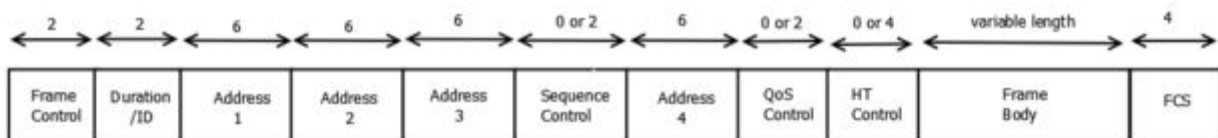


Network Simulator 2

Student ID:1605042

Mac Type : 802.11

In the IEEE 802.11 wireless LAN protocols (such as Wi-Fi), a MAC frame is constructed of common fields (which are present in all types of frames) and specific fields (present in certain cases, depending on the type and subtype specified in the first octet of the frame).



The very first two octets transmitted by a station is the Frame Control. The first three subfields within the frame control and the last field (FCS) are always present in all types of 802.11 frames. These three subfields consist of two bits Protocol Version subfield, two bits Type subfield, and four bits Subtype subfield. The remaining subfields can be present or absent depending on the setting of the Type and Subtype subfields.

Routing protocol : DSR

The Dynamic Source Routing protocol (DSR) is a simple and efficient routing protocol designed specifically for use in multi-hop wireless ad hoc networks of mobile nodes. DSR allows the network to be completely self-organizing and self-configuring, without the need for any existing network infrastructure or administration. The protocol is composed of the two mechanisms of Route Discovery and Route

Maintenance, which work together to allow nodes to discover and maintain source routes to arbitrary destinations in the ad hoc network. The use of source routing allows packet routing to be trivially loop-free, avoids the need for up-to-date routing information in the intermediate nodes through which packets are forwarded, and allows nodes forwarding or overhearing packets to cache the routing information in them for their own future use. All aspects of the protocol operate entirely on-demand, allowing the routing packet overhead of DSR to scale automatically to only that needed to react to changes in the routes currently in use.

In my assignment, I had to change the Queue type to CMUPriQueue as it showed segmentation fault with Queue/DropTail/PriQueue.

Agent Type : UDP

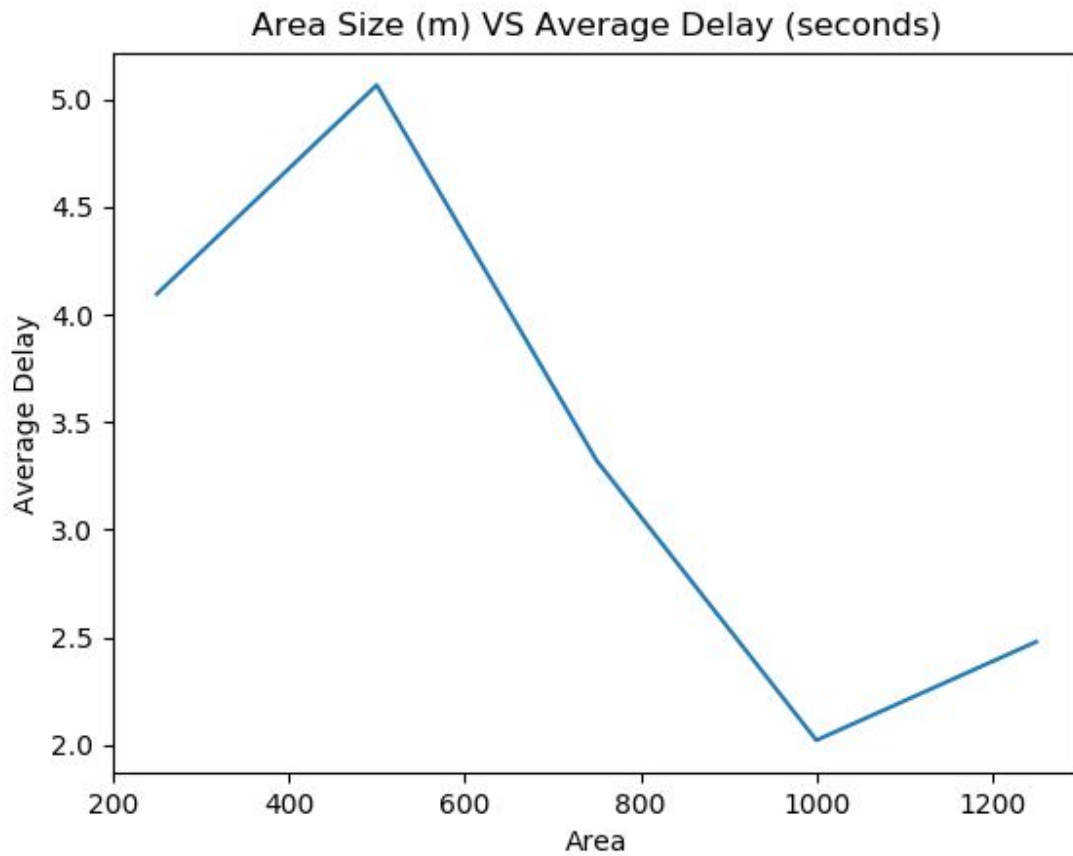
The User Datagram Protocol (UDP) is the simplest Transport Layer communication protocol available of the TCP/IP protocol suite. It involves minimum amount of communication mechanism. UDP is said to be an unreliable transport protocol but it uses IP services which provides best effort delivery mechanism.

In UDP, the receiver does not generate an acknowledgement of packet received and in turn, the sender does not wait for any acknowledgement of packet sent. This shortcoming makes this protocol unreliable as well as easier on processing.

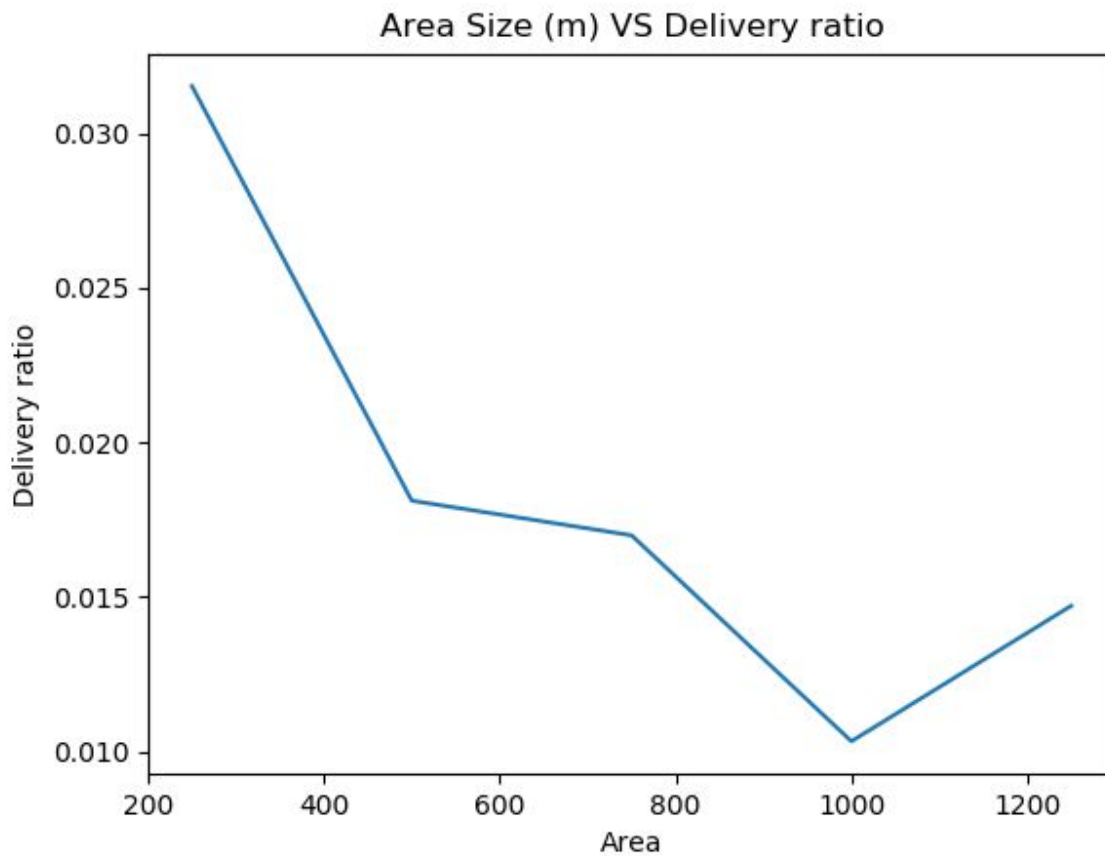
Application : CBR Traffic

The Constant Bit Rate (CBR) service category is used for connections that transport traffic at a constant bit rate, where there is an inherent

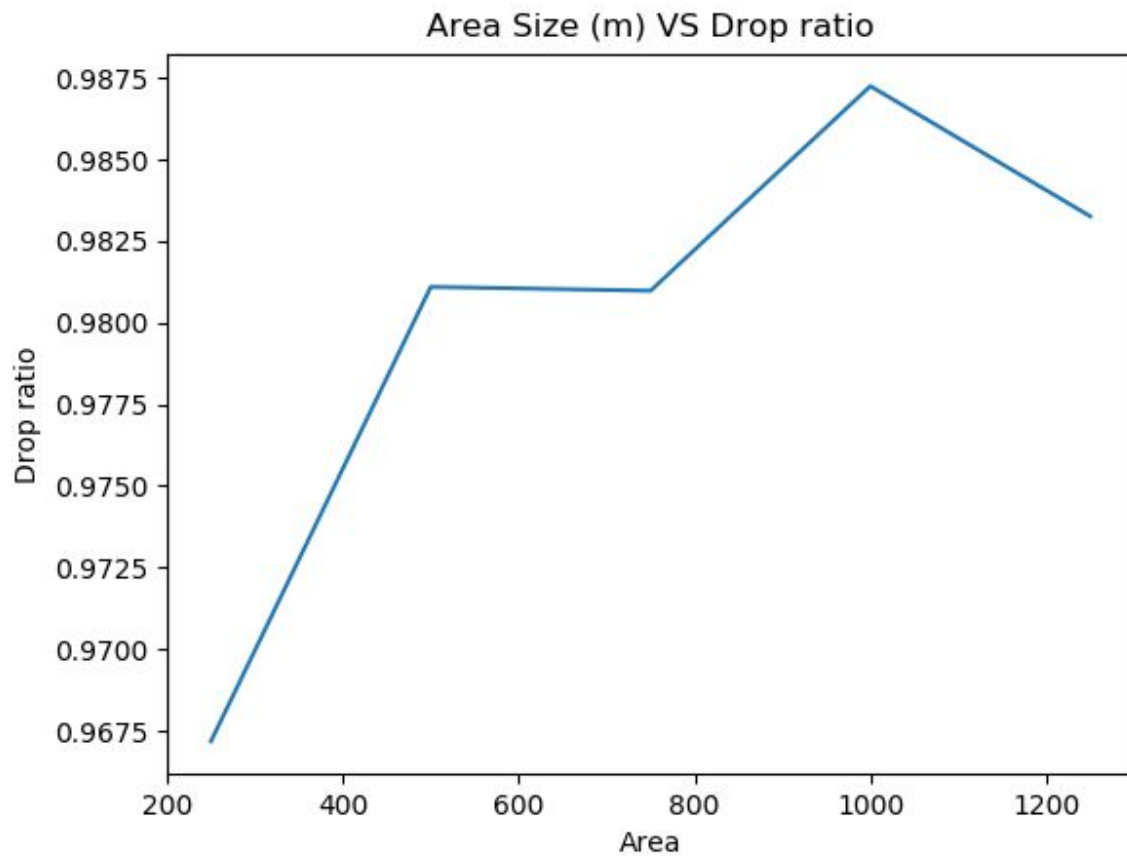
reliance on time synchronisation between the traffic source and destination. CBR is tailored for any type of data for which the end-systems require predictable response time and a static amount of bandwidth continuously available for the life-time of the connection. The amount of bandwidth is characterized by a Peak Cell Rate (PCR). These applications include services such as video conferencing, telephony (voice services) or any type of on-demand service, such as interactive voice and audio. For telephony and native voice applications CBR provides low-latency traffic with predictable delivery characteristics, and is therefore typically used for circuit emulation.



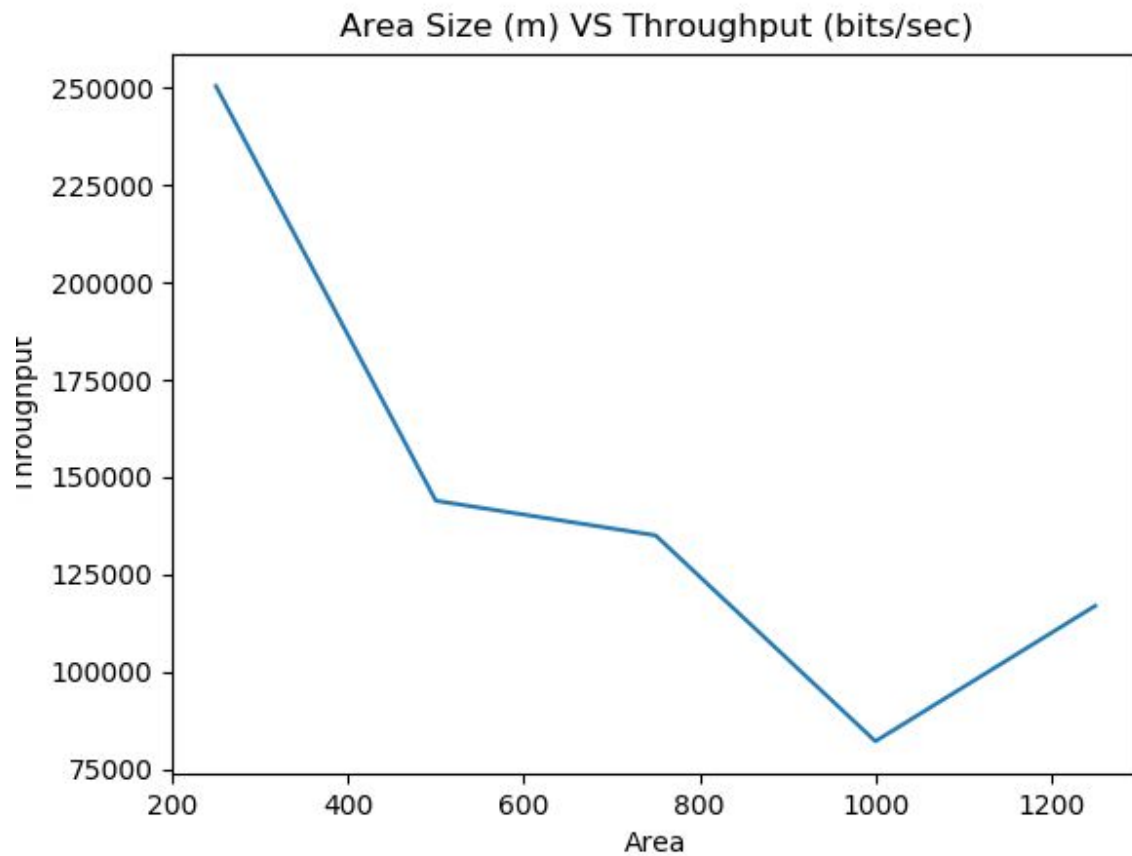
Average Delay decreases as the Area increases but it fluctuates as the node positions, sources, and destinations are random.



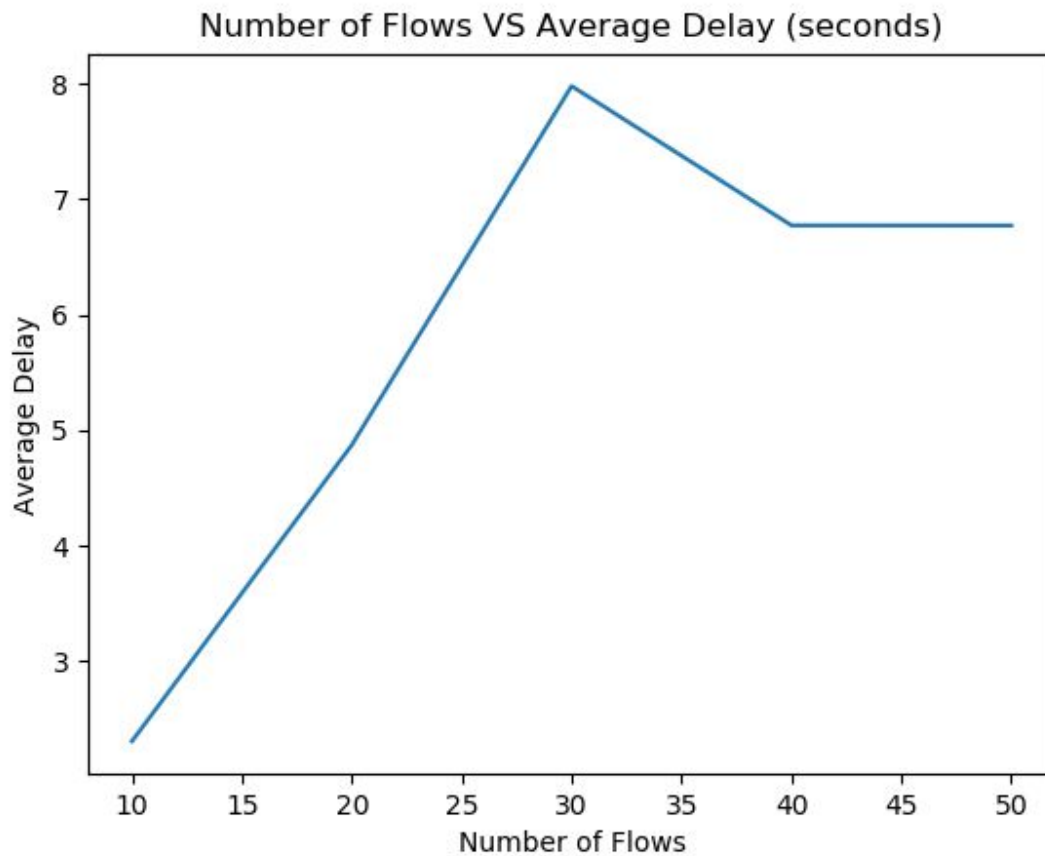
Delivery Ratio decreases as the Area increases but it fluctuates as the node positions, sources, and destinations are random.



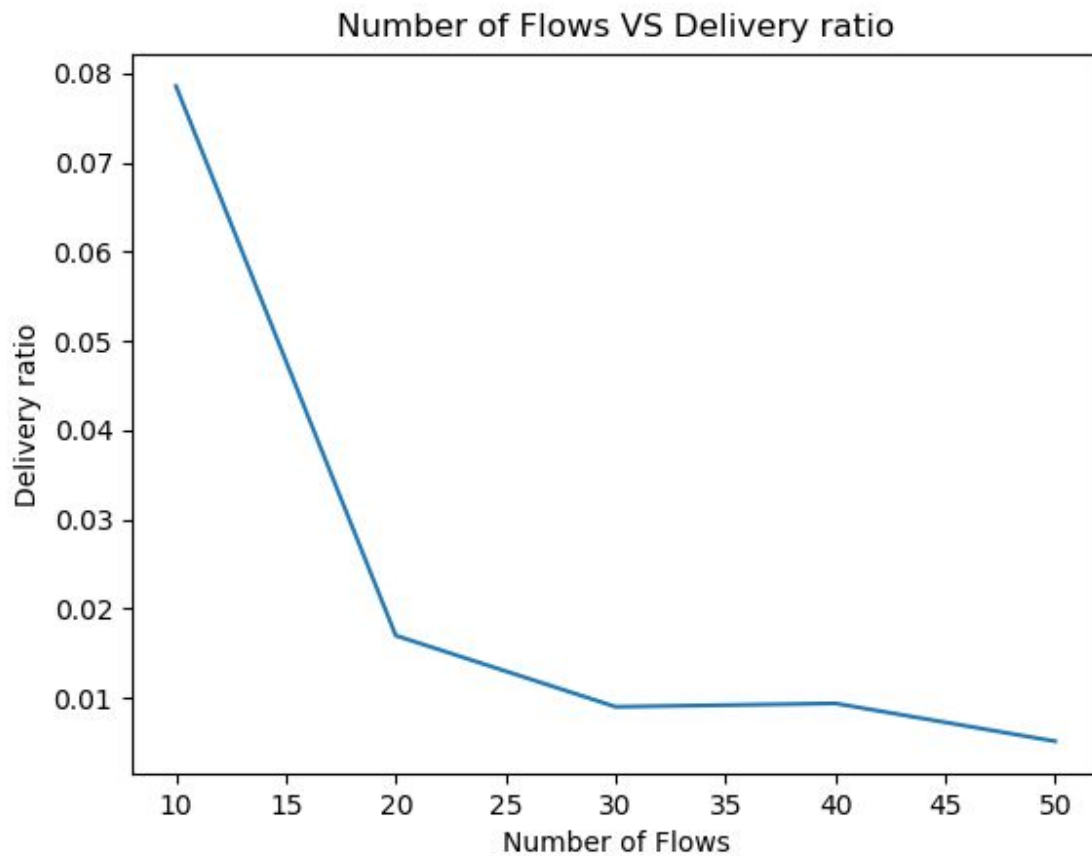
Drop Ratio increases as the Area increases but it fluctuates as the node positions, sources, and destinations are random.



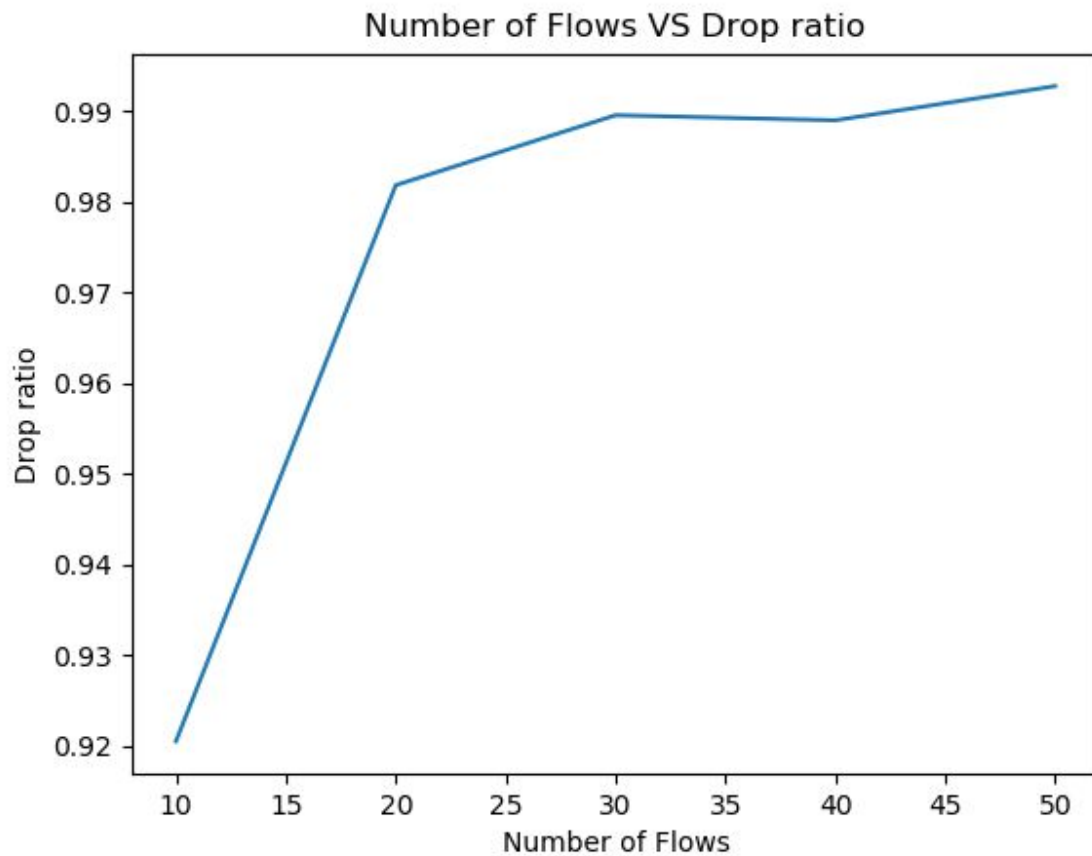
Throughput decreases as the Area increases but it fluctuates as the node positions, sources, and destinations are random.



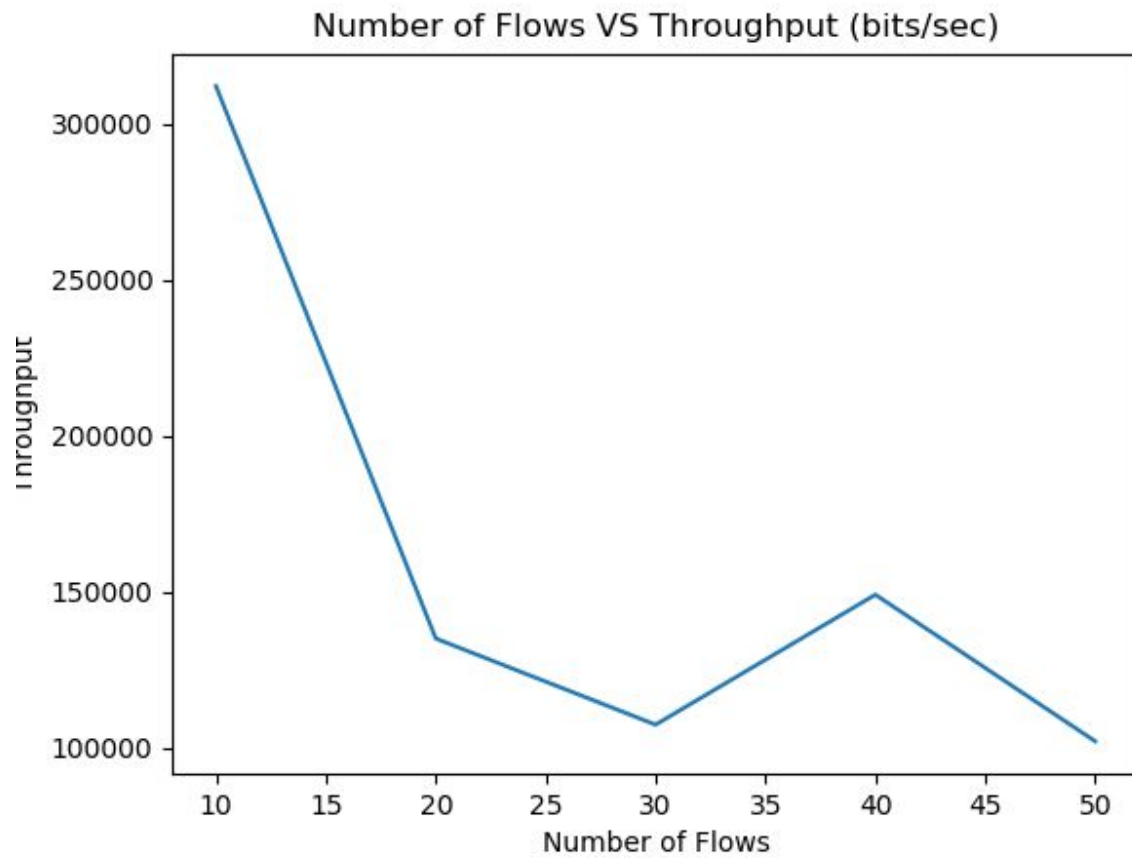
Average Delay increases as the Number of Flows increases but it fluctuates as the node positions, sources, and destinations are random.



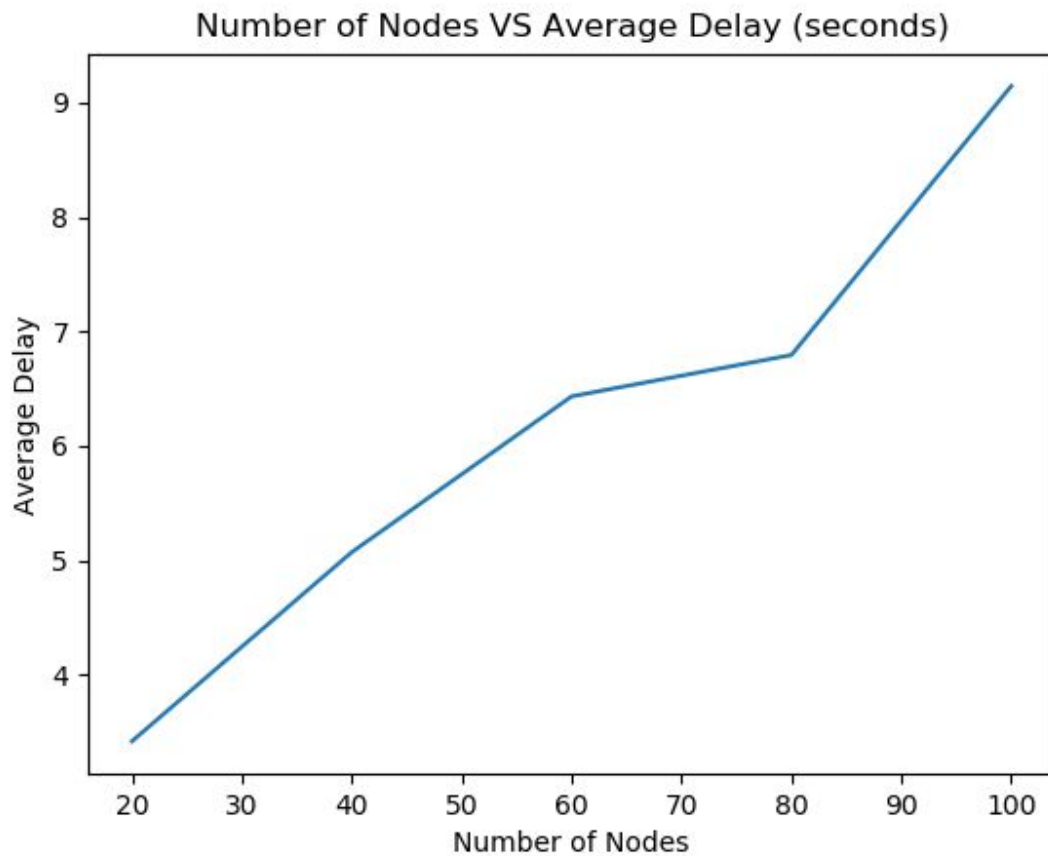
Delivery Ratio decreases as the Number of Flows increases but it fluctuates as the node positions, sources, and destinations are random.



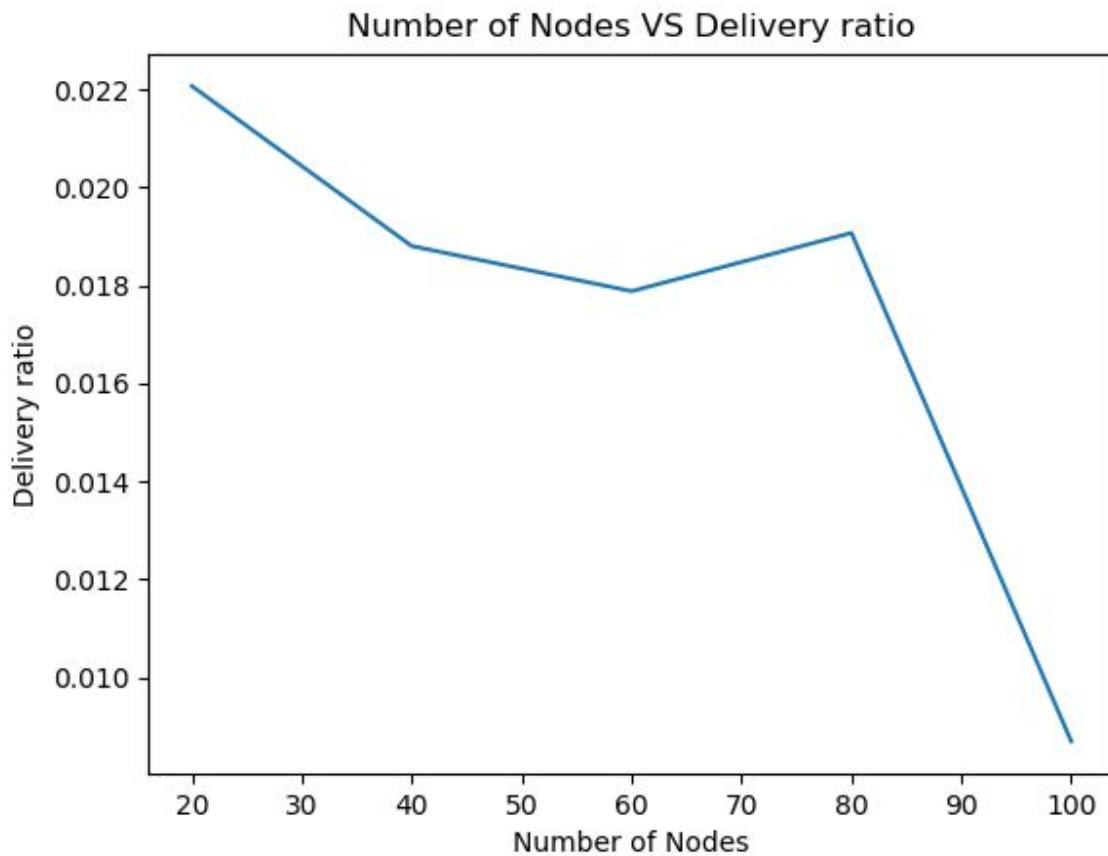
Drop Ratio increases as the Number of Flows increases but it fluctuates as the node positions, sources, and destinations are random.



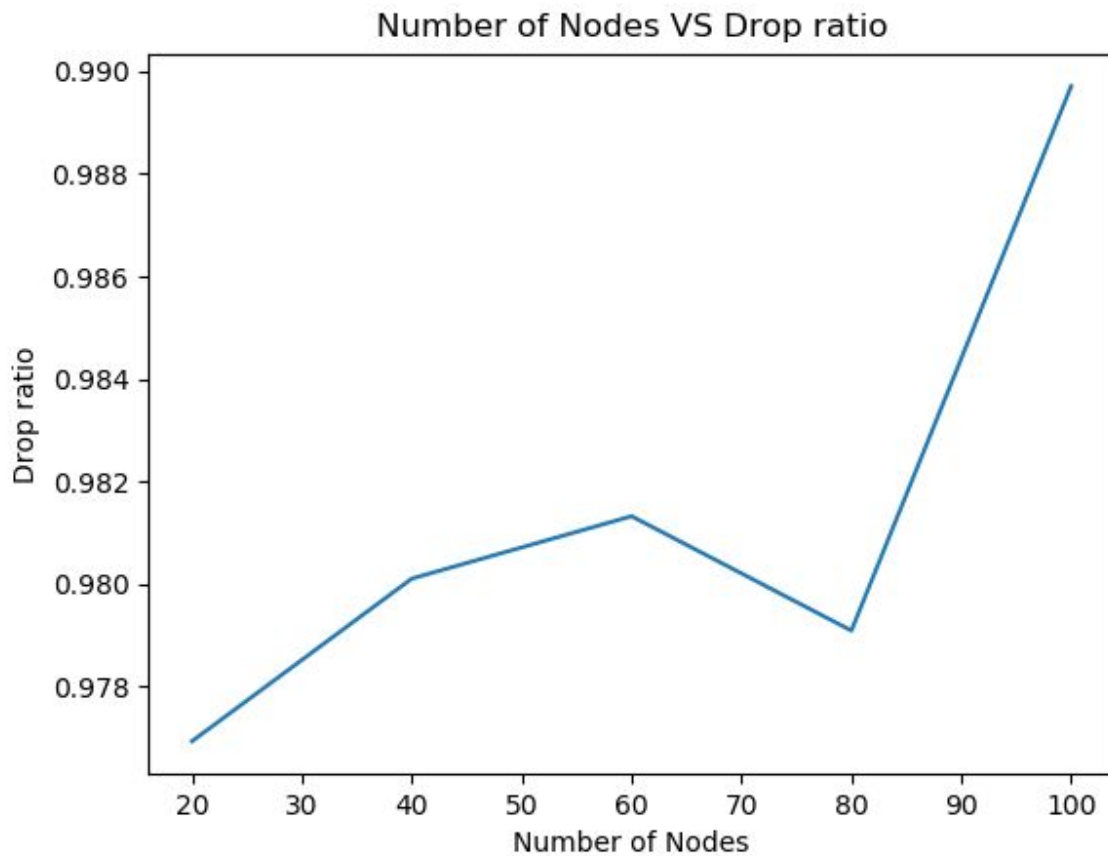
Throughput decreases as the Number of Flows increases but it fluctuates as the node positions, sources, and destinations are random.



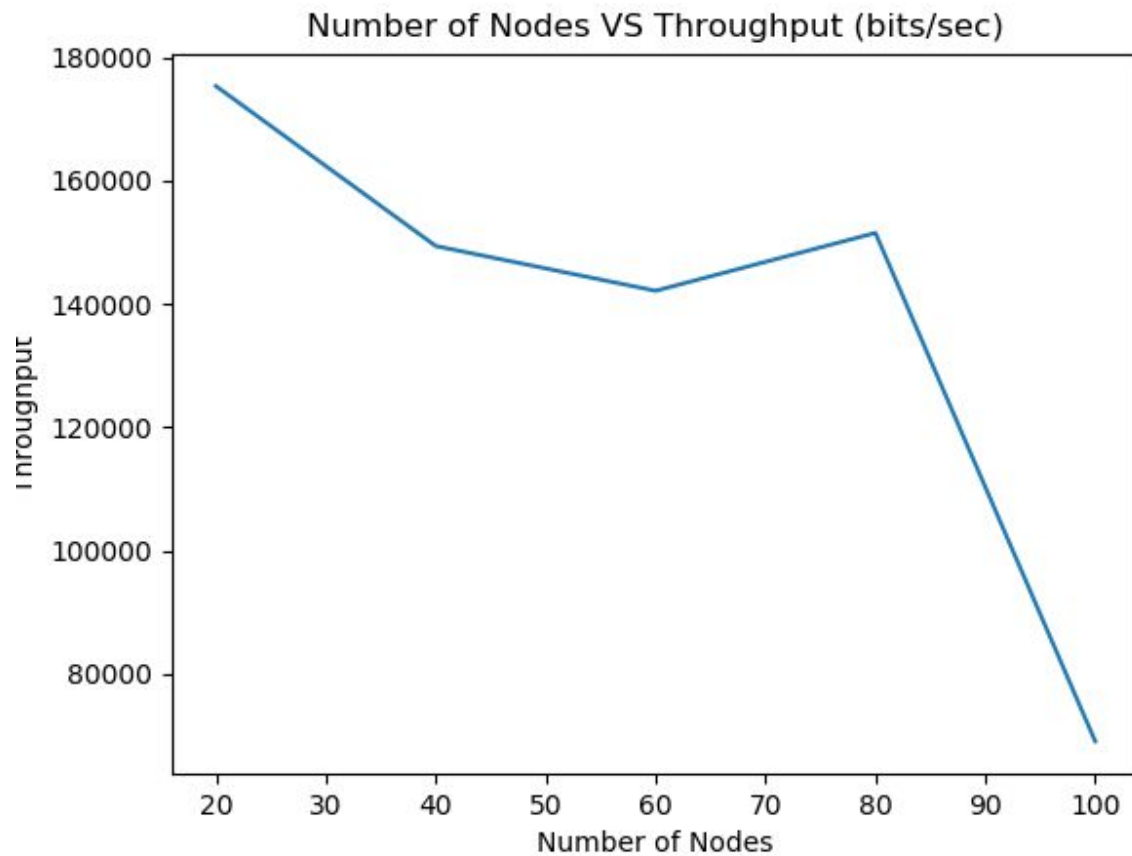
Average Delay increases as the Number of Nodes increases but it fluctuates as the node positions, sources, and destinations are random.



Delivery Ratio decreases as the Number of Nodes increases but it fluctuates as the node positions, sources, and destinations are random.



Drop Ratio increases as the Number of Nodes increases but it fluctuates as the node positions, sources, and destinations are random.



Throughput decreases as the Number of Nodes increases but it fluctuates as the node positions, sources, and destinations are random.