Value for railway capacity

Value for railway capacity
Growth in rail traffic has not been matched by increases in railway infrastructure. Given this capacity challenge and the current restrictions on public spending, the allocation and the utilization of existing railway capacity are more important than ever. Great Britain has had the greatest growth in rail passenger kilometers of European countries since 1996. However, costs are higher and efficiency is lower than European best practice. This paper provides an innovative methodology for assessing the efficiency of passenger operators in capacity utilization. Data envelopment analysis (DEA) is used to analyze the efficiency of operators in transforming inputs of allocated capacity of infrastructure and franchise payments into valuable passenger service outputs while avoiding delays. By addressing operational and economic aspects of capacity utilization simultaneously, the paper deviates from existing DEA work on the economic efficiency of railways by considering a new combination of input-output that also incorporates quality of service. The constant and variable returns to scale models are applied to the case study of franchised passenger operators in Great Britain. The follow-up Tobit regression model shows positive correlation between serving London and the efficiency scores. There is negative correlation between offering regional services (average length of journeys less than 40 mi) and the efficiency scores. The overall study and the results can provide helpful insights for railway authorities into the tactical and strategic planning of railways needed to increase efficiency.

General information
State: Published
Organisations: Department of Transport, Traffic modelling and planning
Contributors: Sameni, M. K., Preston, J. M.
Pages: 134-144
Publication date: 2012
Peer-reviewed: Yes

Publication information
Journal: Transportation Research Record
Issue number: 2289
ISSN (Print): 0361-1981
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 0.83 SJR 0.589 SNIP 0.708
Web of Science (2017): Impact factor 0.695
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 0.75 SJR 0.557 SNIP 0.81
Web of Science (2016): Impact factor 0.592
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 0.6 SJR 0.612 SNIP 0.821
Web of Science (2015): Impact factor 0.522
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 0.58 SJR 0.562 SNIP 0.876
Web of Science (2014): Impact factor 0.544
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 0.76 SJR 0.635 SNIP 0.958
Web of Science (2013): Impact factor 0.556
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 0.6 SJR 0.573 SNIP 1.062
Web of Science (2012): Impact factor 0.442
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1