

ABSTRACT

Traffic accidents are ranked to fourth leading cause of world wide's death, causing 1.3 million lives passing each year. Vehicular Ad hoc Network (VANET) Technology is one of the solution that is expected to against this issue. VANET's node is a high mobility vehicle that caused the network topology changes rapidly. Therefore, it needs proper routing protocols to improve the performance of VANET. One of the topology-based routing protocols is Destination Sequenced Distance Vector (DSDV) which is a derivative of the Bellman-Ford algorithm that solves the problem of routing loops.

This final assignment's goal is to analyze the performance of DSDV in the intersection of urban area using two simulation scenarios; the number of nodes changes and the node travel time changes. This simulation uses JOSM, SUMO, MOVE and NS-2 simulators. The QoS parameters that are measured from the simulation are average end-to-end delay, throughput and packet delivery ratio.

DSDV has overall average performance with end-to-end delay, throughput and packet delivery ratio of 128.8624 ms, 4080.319 kbps and 40.65363%. On the change in the number of nodes on travel time, average value of end-to-end delay increases, throughput and packet delivery ratio tended to decrease with increasing number of nodes, while the change in travel time to the number of nodes, the value of average end-to-end delay, throughput and packet delivery ratio decreased with increasing travel time nodes.

Keywords: VANET, DSDV, JOSM, SUMO, MOVE, NS-2, end-to-end delay, throughput, packet delivery ratio