World Academy of Science, Engineering and Technology
International Journal of Transport and Vehicle Engineering
Vol:13, No:04, 2019

# Dynamic Route Optimization in Vehicle Adhoc Networks: A Heuristics Routing Protocol

**Authors :** Rafi Ullah, Shah Muhammad Emaduddin, Taha Jilani

**Abstract :** Vehicle Adhoc Networks (VANET) belongs to a special class of Mobile Adhoc Network (MANET) with high mobility. Network is created by road side vehicles equipped with communication devices like GPS and Wifi etc. Since the environment is highly dynamic due to difference in speed and high mobility of vehicles and weak stability of the network connection, it is a challenging task to design an efficient routing protocol for such an unstable environment. Our proposed algorithm uses heuristic for the calculation of optimal path for routing the packet efficiently in collaboration with several other parameters like geographical location, speed, priority, the distance among the vehicles, communication range, and networks congestion. We have incorporated probabilistic, heuristic and machine learning based approach inconsistency with the relay function of the memory buffer to keep the packet moving towards the destination. These parameters when used in collaboration provide us a very strong and admissible heuristics. We have mathematically proved that the proposed technique is efficient for the routing of packets, especially in a medical emergency situation. These networks can be used for medical emergency, security, entertainment and routing purposes.

**Keywords :** heuristics routing, intelligent routing, VANET, route optimization
**Conference Title :** ICWVCN 2019 : International Conference on Wireless Vehicular Communications and Networks
**Conference Location :** Athens, Greece
**Conference Dates :** April 08-09, 2019