The Strait of Messina Bridge: Strategic Benefits for Sustainable and Inclusive Development

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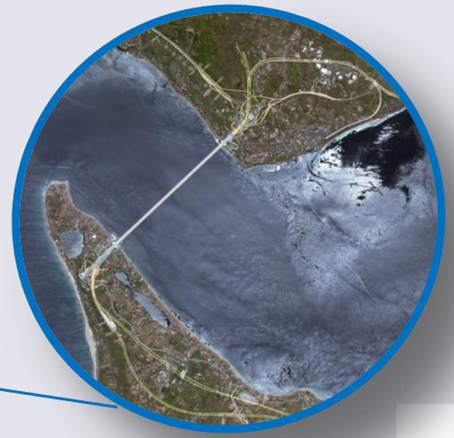
‘“Roads as a Driver for Socio-Economic Development and Inclusiveness”

Bridging the Gap: Sicily and Calabria

- The Strait of Messina Bridge: a 3.3 km single-span suspension bridge with 40 km of connecting infrastructure (80% in tunnels).
- Part of the EU's TEN-T Scandinavian-Mediterranean Corridor.
- Aims to connect Southern Italy more efficiently with the national and European transport networks.

Strategic National and European Importance

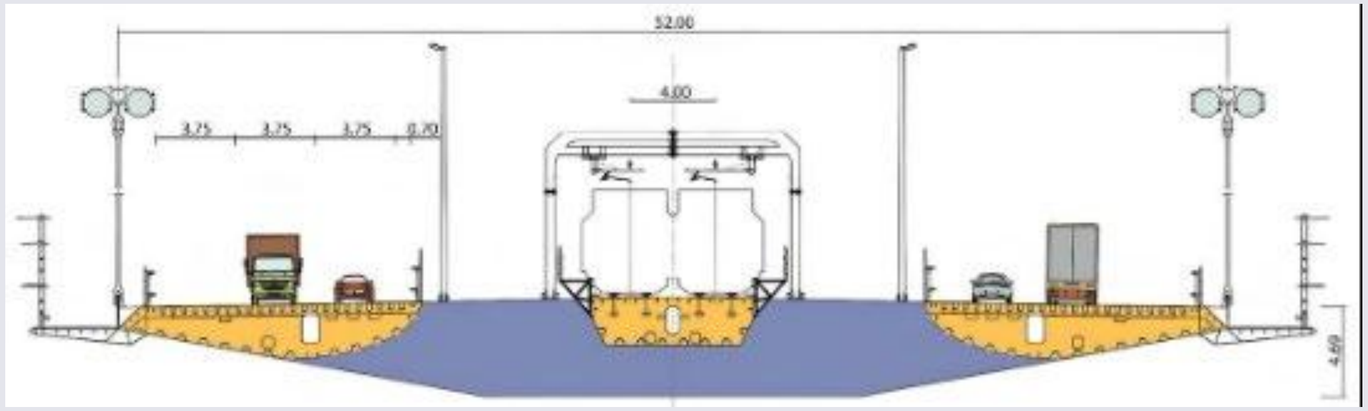
- Connects two of the least connected regions in the EU
- Strengthens logistics and accessibility across the Mediterranean
- Enables integration with highways and high-speed rail



ScanMed RFC
STOCKHOLM/OSLO-COPENHAGEN-HAMBURG-INNSBRUCK-PALERMO

Engineering Innovation

- 3,666 m total length, 60.4 m deck width
- 6 road lanes (3 per direction), 2 railway tracks, pedestrian sidewalks
- Messina Type Deck for aerodynamic performance
- Capacity: 6,000 vehicles/hour, 200 trains/day



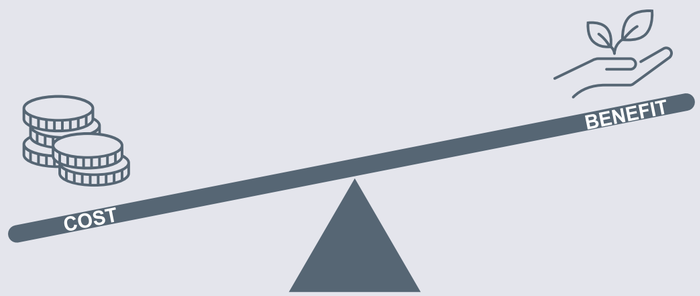
Engineering Innovation

- Example of Messina Type Deck structure with aerodynamic performance and wind resistance

- Tested to withstand wind speeds up to 270 km/h

The Cost-Benefit Analysis

- Investment cost: €13.5 billion
- Overall, the Project, remunerating all inputs at the real 3% rate, is capable of generating an ENPV of € 3.9 billion
- The economic internal rate of return (EIRR) expressed by the project is 4.51%
- The Benefit - Cost Ratio of the Project is 1.42



Time Savings

- Value of time saved by travelers and freight: the main benefits come from shifting freight transport from sea to rail, thanks to faster and more frequent intermodal trains. This shift results in **significant time savings** for both passengers and goods, making it one of the most valuable aspects of the project:
  - up to 100 minutes for cars
  - 165 minutes for freight trains

  Overall, annual value of time saved by travelers and freight range from € 501 million in 2032 to € 662 million in 2056, generating an ENPV of € 8.8 million

CO_2 Reduction

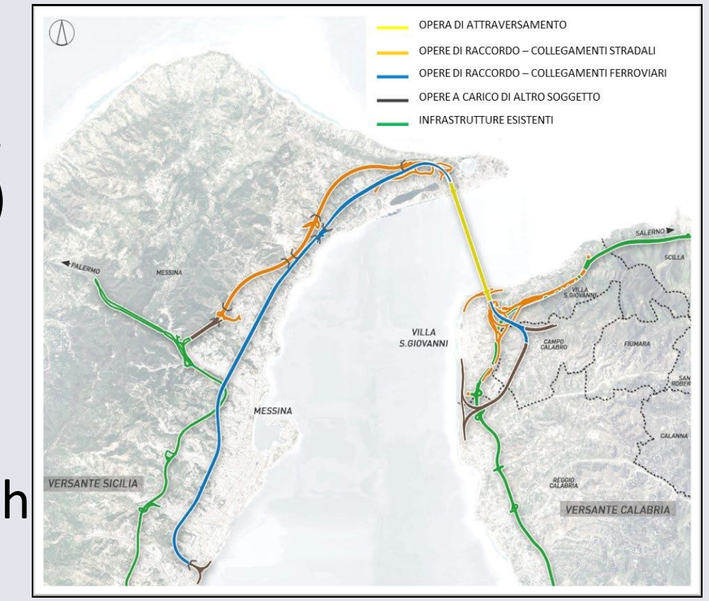
- The project allows for a significant reduction in external costs due to greenhouse gas emissions, which, net of construction emissions, has a current value of € 5.2billion.
- CO2 savings are mainly related to the modal shift from air to high-speed railways and from maritime connections to local railways services for passenger and for freight
- The project over the time period analysed (2024-2063) allows a reduction of 12.8 million tonnes of CO2eq, also taking into account emissions during the construction phase (2.1 million tonnes).

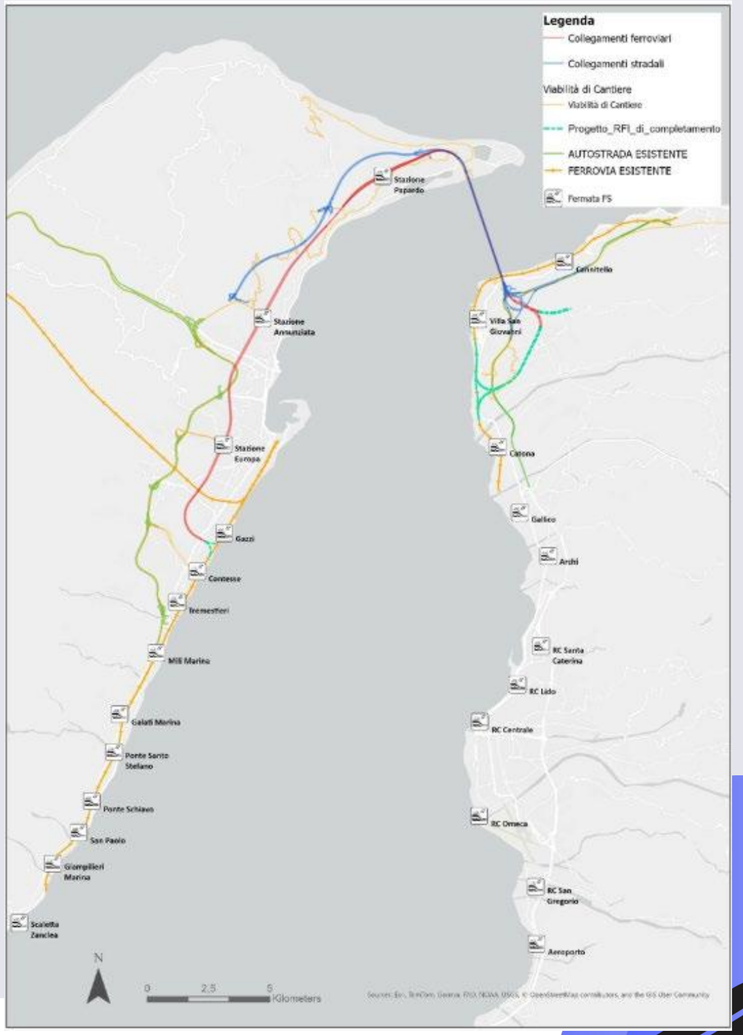
What the CBA Does Not Capture

- No standardized valuation of accessibility or inclusion
- Hard to monetize improved access to education, jobs, and healthcare
- Intangible impacts require complementary evaluation methods

Connecting Regions and Communities

- 20.3 km of road links and 20.2 km of rail links (92% in tunnel)
- Underground stations in Messina forming an interregional metro system
- Integrated with integrated with the Sicilian and Calabrian motorways and railways on which major investments are being made to upgrade



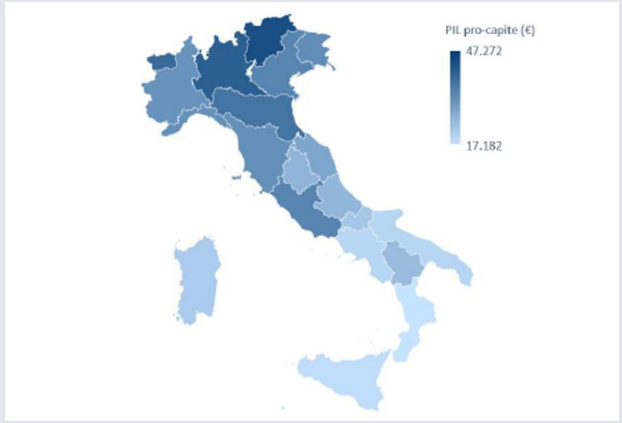


Inclusive Growth and Accessibility

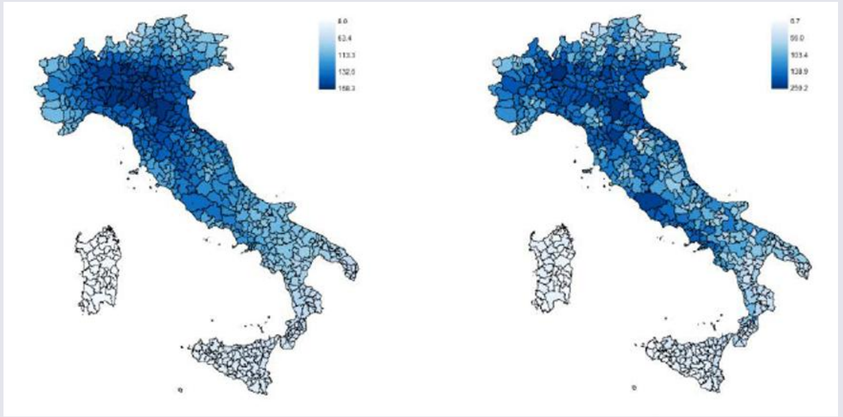
- Boosts GDP by €23.1 billion and creates over 36,700 jobs during construction
- Enhances access to jobs, education, and healthcare
- Promotes equity for remote and disadvantaged communities.

Infrastructures Generate GDP

- Infrastructure investments are powerful engines of economic growth
- They stimulate construction, activate supply chains, and increase regional productivity
- Well-connected areas attract businesses, tourism, and innovation
- The bridge project is a multiplier for the regional and national economy.



Gross Domestic Product per capita 2022



Accessibility indices based on road and rail travel times

The Øresund Bridge Example and es-post analysis

- Denmark-Sweden bridge: key for regional integration and economic development
- Demonstrated ROI through job creation, mobility, and market expansion
- Ex post evaluations are essential to fully understand the long-term impacts of infrastructure investments. The Øresund Bridge, for example, revealed benefits far beyond initial forecasts
- While ex ante assessments often focus on measurable economic returns, ex post analyses of the Øresund Bridge have demonstrated substantial social integration, labor market expansion, and regional development

Conclusion

- The CBA shows a solid return, but the full value is much greater
- Infrastructure creates economic and social well-being beyond numbers
- It’s important to adopt an integrated framework to assess strategic projects

Beyond Traditional CBA

- While the cost-benefit analysis of the Strait Bridge shows strong returns, it does not capture all the strategic, social, and territorial benefits
- Projects like the Øresund Bridge demonstrate how key impacts—such as regional integration and urban regeneration—become clear only ex post
- There is also a strong correlation between GDP per capita and accessibility indices, highlighting infrastructure as a long-term driver of development and inclusion
- We must evaluate projects like the Strait Bridge through broader, integrated frameworks that reflect their full transformational potential

Gracias

Thanks

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