```
--------------------------------------------------------------------------
      astar-All-2way      Simulation Results
--------------------------------------------------------------------------


Number of reference types:
  Number of reads   =   2549106849  [25.49%]
  Number of writes  =    626305991  [6.26%]
  Number of inst    =   6824587160  [68.25%]
  Total             =  10000000000

Total cycles for all activities:
  Cycles for reads  =  24005615139  [51.70%]
  Cycles for writes =  10994951788  [23.68%]
  Cycles for inst   =  11433827185  [24.62%]
  Total time        =  46434394112

Average cycles per activity:
  Read  = 9.42
  Write = 17.56
  Inst  = 1.68
Ideal: Exec. Time = 16824587160; CPI = 2.47
Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i
  Hits   =  11393817355  [100.00%]
  Misses =       497518  [0.00%]
  Total  =  11394314873
  Kickouts = 497262, Dirty kickouts = 0, Transfers = 497518

Memory level: L1d
  Hits   =   4261874755  [95.60%]
  Misses =    196297697  [4.40%]
  Total  =   4458172452
  Kickouts = 196297441, Dirty kickouts = 80765893, Transfers = 196297697

Memory level: L2
  Hits   =    160662256  [57.88%]
  Misses =    116898852  [42.12%]
  Total  =    277561108
  Kickouts = 116898340, Dirty kickouts = 59753876, Transfers = 116898852

Cost analysis:
  L1i cache cost = $400
  L1d cache cost = $400
  L2  cache cost = $100
  Memory cost    = $75
  Total cost     = $975
```