

Revisit the Economic Impacts of the Cruise Ports in the United States Considering Responsible cruising

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Using port operation information, REgional ECONomic System (RECONS) developed by the Institute for Water Resources (IWR) US Army Corps of Engineers (USACE) provides estimates of regional and national jobs and other economic measures such as income and sales associated with port development and activities. Economic impact tool not only reflect regional growth and the importance of port activities, but also serves as an assessment to redistribute maritime resources back to the port communities.

Understanding such, the USACE is also responsible for construction, operations, and maintenance for more than 50 federally authorized cruise ports in the U.S. However, the federal budgetary funds are often linked to total tonnage a port handled rather than the number of passenger served or the regional economic benefits from cruise ships and the passengers. There is a need for the USACE to extend the scope of RECONS to incorporate cruise ports so a standardized and objective assessment can be provided to have a comprehensive view of the benefits of these ports.

Often times, greater economic impacts in terms of job creation, economic growth, and direct/indirect impacts to the local economies are used for marketing and planning purposes to showcase the importance of a port as the economic driver. However, the results from the economic impact study alone may not well serve the local stakeholders and the public who also care about the social awareness of environmental issues, conflicts of interest alongside the value-added chain, and responsible cruise tourism in the local community. Externality and implicit economic costs are often neglected in the calculation of economic impact to truly reflect the reality.

Therefore, this research aims to rethink the concept of how cruise activities is measured in the impact analysis in a way to incorporate key qualitative information such as corporate social responsibility (CSR) in general and environment management and planning in particular. For instance, governance structure of the organization of a cruise port, employees' education and training practices of a major cruise line, green policy implementation regarding air emission,

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energy consumption, and waste management for all parties involved in the cruise value-added chain, etc. will be taken into consideration while assessing the economic impact.

The contributions of this study are twofold. First, we offer a theoretical framework to tailor cruise economic impact platform, which will capture the uniqueness of a cruise operation in the value-added chain, the contribution of cruise ports, cruise lines, and cruise service providers and suppliers in a cruise maritime cluster can be quantified respectively as input factors and then come up with an aggregate measure of direct, indirect, and induced impacts as output.

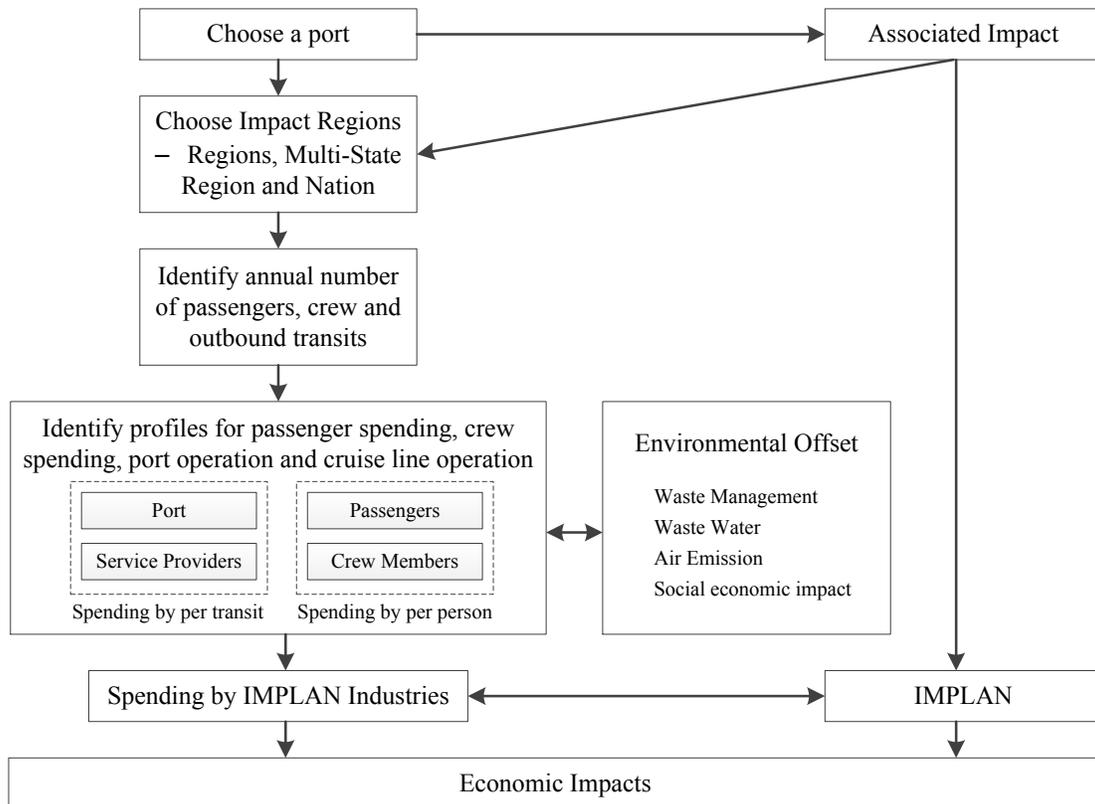


Figure 1. Cruise module with environmental offsets in RECONS

The figure above presents the structure of the RECONS model in the application of a cruise port analysis. Once a port is selected by the end user, impact regions can be a built-in metropolitan area or a county or a multi-county area. If there is no input options regarding cruise service providers and crew members, the simulation platform is simplified to the economic impact commonly seen in the literature considering only passenger expenditures. However, new model captures possible impacts of port operation, cruise line operation, and the role of other business in the supporting industries of a cruise port. That provides a basic understanding of how cruise activities are linked to the maritime cluster and be quantified. More importantly, with the concept of environmental offset, industry practices and challenges in dealing with pollutions and hazard materials are taking into consideration when we calculate the economic impacts.

Second, it provides quantitative metrics to measure for all relevant environmental responsibility and social awareness to pursue responsible tourism and sustainable cruising. This application will also contribute to a bigger picture of climate change mitigation in the maritime industry and provide a concrete measure of what kind of adaption plan could be implemented. As in Figure 2, CSR in cruise business can be categorized into quantitative and qualitative aspects.



Figure 2. Corporate social responsibility for cruise industry

From the quantitative perspective, costs and incremental expenses from the environmental practices, technology innovation, and adaptation strategies are considered as the byproducts along the line of effective cruise operations. That provides examples of the environmental offsets that can be monetized or compared to the equivalent tax unit per passenger, per vessel, or per voyage. To raise the awareness of the importance of the CSR, qualitative information are reported and disclosed to the public and to the stakeholders. In the current study, we establish a user-friendly cruise module for the economic impact with the built-in concept of environmental offsets to put port authorizes, major cruise operators, cruise service supplier, and all relevant industries accountable for the externality.