

LHCb 2012 Trigger Diagram

40 MHz bunch crossing rate

L0 Hardware Trigger : 1 MHz readout, high E_T/P_T signatures

**450 kHz
 h^\pm**

**400 kHz
 $\mu/\mu\mu$**

**150 kHz
 e/γ**

Software High Level Trigger

**Introduce tracking/PID information,
find displaced tracks/vertices**

**Offline reconstruction tuned to trigger
time constraints**

**Mixture of exclusive and inclusive
selection algorithms**

5 kHz (0.3 GB/s) to storage

**2 kHz
Inclusive
Topological**

**2 kHz
Inclusive/
Exclusive
Charm**

**1 kHz
Muon and
DiMuon**