

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/278721163>

# GIS Network Model in Geospatial Analysis

Chapter · April 2012

DOI: 10.1007/978-4-431-54000-7\_12

CITATIONS

3

READS

3,759

2 authors:



[Ko Ko Lwin](#)

The University of Tokyo

43 PUBLICATIONS 616 CITATIONS

[SEE PROFILE](#)



[Yuji Murayama](#)

University of Tsukuba

318 PUBLICATIONS 9,593 CITATIONS

[SEE PROFILE](#)

You're seeing our new chapter page and we'd like your opinion, [send feedback](#)




[Progress in Geospatial Analysis](#) pp 183-194 | [Cite as](#)

# GIS Network Model in Geospatial Analysis

Authors

[Authors and affiliations](#)

Ko Ko Lwin , Yuji Murayama

Chapter

First Online: 19 April 2012

 1  6  1.8k  
Citations Readers Downloads

## Abstract

Geographic information systems (GIS) provide both theory and methods that have the potential to facilitate the development of spatial analytical functions and various GIS data models. There are several network models in GIS, such as river networks, utility networks and transportation or road networks. Among these, GIS road network data models are important for solving problems in urban areas such as transportation planning, retail market analysis, accessibility measurements, service allocation and more. Understanding the road network patterns in urban areas is important for human mobility studies, because people are living and moving along the road networks. A network data model allows us to solve daily problems such as finding the shortest path between two locations, looking for the closest facilities within a specific distance or estimating drive times. Although many network models are conceptually simple they are mathematically complex and require computational resources to model the problem.

Log in to check access

Buy eBook


EUR 118.99


Buy chapter (PDF)

EUR 26.95

- Instant download
- Readable on all devices
- Own it forever
- Local sales tax included if applicable

[Learn about institutional subscriptions](#)

Cite chapter 

Share chapter 

View Link

[https://link.springer.com/chapter/10.1007/978-4-431-54000-7\\_12](https://link.springer.com/chapter/10.1007/978-4-431-54000-7_12)