

Summary

Most owners of chemical tankers recognize that their vessels are spending a lot of time in port compared to the total sailing time. The time spent in port can be considered as being non-productive. That is why it is desirable, from the shipping companies point of view, to reduce as much as possible the time spent in port.

In order to reduce port times, the causes of delays must be quantified such that appropriate arrangements can be made. The study of the port times will differ for the different ship types. In this project the vessels of Chemical Tankers of America, Inc. (CTA) are studied when they are visiting the port of Houston. All vessels that are operated by CTA are small chemical tankers (dwt 6000-8000).

One of the conclusions of this study is that forty percent of the time lost in port was caused by an occupied berth. This means that a vessel can not dock at a specific berth because another vessel is still busy with cargo handling. From an economical point of view it is clear that it is desirable to reduce the time lost caused by an occupied berth. This might be achieved by introducing a scheduling tool which bases its decisions on statistics which are derived from the real situation in port.

Unfortunately the Houston port authorities do not keep extensive statistics of vessels moving around in port. This made it difficult to get the required input data. Finally, the US Coast Guard had some data available from which the statistics of the different terminals could be derived.

The main objective of the model/tool will be to calculate the optimal rotation of a vessel in port. The user of the tool will provide the model information about the actual situation in port. All unknown factors when scheduling the vessel are simulated. The simulation is based on the statistics of the different terminals.