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The Evaluation of Modal Shift by Ecological Footprint Method

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Summary: This paper discusses the evaluation of modal shift from truck and car transportation to sea transportation by use of the ecological footprint method. Three representative transportation routes were selected for analysis; those are routes between Osaka and Shin-Moji, routes between Sapporo and Osaka and routes between Tokyo and Tomakomai. The use of modal shift covers wide environmental impacts, including the use of fossil fuel energy, global-warming and sea or land resources. We calculated the carbon dioxide emission and the forest request for these changes before and after using modal shift in this study. The aim of this paper is to show an ecological footprint calculation related to the modal shift in transportation. Based on ecological footprint assessments, this article confirms that there is substantial potential for reducing the ecological footprint by using modal shift.