



RINA/IMarEST Technical Presentation

Network Design Strategies to Increase Efficiency and Usefulness of Urban Transit Ferry Systems

Speaker:	Robin Sandell Principal, Sandell Consulting
Date	Wednesday 1 March 2017
Venue:	Harricks Auditorium Engineers Australia 8 Thomas St Chatswood
Refreshments:	6:00 pm
Presentation:	6:30 pm

As urban transit ferry systems expand, it is important for operators and transport agencies to take a more sophisticated approach to network design and scheduling to make services more useful for riders and to reduce costs. A new schedule was developed for a passenger ferry network in Sydney, based on the principles of integrated regular-interval scheduling. The existing network follows a conventional radial pattern, with 36 landings and terminals on 8 lines which converge on Circular Quay in Sydney's Central Business District. The reconfigured network established timed transfers between all lines at Circular Quay and at other network nodes. The reconfiguration resulted in the number of origin-destination pairs with all day convenient connections increasing from 96 to 419. Service hours increased by 11%, but without a change in requirements for peak operating vessels. The modified network simplifies operations and is likely to reduce the operating cost per service hour due to labor efficiency gains. Safer ferry operations are also predicted. Critical to successful implementation is an improvement in the passenger exchange process to reduce systemic causes of service delays. The results show that the usefulness of a complex urban transit ferry network can be enhanced by improved connectivity, without necessarily increasing the number of terminals or government subsidy levels. They also suggest the need for detailed network planning to precede plans for fleet acquisition and terminal infrastructure design. This is likely to better target infrastructure investment.