Corrigendum to "The dynamic berth allocation problem for a container port" [Transportation Research Part B 35 (2001) 401-417]

Imai, Akio

Nishimura, Etsuko

Papadimitriou, Stratos

(Citation)
Transportation Research Part B: Methodological,39(3):197-197

(Issue Date)
2005-03

(Resource Type)
journal article

(Version)
Accepted Manuscript

(URL)
https://hdl.handle.net/20.500.14094/90000158

Corrigendum to “The dynamic berth allocation problem for a container port”

[Transportation Research Part B 35 (2001) 401-417]

Akio Imai, Etsuko Nishimura
Faculty of Maritime Sciences
Kobe University
Fukae, Higashinada, Kobe 658-0022 Japan

&

Stratos Papadimitriou
Department of Maritime Studies, University of Piraeus
80 Karaoli & Dimitriou Str., GR185 32 Piraeus, Greece

It has been brought to our attention that the definition of variable x_{ijk} in the berth allocation problems [PS] and [PD] is ambiguous, whereas it does not lose generality. As shown in Lemma 1, ships (say n ships) allocated to a particular berth in the optimal solution to [PS] (and [PD] as well) are served not as the first n ships but as the last n ships at that berth. This results in the simple transformation of the service order or service position, k, such that a ship served as the first ship at that berth actually occupies the $(T-n+1)$ th position (or it is served as the n th last ship). A more general form of the transformation is that a ship served as the k th ship occupies the $k'=(T-n+k)$ th position or the ship is served as the $(T-k'+1)$ th last ship, where k' is a new index of the service order. For easy understanding, consider the example where $T=5$ and $n=4$, a ship served as the 1st ship occupies the 2nd service position (or it is served the 4th last ship). Therefore, by viewing k' as k the definition of x_{ijk} should be as follows:

x_{ijk} =1 if ship j is served as the $(T-k+1)$ th last ship at berth i, =0 otherwise.

In conjunction with the above amendment for x_{ijk} in [PS] ([PD] as well), the following amendment should be made for y_{ijk} in [PD]:

y_{ijk} : idle time of berth i between the departure of the $(T-k+2)$ th last ship and the arrival of the $(T-k+1)$ th last ship when ship j is served as the $(T-k+1)$ th last ship.