Document details

Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More...

Full Text View at Publisher

2nd International Conference on Electrical Engineering and Information and Communication Technology, iCEEiCT 2015
26 October 2015, Article number 7307459
2nd International Conference on Electrical Engineering and Information and Communication Technology, iCEEiCT 2015; Jahangirnagar UniversitySavar, Dhaka; Bangladesh; 21 May 2015 through 23 May 2015; Category numberCFP1581X-ART; Code 118541

A PSO based transportation network design optimization of the mega city Dhaka (Conference Paper)

Akhand, M.A.H.[a], Shill, P.C.[a], Sabuj, M.S.[a], Afrin, Z.[a], Rahman, M.M.H.[b]

[a]Dept. of Computer Science and Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
[b]Dept. of Computer Science, International Islamic University Malaysia, KICT, Selangor, Malaysia

Abstract

View references (9)

Transportation network is a key issue for urban areas and is require to update to fulfill the growing demand modifying existing road(s) and/or constructing new road(s) considering various constraints. In general, transportation network design problem (TNDP) concerns optimal selection of several projects from various alternative proposed projects (with estimated costs) maintaining associated constraints to ensure benefit versus cost. Various approaches have been investigated to solve TNDP in last several decades. Recently, particle swarm optimization (PSO) based method is shown to outperform other methods. However, the most of the existing methods, including PSO, tested on the small scale TNDP. Therefore, the aim of this study is to identify the effectiveness of the PSO based method for a mega city heaving large number nodes and arcs. The mega city considered in this study is Dhaka, the capital of Bangladesh. The experiment has been conducted on the roughly estimated data for exiting network as well as proposed projects. Experimental results for revealed that the method able to select projects for optimal (or near optimal) utilization of a given budget amount. The selected projects are seem to be effective to increase traffic flow while observe on the schematic diagram of the road network. © 2015 IEEE.

Author keywords

Particle swarm optimization (PSO) | Transportation network design

Indexed keywords

Engineering controlled terms: Budget control | Roads and streets | Schematic diagrams | Traffic control | Transportation | Urban transportation

Estimated costs | Growing demand | Near-optimal | Optimal selection | Road network | Small scale | Traffic flow | Transportation network

Engineering main heading: Particle swarm optimization (PSO)

ISBN: 978-146736676-2
Source Type: Conference Proceeding
Original language: English

DOI: 10.1109/ICEEICT.2015.7307459
Document Type: Conference Paper
Sponsors: First Security Islami Bank Ltd. (FSIB)
Publisher: Institute of Electrical and Electronics Engineers Inc.

References (9)

View in search results format

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 Farahani, R.Z., Miandoabchi, E., Szeto, W.Y., Rashidi, H.
A review of urban transportation network design problems

Metrics

0 Citations in Scopus
0 Field-Weighted Citation Impact

PlumX Metrics
Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:
Set citation alert | Set citation feed

Related documents

WS network design problem with nonlinear pricing solved by hybrid algorithm
Hrabec, D., Popela, P., Roupec, J.
(2016) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)

Integration of selecting and scheduling urban road construction projects as a time-dependent discrete network design problem
Hosseininasab, S.-M., Shetab-Boushehri, S.-N.
(2015) European Journal of Operational Research

Two-stage stochastic programming for transportation network design problem
Hrabec, D., Popela, P., Roupec, J.
(2015) Advances in Intelligent Systems and Computing

View all related documents based on references

Find more related documents in Scopus based on:
Authors | Keywords