```
--------------------------------------------------------------------------------
      astar-All-4way     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  =  23126240668  [50.79%]
  Cycles for writes =  11000753615  [24.16%]
  Cycles for inst   =  11406716641  [25.05%]
  Total time        =  45533710924

Average cycles per activity:
  Read  = 9.07
  Write = 17.56
  Inst  = 1.67
Ideal: Exec. Time = 16824587160; CPI = 2.47
Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i
  Hits   =  11394220237  [100.00%]
  Misses =       94636  [0.00%]
  Total  =  11394314873
  Kickouts = 94380, Dirty kickouts = 0, Transfers = 94636

Memory level: L1d
  Hits   =  4274666890  [95.88%]
  Misses =   183505562  [4.12%]
  Total  =  4458172452
  Kickouts = 183505306, Dirty kickouts = 75334151, Transfers = 183505562

Memory level: L2
  Hits   =   145435283  [56.17%]
  Misses =   113499066  [43.83%]
  Total  =   258934349
  Kickouts = 113498554, Dirty kickouts = 59270555, Transfers = 113499066

Cost analysis:
  L1i cache cost = $600
  L1d cache cost = $600
  L2  cache cost = $150
  Memory cost    = $75
  Total cost     = $1425
```