

# A Sustainable Asset Valuation of the Tirana-Durres Railway in Albania

## SUMMARY OF RESULTS

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The Tirana-Durres metropolitan region in Albania accommodates 37% of the country's population; has the highest population density, with 443 inhabitants per km<sup>2</sup>; and accounts for 48% of the country's GDP. According to demographic projections, the region is expected to experience population growth of approximately 200,000 inhabitants by 2028.<sup>1</sup> Despite being one of the most developed economic areas in the country, the Tirana-Durres region faces significant transportation challenges due to its reliance on road transport and an outdated railway network that has not received adequate investment or maintenance in the last 25 years. The railway network's poor condition, coupled with the rapid growth of the country's road network, has resulted in a steady decline in railway passenger and freight traffic over the years.<sup>2</sup>

To address these transportation challenges, proposals have been made to rehabilitate the Tirana-Durres railway line and establish a new railway connection to Rinas International Airport to improve Albania's railway transport by enhancing infrastructure, operations, and safety in the sector. The railway improvement project's objective is to improve economic performance by facilitating efficient passenger and trade movements while also contributing positively to the environment by reducing the use of polluting transport modes and decreasing CO<sub>2</sub> emissions from the transport sector. The total length of the railway is 34 km, and its total cost is estimated to be EUR 58.78 million.<sup>3</sup> The SAVi assessment of the Tirana-Durres railway in Albania includes one scenario that is compared to a baseline scenario where the railway improvements would not be implemented.

The Sustainable Asset Valuation (SAVi) methodology provides policy-makers and investors with a comprehensive analysis of the costs and benefits of their infrastructure project and policy intervention throughout their life cycles. We consider a wide range of economic, social, and environmental risks and impacts that are typically overlooked in traditional valuations, looking below the surface for the broader knock-on effects of implementing a transport project.

The SAVi assessment of the Tirana-Durres railway in Albania shows that improvements to the railway system would provide a more efficient, safe, accessible, and environmentally friendly mode of transportation in the region while delivering substantial monetary benefits.

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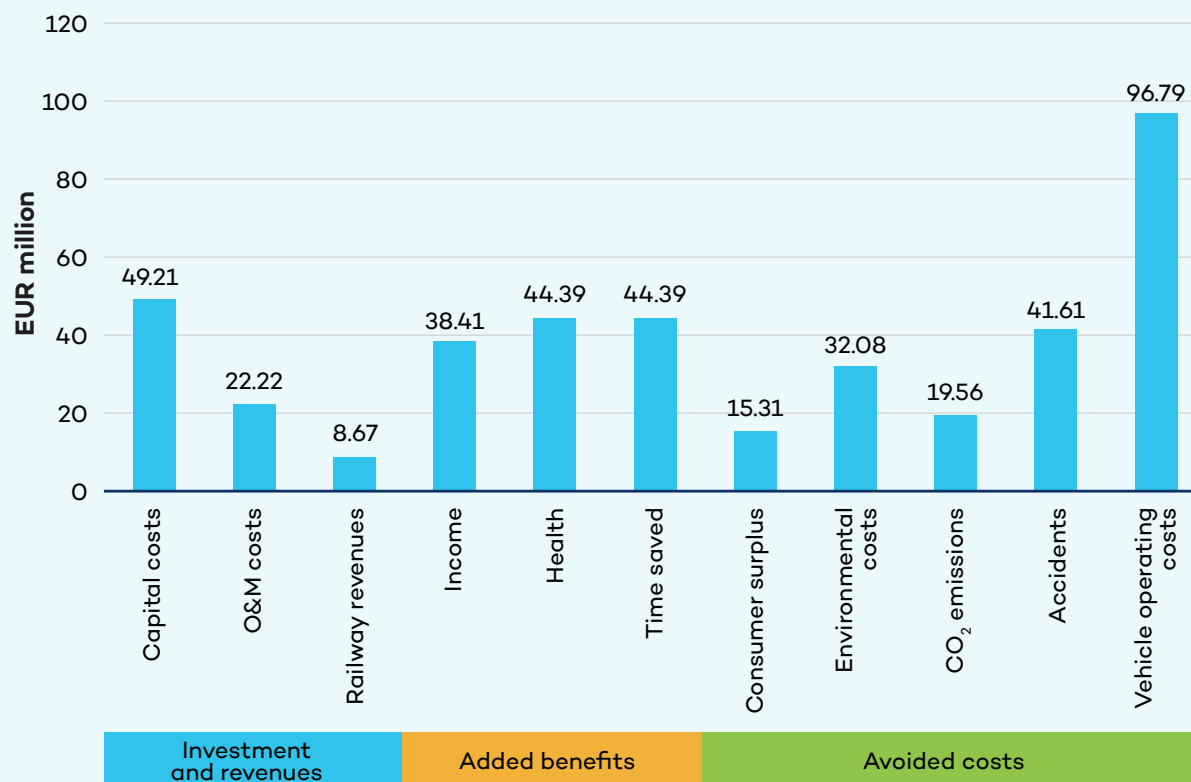
<sup>1</sup> Albanian Government. (2018) *Integrated cross-sectorial plan of Tirana-Durres Area*. <https://www.yumpu.com/en/document/read/59900990/integrated-cross-sectorial-plan-of-tirana-durres-area>

<sup>2</sup> JV Railcon. (2015). *Detailed design of railway line Durres-Tirana PPT for the Ministry of Transport and Infrastructure. Component B: Financial and economic appraisal of the whole railway network (Task B2-Traffic Study)*. Republic of Albania

<sup>3</sup> Ibid.

This SAVi assessment models a Tirana-Durres scenario that includes various assumptions to calculate the economic value of the added benefits and avoided costs of the railway system. More details can be found in the [technical report](#). This summary presents the key findings of the railway scenario, which assumes a modal shift from private transport and road-based freight to the railway system. The railway scenario offers a cumulative net benefit of EUR 415.51 million over a project period from 2023 to 2053. Once this is discounted at 3.5%, per *Green Book* guidance,<sup>4</sup> cumulative discounted net benefits amount to EUR 270.34 million over the project period.

**Figure 1.** Monetary values of the investment costs, revenues, added benefits, and avoided costs of the Tirana–Durres railway in Albania



Source: Authors.

The Tirana-Durres railway in Albania stimulates economic growth, either directly through revenues from railway operation, consumer surpluses (the difference calculated between users' willingness to pay over the prevailing generalized cost of transport for a specific trip), and employment creation or indirectly through added benefits from time saved and increased physical activity, as well as avoided costs of air pollution, CO<sub>2</sub> emissions, traffic accidents, and vehicle operating costs.

<sup>4</sup> UK Government. (2022). *The green book*. <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020>

The largest impact resulting from the rehabilitation of the Tirana-Durres railway is the avoided vehicle operating costs resulting from the shift from road transport to the railway. The discounted avoided vehicle operating costs, including avoided fuel use and avoided maintenance costs, are valued at EUR 96.78 million. In addition, the Tirana-Durres railway will lead to cumulative health benefits from avoided air pollution costs and increased physical activity, valued at EUR 44.93 million. Other benefits include the time saved for railway users through reduced traffic and congestion, valued at EUR 44.39 million; avoided costs of traffic accidents, valued at EUR 41.61 million; and income created from additional railway employment, which amounts to EUR 38.41 million. On the other hand, investment costs for the rehabilitation of the railway are also high, standing at EUR 49.21 million.

Integrated valuations, such as this SAVi assessment, build a fuller picture of the long-term effects that the conventional benefit-cost ratio (BCR) is unable to consider. A conventional BCR for this project, which considers only the tangible impacts (e.g., capital costs, operations and maintenance costs, and revenues from the operation of the railway), amounts to 0.12. However, the sustainable BCR (S-BCR), which includes the full range of economic, social, and environmental added benefits and avoided costs, is higher, amounting to 4.25.

**Table 1.** Net results of valued added benefits and avoided costs

	<b>Tirana-Durres railway scenario (2023–2053)</b>
Cumulative net benefits (undiscounted, EUR million)	415.51
Cumulative net benefits (discounted, EUR million)	270.34
BCR	0.12
S-BCR	4.79

Source: Authors' calculations.

Overall, the project's benefits significantly outweigh the investment required. In addition, when only investment and revenues are considered in the analysis, the project is not economically viable, but when a wide range of tangible and intangible economic, social, and environmental impacts are also considered, the benefits are considerably higher. All of the above demonstrate that advancing sustainable transport investment options, such as the Tirana-Durres railway in Albania, requires identifying, assessing, and valuing these societal benefits and avoided costs so that project developers and planners can advocate for their implementation and financing.

It is crucial that policy-makers design and implement processes that enable the recognition and accounting of these wider benefits so that decisions are made in favour of transport investments that provide the greatest benefits to society while minimizing their environmental impacts.

## Acknowledgement of Funder



### Why Use SAVi?

SAVi calculates the environmental, social, and economic risks and externalities that impact the financial performance of infrastructure projects. These variables are typically ignored in traditional financial analyses.

SAVi is a simulation tool that is customized to individual infrastructure projects. It is built on project finance and systems dynamics simulation.

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### About SAVi

SAVi is a simulation service that helps governments and investors value the risks and externalities that affect the performance of infrastructure projects.

The distinctive features of SAVi are:

- **Valuation:** SAVi values, in financial terms, the material environmental, social, and economic risks and externalities of infrastructure projects. These variables are ignored in traditional financial analyses.
- **Simulation:** SAVi combines the results of systems thinking and system dynamics simulation with project finance modelling. We engage with asset owners to identify the risks material to their infrastructure projects and then design appropriate simulation scenarios.
- **Customization:** SAVi is customized to individual infrastructure projects.

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