# Project No. 5
# Simulating MPLS Traffic Engineering in Backbone Networks

### ECE 642
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This project applies what we have learned in the queuing networks to Internet Multi Protocol Label Switching Traffic Engineering (MPLS-TE). Consider a network comprised of six nodes and a Label Switching Path (LSP) as shown. In the figure below, we develop a model based on open queueing system capturing the TE hops and the delay across the LSP. Model the TE LSP by a network of queues and determine the end-to-end delay by simulation. Assume each link is 1 Gps and the TE LSP is used at a utilization of 10% to 80% (increased by 10% each time). The traffic arrival is Poisson and the average packet length is 1200 bytes.



*Routing Domain*