

# Strategic Planning of Taiwan Railway in Competing with Taiwan High Speed Rail: A Game Theory Approach

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## ABSTRACT

Railways have been Taiwan's most efficient transportation mode in terms of travel costs and energy consumption in comparison with other highway competitors. However, the competition advantages of Taiwan Railways (TR) may soon be challenged by Taiwan High Speed Railway (THSR). As one of the major competitors in the transportation market of Taiwan's western corridor, TR would have to apply new market segmentation strategies in competing with THSR. These strategies may include: 1) providing more commuting train services for local commuters and transfer passengers at major THSR stations; and 2) applying yield management techniques for pricing reserved and non-reserved passengers during peak and off-peak periods. On the other hand, THSR would have to provide high-quality connection services between their stations and downtown areas to attract passengers. To find new market equilibrium between THSR and TR, we use non-cooperative game approach to seek out the optimal pricing strategies for long-distance train services. Then, we proposed various alternatives of connection services and evaluated these alternatives by applying market share models.