

# **Application of Graph Hamilton on Determining the Shortest Route of *Trans Metro Bandung***

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## **Abstract**

Graph applications develop quite rapidly in the transportation system. One of the applications is used to search for travel routes. The route from a terminal to an intersection that must be passed exactly once and must return to the original terminal is a very important issue. Determination of the TMB travel route (Trans Metro Bandung) using the Nearest Neighbor method. The results show that the TMB bus journey on corridor 2 (Cibeureum - Cicaheum) can be formulated into graph form. The bus transportation system is modeled in graph using the point symbol (Vertex) as a shelter and edge symbol as a path that connects between shelters. The TMB bus route in the graph is a closed track and is called the Hamilton Cycle. The results of route calculation and search from TMB corridor 2 produce different routes and distances from the initial, including: St. Ah. Nasution - St. Ahmad Yani - St. Ibrahim Adjie - St. Jakarta - St. Ahmad Yani - St. Asia Afrika - St. Sudirman - St. Rajawali Barat - St. Elang - St. Rajawali Timur - St. Kebon Jati - St. Perintis Kemerdekaan - St. Lembong - St. Ahmad Yani - St. Ah. Nasution. From a distance of 28.4 km to 27.65 km.

## **Keywords:**

Graph Hamilton, Cycle Hamilton, Nearest Neighbor, Trans Metro Bandung.

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