1125-05-1073 **Matthew Yancey*** (mpyance@super.org). *Hyperbolicity and Congestion.*

A promising new direction of network analysis is to understand when a network is hyperbolic (as defined by Gromov), and what such a label would imply. We examine the proposed implication that when a transportation network is hyperbolic, with few exceptions, it will experience congestion. In this scenario, *congestion* in a probabilistic model for a network means that there exists a vertex w and an $\epsilon > 0$ such that for a randomly uniformly chosen pair of vertices a, b and a random uniformly chosen geodesic P from a to b, we have that $w \in P$ with probability at least ϵ. While several examples of exceptional networks are known, there is no understanding of what the exceptions are. We will present several theorems whose individual conclusions are that the network has congestion, and whose assumptions are that the network is hyperbolic, along with modest additional assumptions. (Received September 14, 2016)