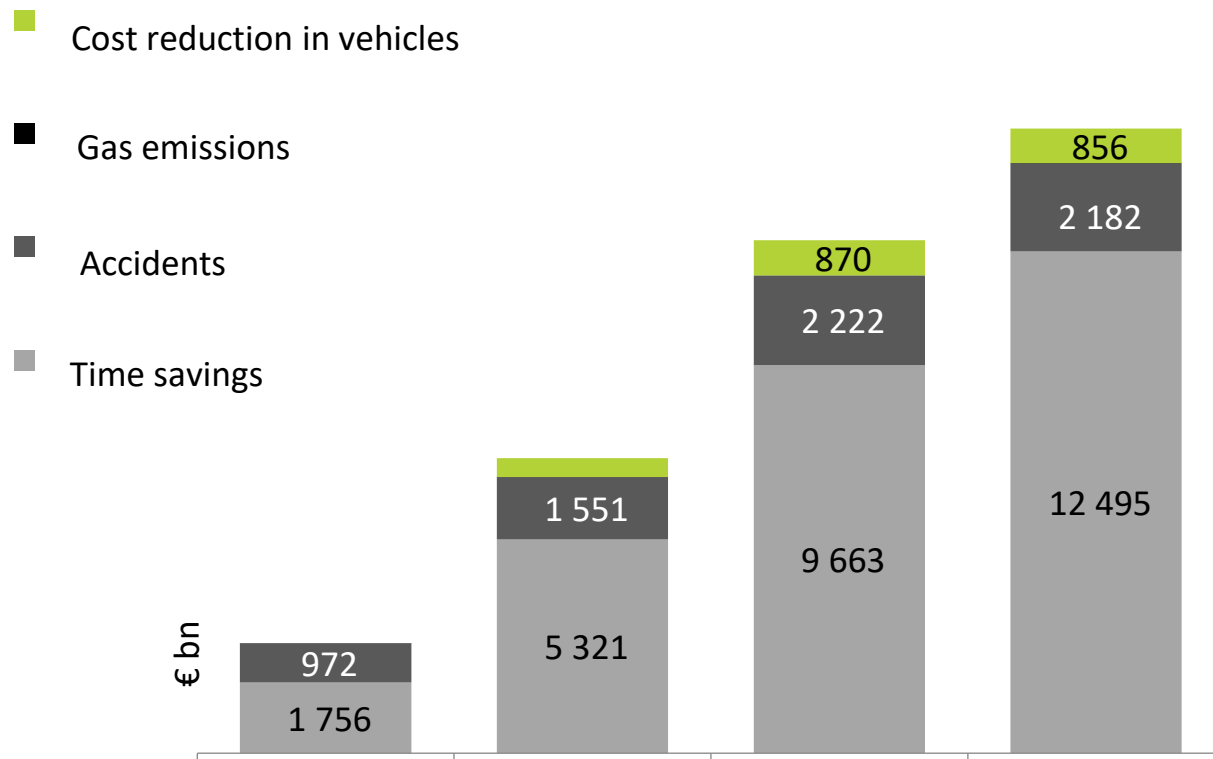


Σ €17.0 bn

Between 1999 and 2040, cumulated CAPEX of € 9.1 bn and OPEX €7.9 bn, with the total of **€17 bn** are expected

Estimated Benefits

(2018 prices)



Σ 17.0 Total Costs

€ bn

2.3x

Σ 38.4

€ bn

Benefits Value

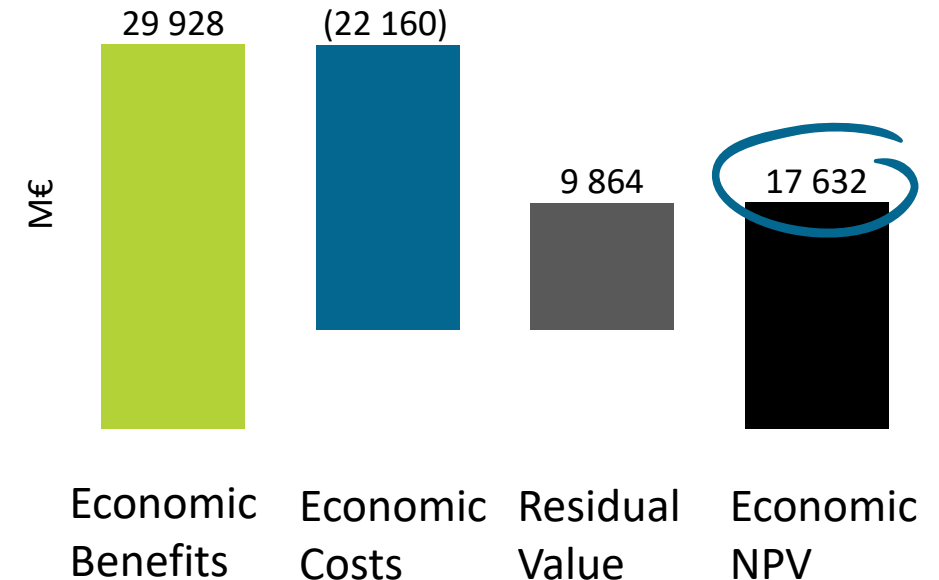
Cost-Benefit Analysis of the last 10 years of road PPP's in Portugal

Quantification

The net economic benefit obtained was roughly €17.6 bn.
Therefore the main KPI of the 14 projects reveal the positive impact on the communities served

	Current Values	2018 Values (rate 5%*)
Economic Benefits	€38 375 m	€29 928 m
Economic Costs	€(17 010) m	€(22 160) m
Discounted Cash-flow (1999 - 2040)		€7 768 m
Residual Value of Investments		€9 864 m
Economic Net Present Value		€17 632 m

Net Economic Benefit (2018 prices)



Due to the KPI sensitive analysis (with 95% confidence interval), the net economic benefit will be between **€ 11 and €26 bn.**

References:

Estudo de Impacto Económico das Concessões Rodoviárias – PWC Portugal – Feb. 2021;*

Avaliação ExPost Impactes Económico/Financeiros PPP Rodoviárias – Componente de Tráfego – TIS.PT – Feb.2021;*

Parecer ao Estudo de Impacto Económico das Concessões Rodoviárias – Observatório PPP – Catolica Lisbon – jun.2021;

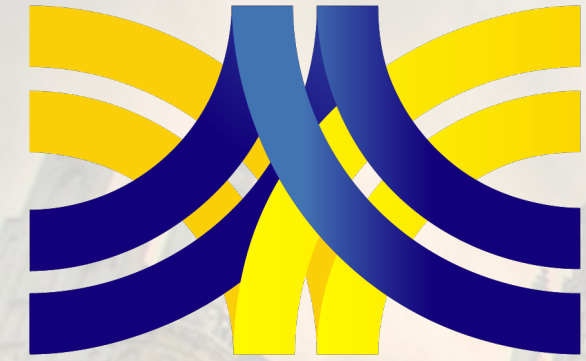
Guide to Cost Benefit Analysis of Investment Projects 2014-2020 Economic appraisal tool for Cohesion Policy (dec.2014)” – European Commission;

HEATCO: Developing Harmonized European Approaches for Transport Costing and project assessment;

EIA (“Annual Energy Outlook 2019”)

* *Both submitted to an independent opinion of the PPP Observatory (Catolica Lisbon University) – available at APCAP website*

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