In tramp shipping, ships operate much like taxies, following the available demand. This contrasts liner shipping where vessels operate more like busses on a fixed route network according to a published timetable. Tramp operators can enter into long term contracts and thereby determine some of their demand in advance. However, the detailed requirements of these contract cargoes can be subject to ongoing changes, e.g. the destination port can be altered. For tramp operators, a main concern is therefore the efficient and continuous planning of routes and schedules for the individual ships. Due to mergers, pooling, and collaboration efforts between shipping companies, the fleet sizes have grown to a point where manual planning is no longer adequate in a market with tough competition and low freight rates. The aim of this paper is to provide a comprehensive introduction to tramp ship routing and scheduling. This includes a review on existing literature, modelling approaches, solution methods as well as an analysis of the current status and future opportunities of research within tramp ship routing and scheduling. We argue that rather than developing new solution methods for the basic routing and scheduling problem, focus should now be on extending this basic problem to include additional real-world complexities and develop suitable solution methods for those extensions. Such extensions will enable more tramp operators to benefit from the solution methods while simultaneously creating new opportunities for operators already benefitting from existing methods.