CSE322 - Offline2 Report

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Specification

MAC Type

802.11

Routing Protocol

DSR

Agent Type

UDP

Application

CBR Traffic Generator

Graphs

Variable Number of Nodes

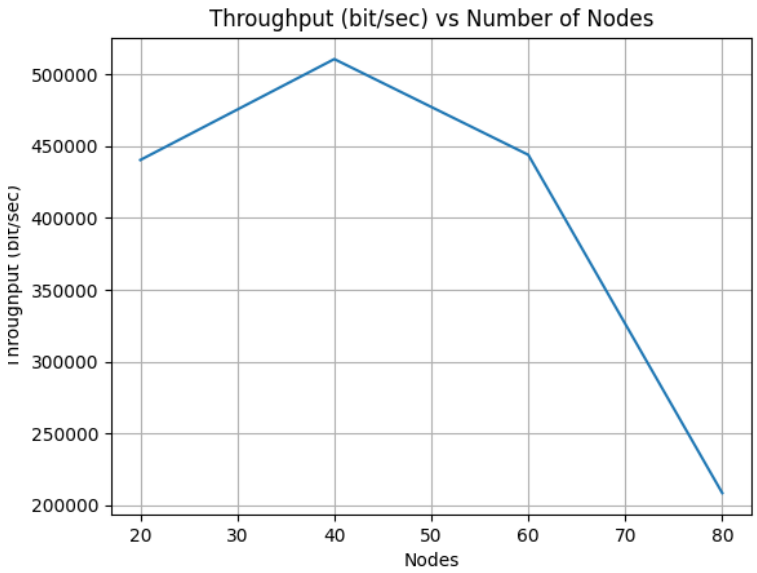

Figure 1: Throughput vs Number of Nodes

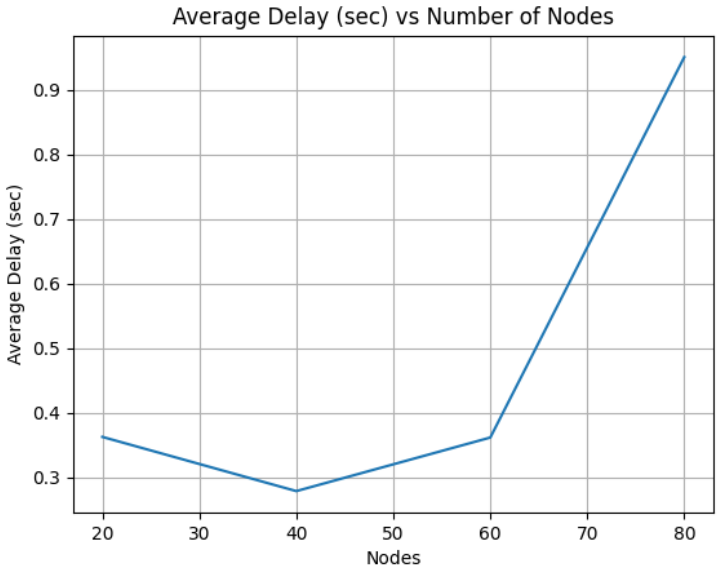

Figure 2: Average Delay vs Number of Nodes

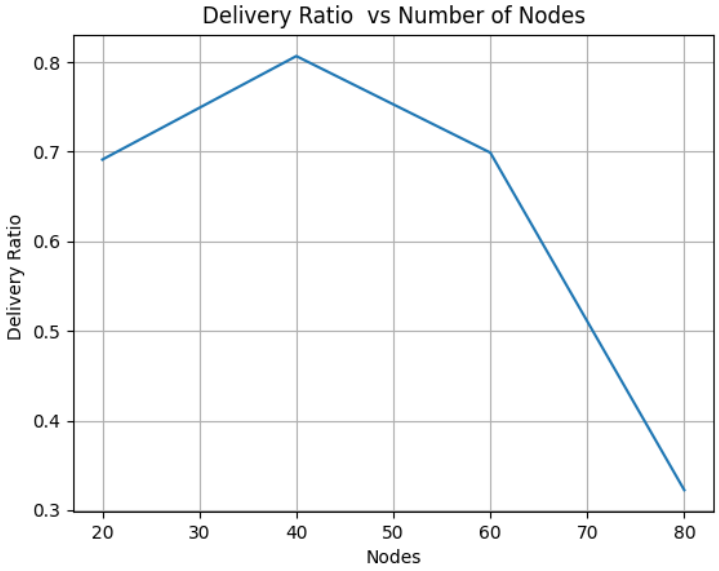

Figure 3: Delivery Ratio vs Number of Nodes

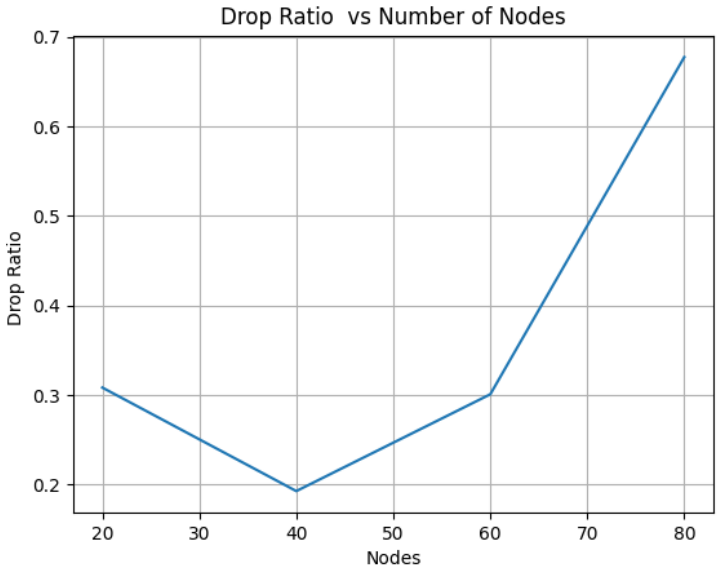

Figure 4: Drop Ratio vs Number of Nodes

Variable Number of Flows

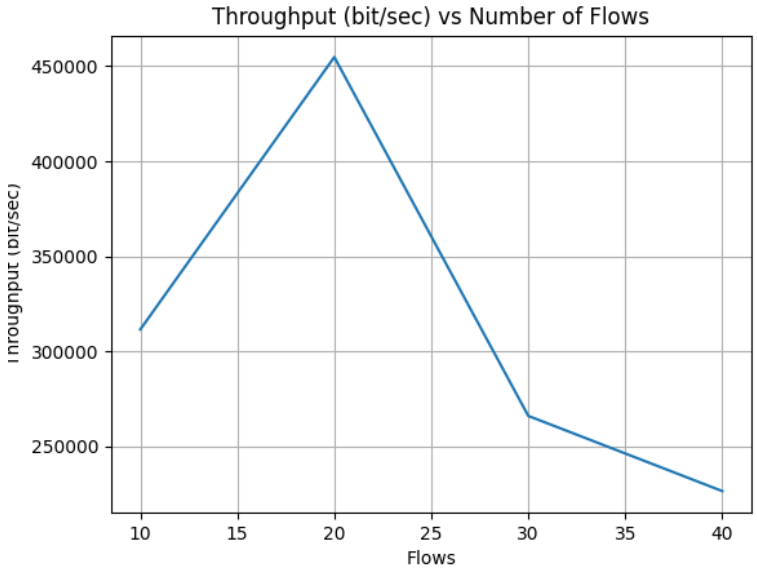

Figure 5: Throughput vs Number of Flows

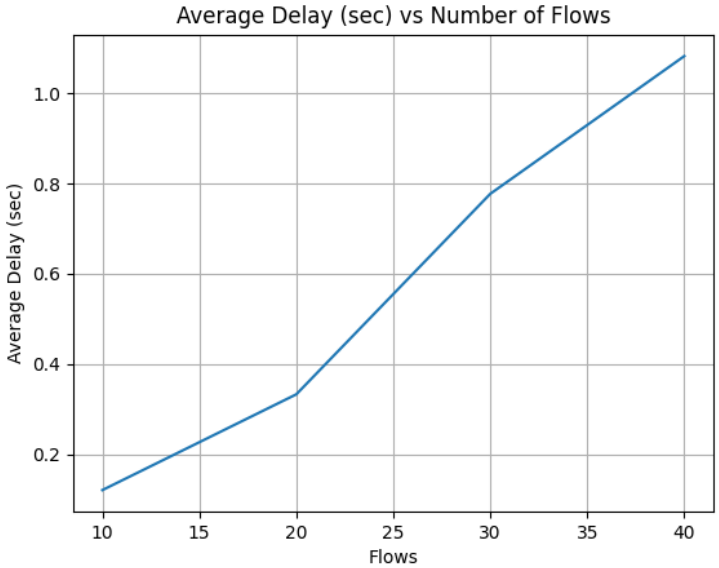

Figure 6: Average Delay vs Number of Flows

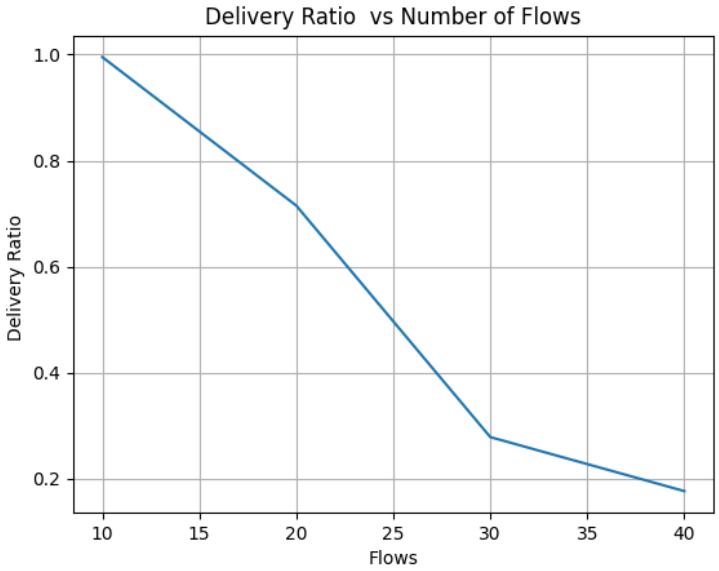

Figure 7: Delivery Ratio vs Number of Flows

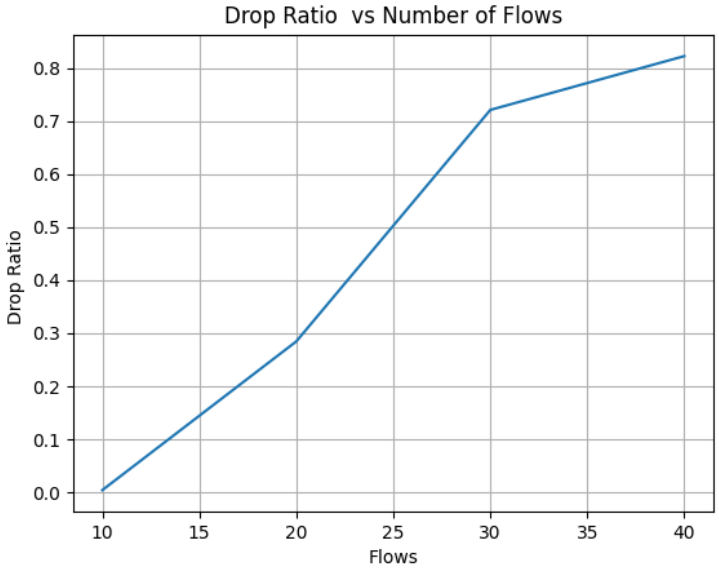

Figure 8: Drop Ratio vs Number of Flows

Variable Area

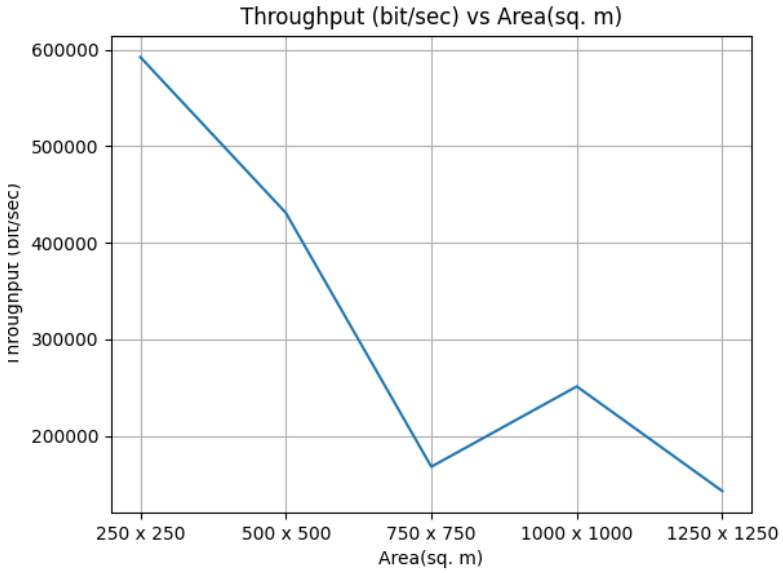

Figure 9: Throughput vs Area

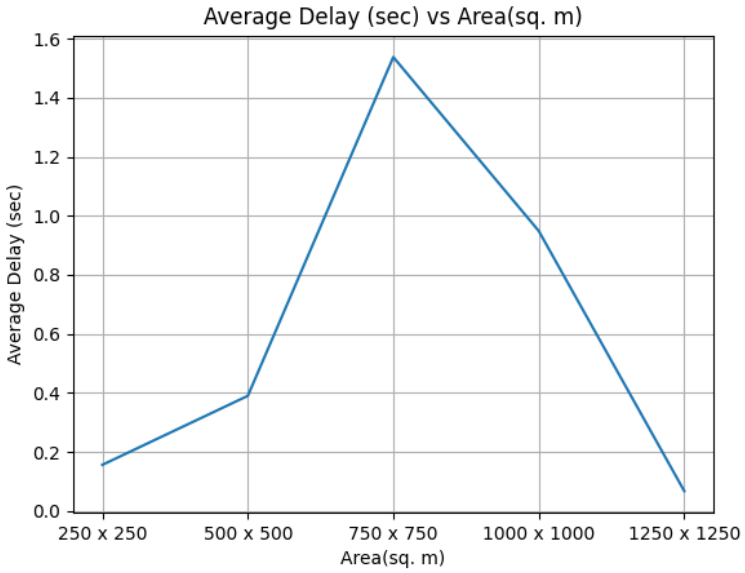

Figure 10: Average Delay vs Area

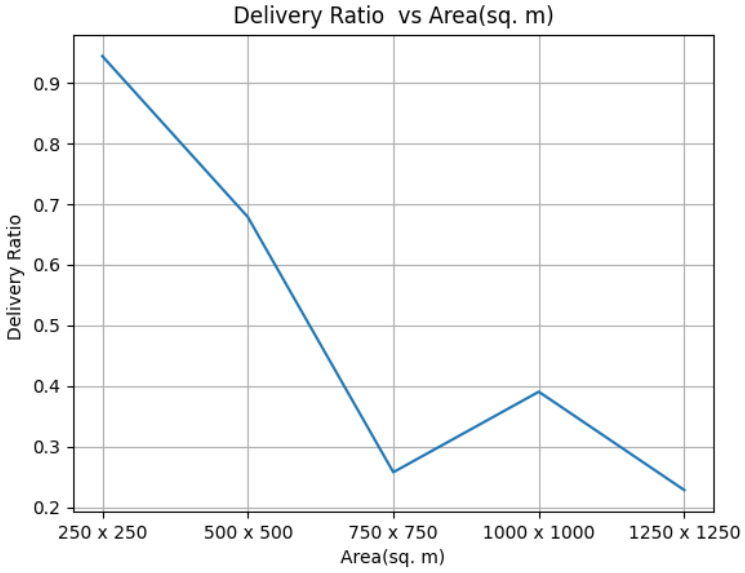

Figure 11: Delivery Ratio vs Area

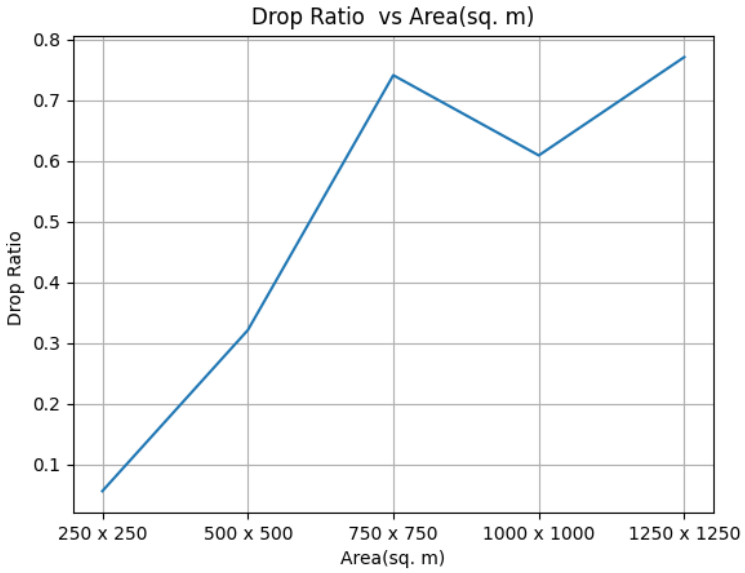

Figure 12: Drop Ratio vs Area

Observation

- Number of Nodes Variation :
  - Throughput decreases with increasing number of nodes. With increase in number of nodes the intermediate nodes between source and destination increases too. This increases error probability in packets, so throughput decreases.
  - Delay also increases for the same reason - increased number of intermediate nodes.
  - Drop ratio increases too with increasing number of nodes.
- Number of Flows Variation:
  - Throughput is highest at a particular number of flows. At lower number of flows, the network can still send more packets i.e. not saturated. At higher number of flows, throughput decreases due to packet loss.
  - Average delay increases with increasing number of flows.
  - Drop ratio also increases with increasing number of flows. This is due to packet loss. Packet loss is caused by limited queue size.
- Area Variation :

- Throughput decreases with increasing area. Because when area increases, distance between nodes increase too. This causes packet loss.
- Delay increases too with increasing area. Which is reasonable as distance between the nodes increases.
- Drop ratio increases with increasing area. Because when area increases, distance between nodes increase too, which causes packet loss.