

Green Logistics – Challenges for Management Science

Abstract:

In recent years, environmental concerns have increased, particularly with the threat of global warming and climate change. Logistics operations need to consider not only direct economic costs and levels of service, but also environmental impacts such as the effects of fuel emissions.

In the area of road freight transport, new technology is now able to provide traffic information at a detailed level by road segment and time of day. This information can be incorporated into vehicle routing and scheduling software to take account of likely congestion and plan routes that are more reliable and reduce greenhouse gas emissions. New models that make use of traffic information within time-varying networks will be outlined and results from case studies will demonstrate the benefits that can be obtained. Some challenges for future research will be proposed.