

# Congestion Notification

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# Congestion Avoidance

- ⇒ TCP's approach is reactive:
  - ⇒ Detect congestion after it happens
  - ⇒ Increase load trying to maximize utilization until loss occurs
  - ⇒ TCP has a *congestion avoidance phase*, but that's different from what we're talking about here
  
- ⇒ Alternatively, we can be proactive:
  - ⇒ We can try to predict congestion and reduce rate before loss occurs
  - ⇒ This is called *congestion avoidance*



## Router Congestion Notification

- ➔ Routers well-positioned to detect congestion
  - = Router has unified view of queueing behavior
  - = Routers can distinguish between propagation and persistent queueing delays
  - = Routers can decide on transient congestion, based on workload
  
- ➔ Hosts themselves are limited in their ability to infer these from perceived behavior

