



**UNIVERSITY OF
CAMBRIDGE**

Department of Engineering

CONSTRUCTION ENGINEERING MASTERS DISSERTATION ABSTRACT

Maritime Infrastructure - 'Asleep at The Helm'

Will the maritime infrastructure asset of small to medium sized ports in the south west of England meet the demand for the next 50 – 100 years?

Ports in the southwest and Channel Islands continue to benefit from the industrial revolution and maritime engineering carried out in the Victorian period and early 20th century.

Degradation in the quay walls, breakwaters, jetties and piled structures is now visible and much of this is beyond modest maintenance. Maintaining navigable channels is essential but this most critical asset is increasingly challenging to maintain. Capital investment in infrastructure and long term maintenance planning is difficult to prioritise at a time when local authorities are subject to spending cuts and private organisations face an ever increasing need to satisfy shareholders and an organisations profit. Additionally the rise in environmental legislation is impacting on the cost of maintaining infrastructure.

The study examines whether the lack of a strategic plan for the next 50 – 100 years will result in a decline in the condition of maritime infrastructure until a crisis forces change. A few major ports and container hubs dominate the government's policy in this sector; it appears that there is little relevant policy in relation to small and medium ports.

This study aims to gain an understanding into the perspective of ports in respect to the maintenance and development of their maritime asset. Research will establish whether a strategic plan does exist or, if a plan is developed can it assist ports in developing a strategy for sustaining and developing a future for their own maritime infrastructure?

A questionnaire was issued to 34 ports including 1 major port and 2 major ports outside the southwest. Interviews were held with 6 of the 36 ports to ascertain the views of the relevant stakeholders in detail.

The key themes resulting from the research suggest that ports remain reliant upon the infrastructure constructed in excess of 50 years ago and in particular the Victorian period. There evidence to demonstrate under-investment in maintaining and constructing maritime infrastructure over the past thirty to fifty years.

Environmental constraints are stifling the progress of infrastructure because of the impact of the perceived disconnect between legislation and implementation.

Ports expressed concern that the effects of new large container hubs will constrain the potential for the regional ports in competing for a share of the market.

The result of under-investment in infrastructure means that few ports are prepared for the next 50 - 100 years and others will struggle to survive without diversifying. The investment in the licencing and consenting process is not to be underestimated and is now a very real detractor for ports maintaining maritime infrastructure. The problem identified in the southwest model is not limited to this region. The conclusions to this study are transferrable to other regions.

**Adam Littlejohn
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