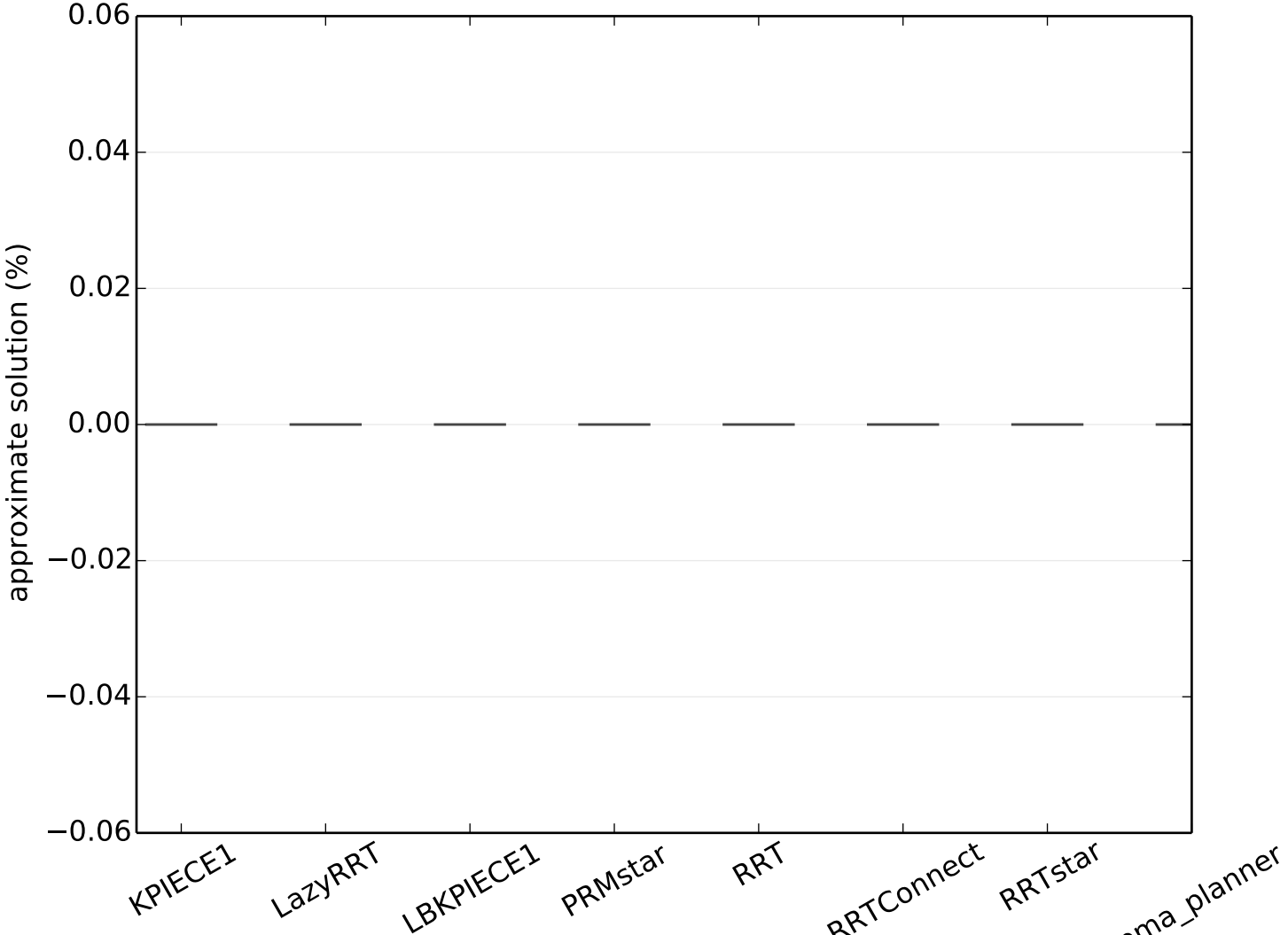
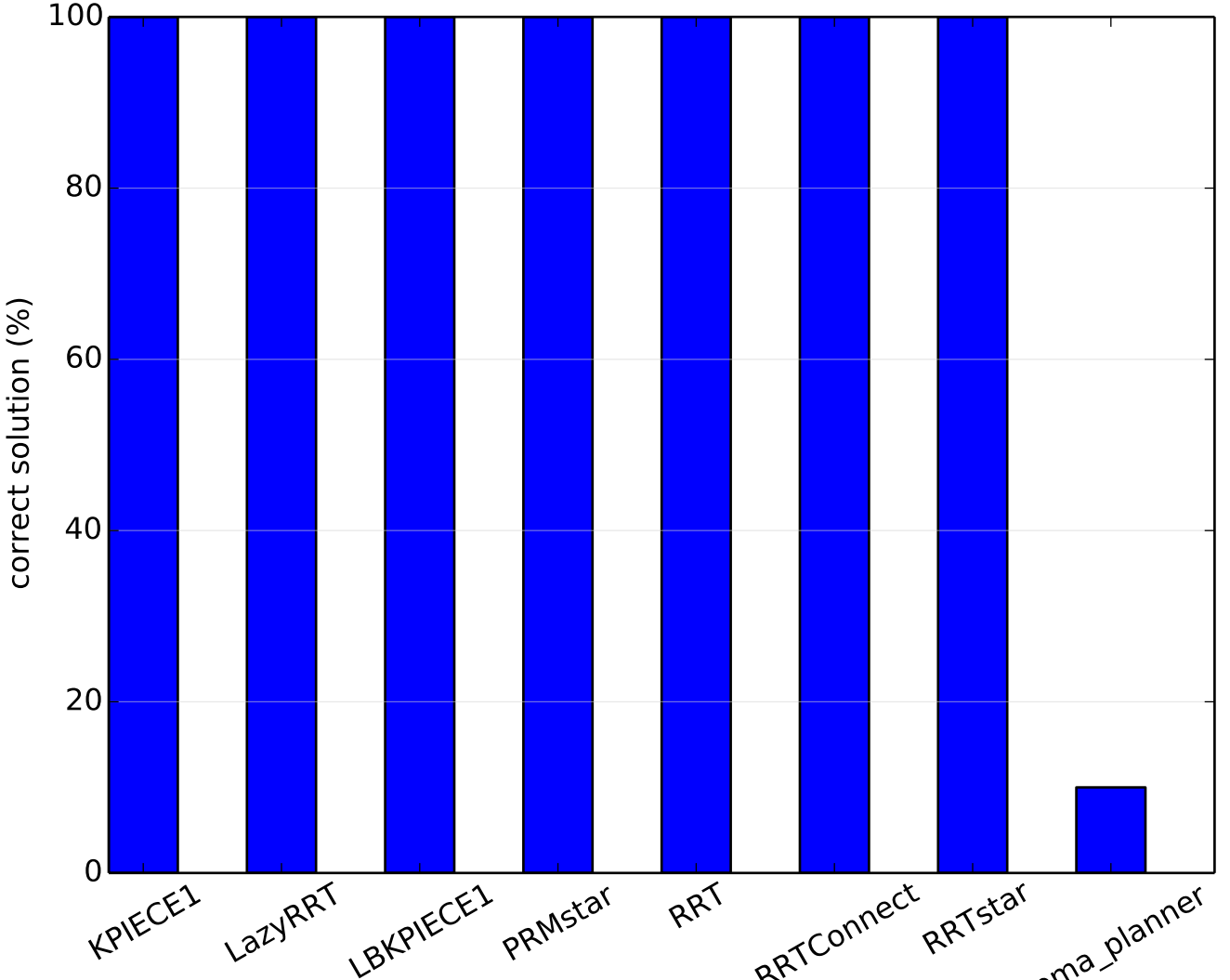
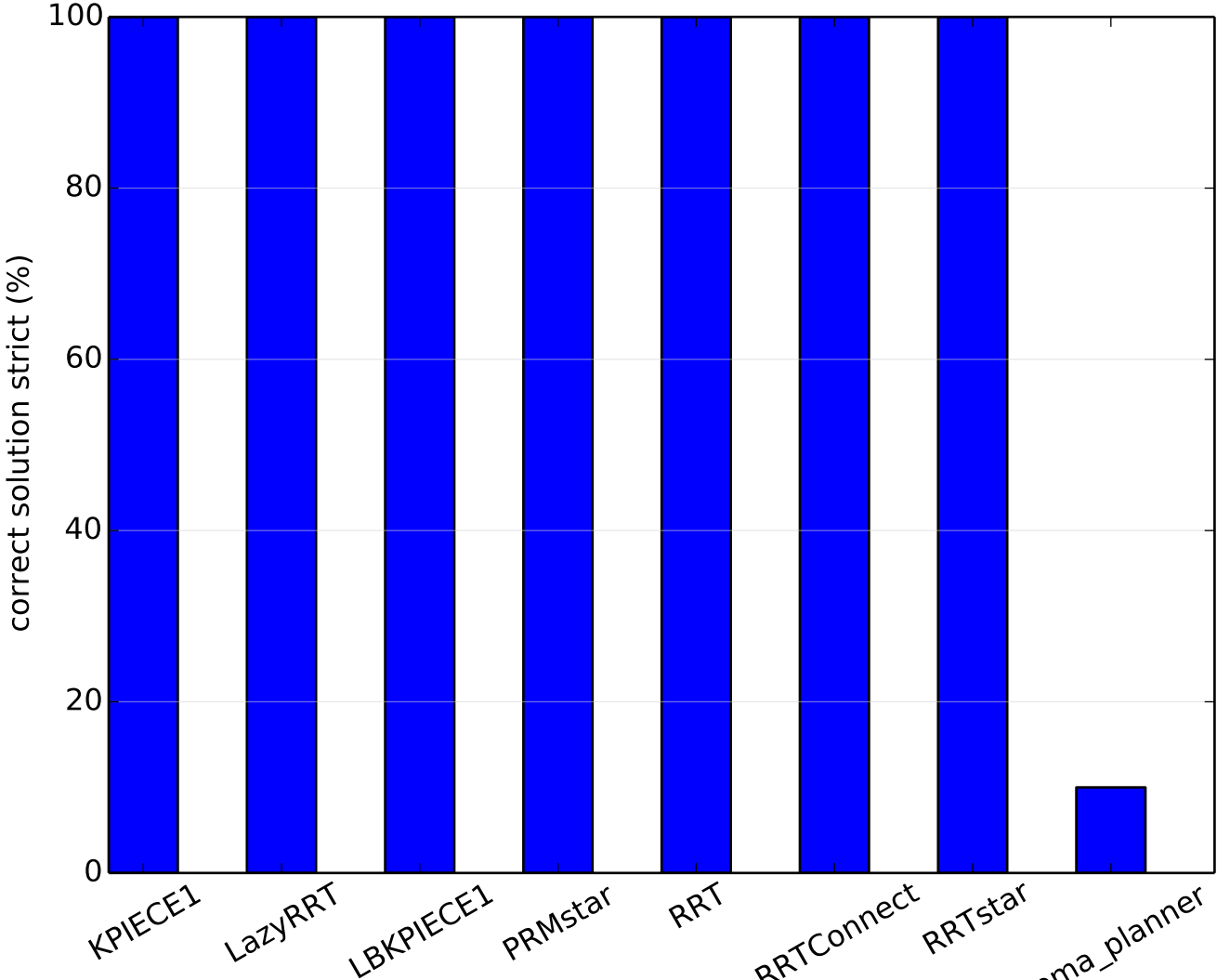
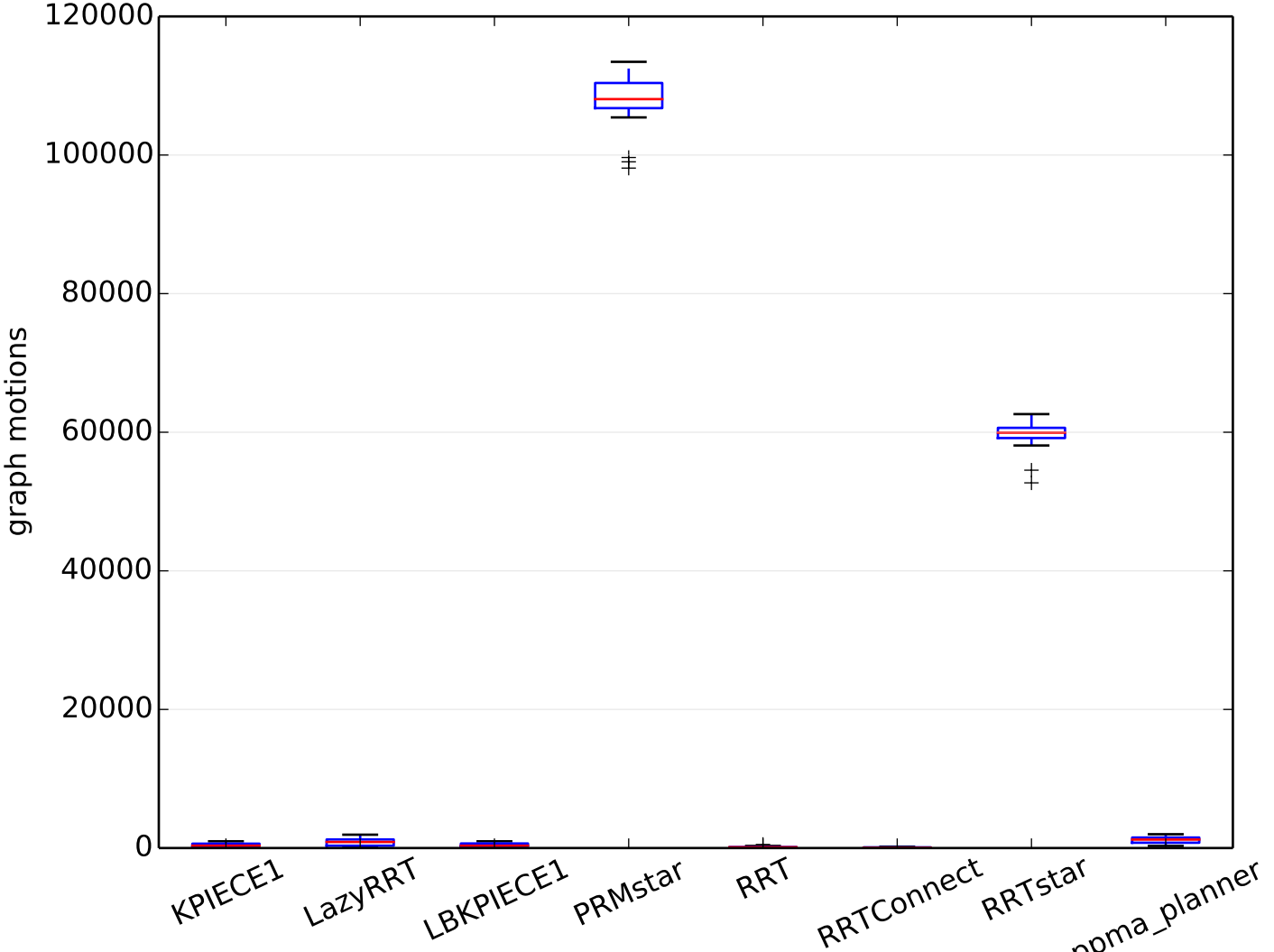
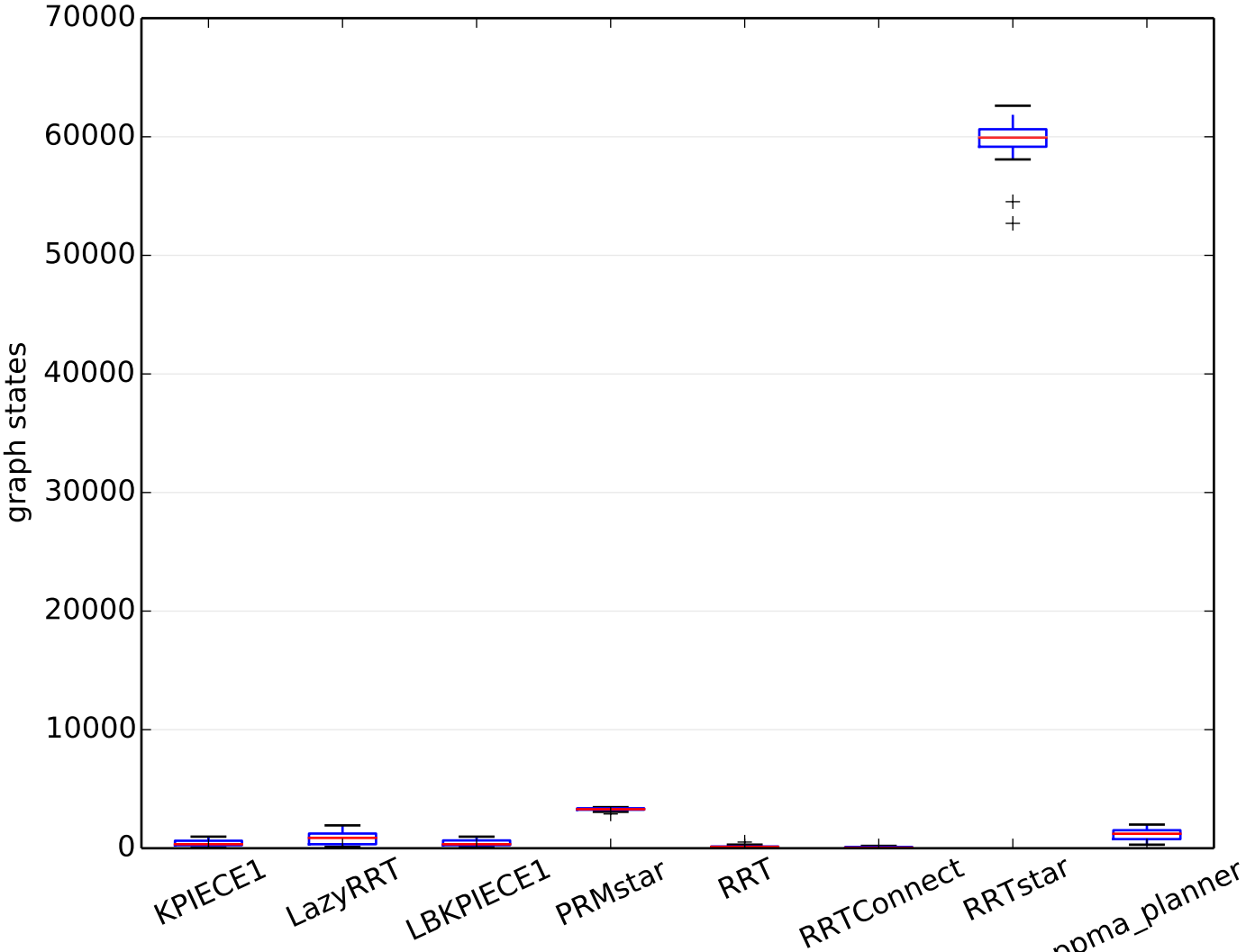
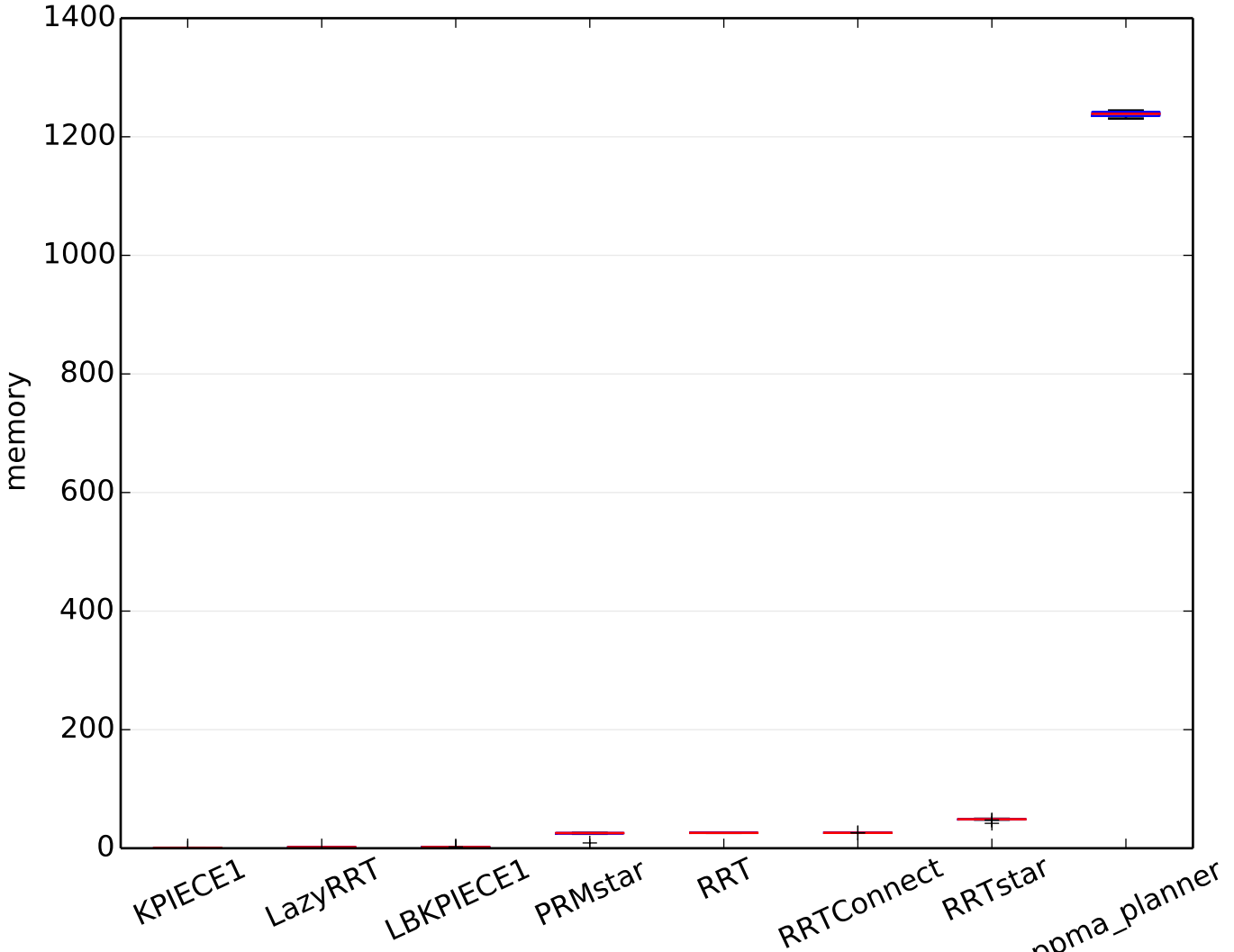

0.06
0.04
0.02
0.00
−0.02
−0.04
−0.06
approximate solution (%)
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ma_planner

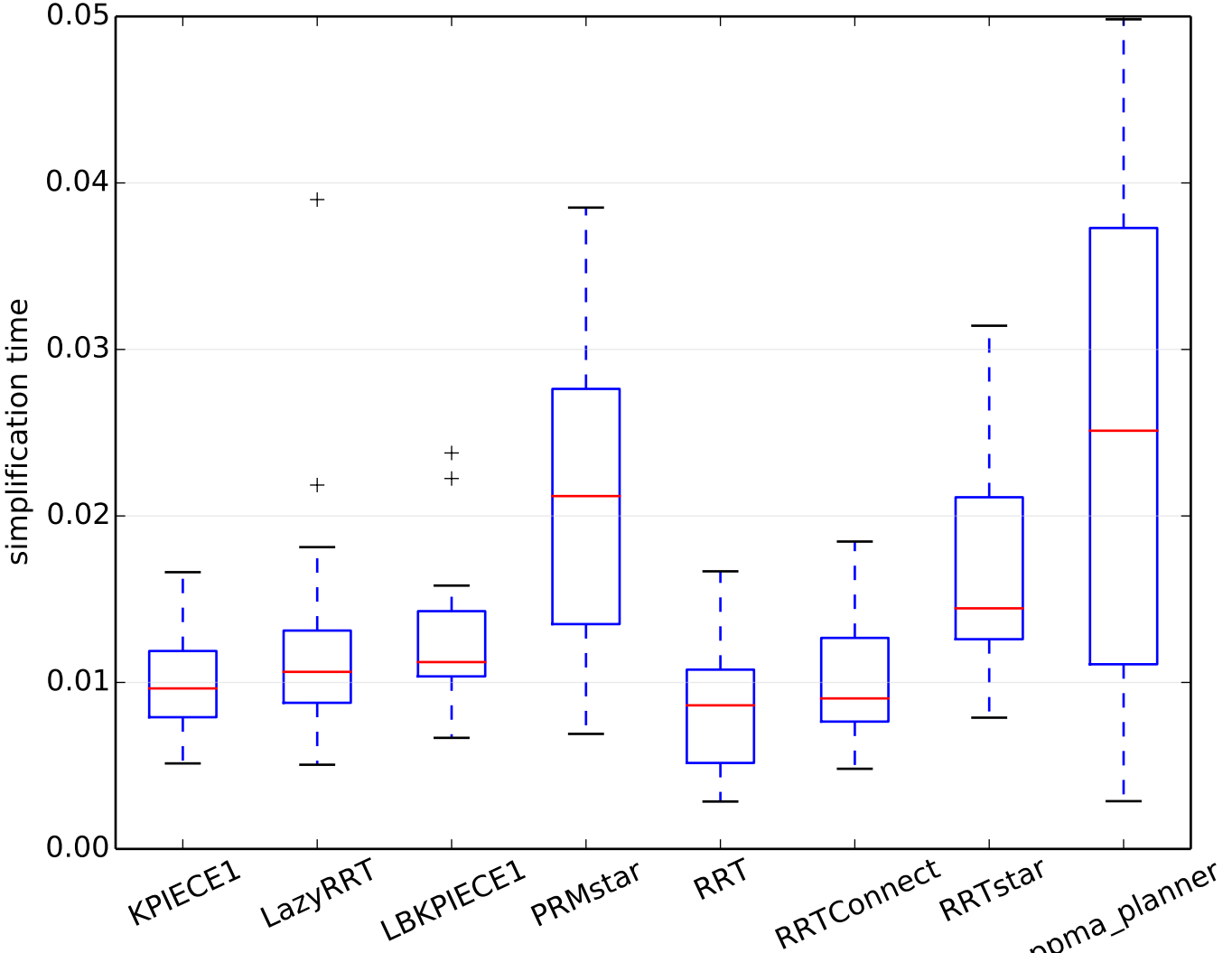

100
80
60
40
20
0
correct solution (%)
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ma_planner

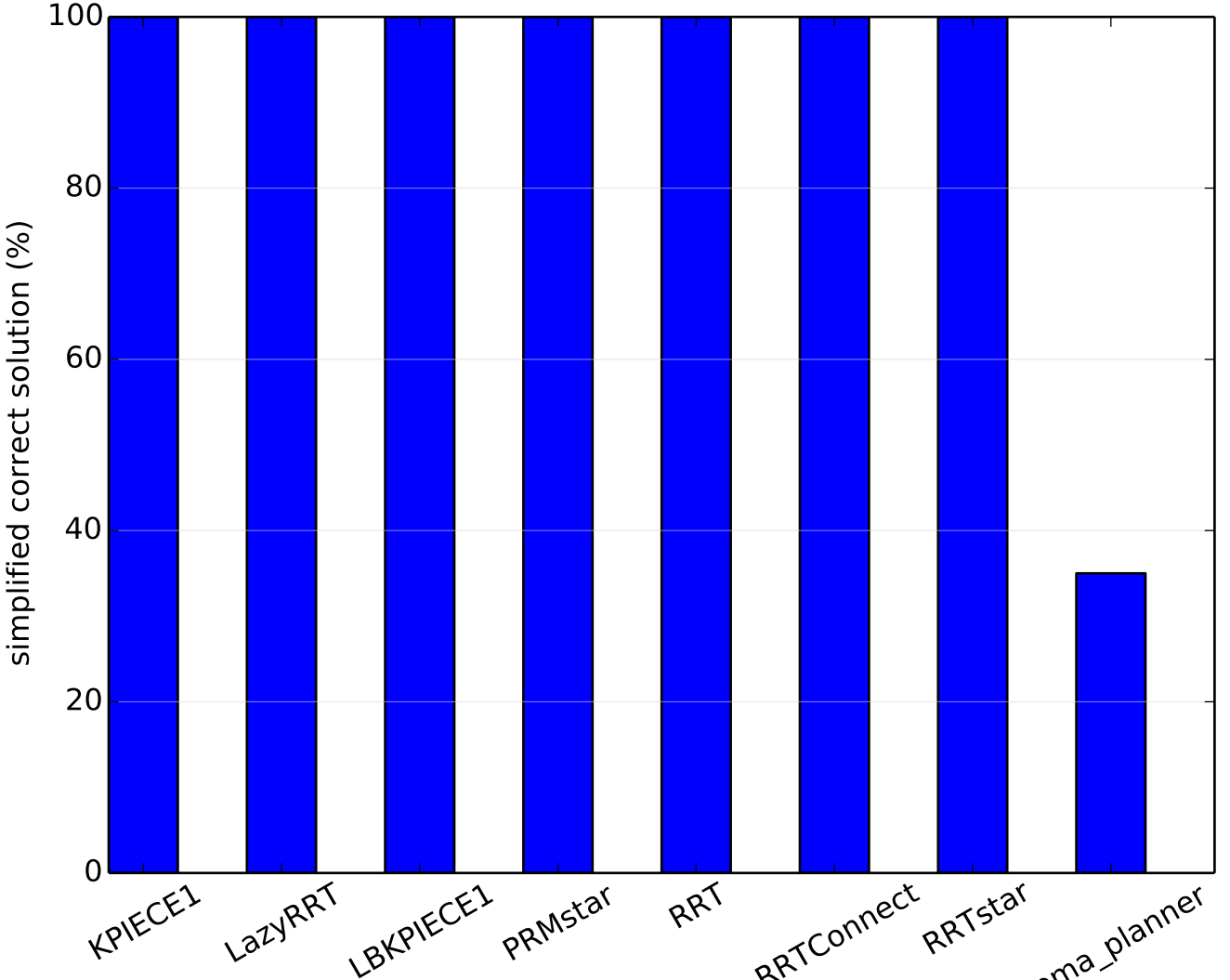

correct solution strict (%)
100
80
60
40
20
0
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ma_planner

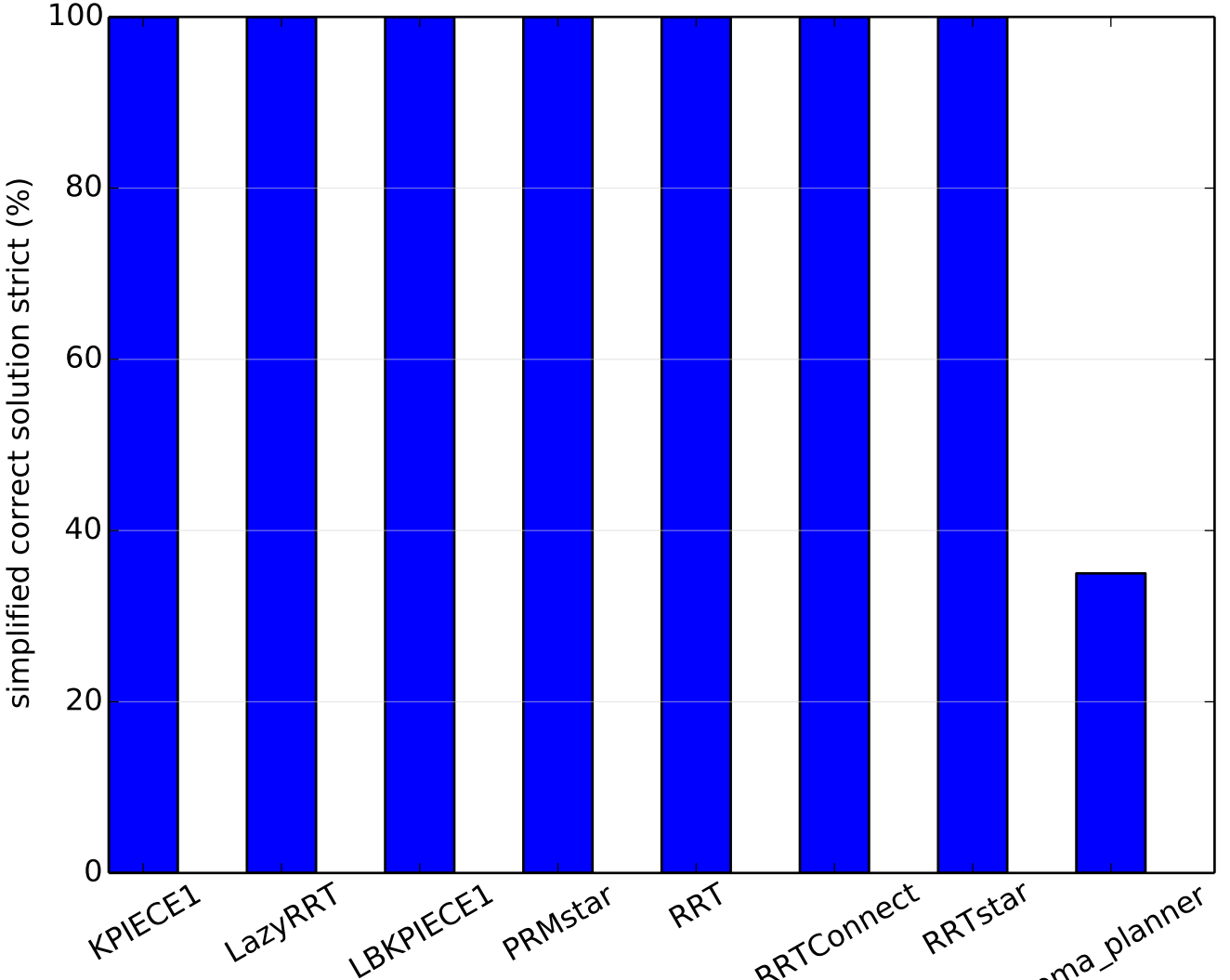

120000
100000
80000
60000
40000
20000
0
graph motions
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

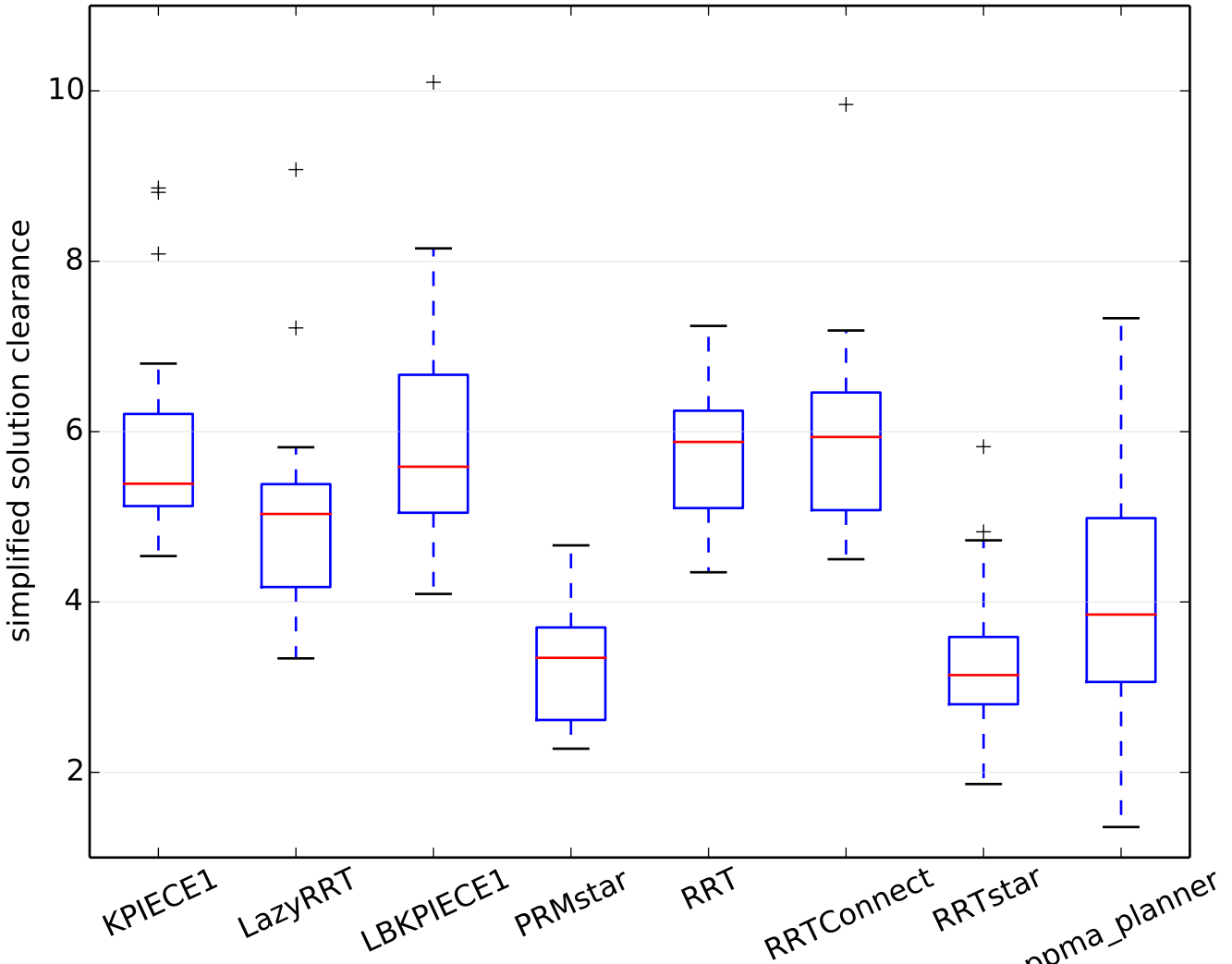

graph states
70000
60000
50000
40000
30000
20000
10000
0
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

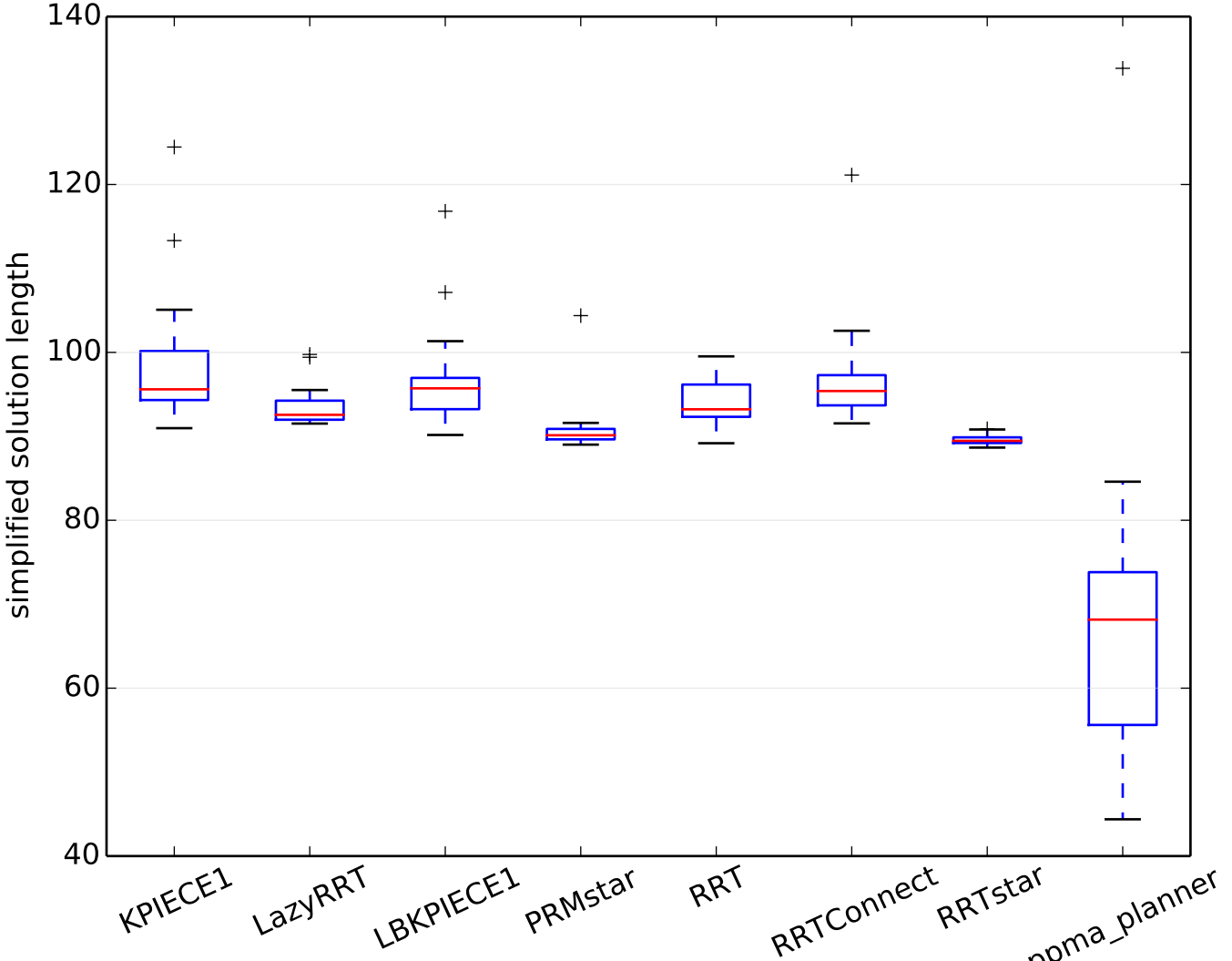

1400
1200
1000
800
600
400
200
0
memory
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ompa_planner

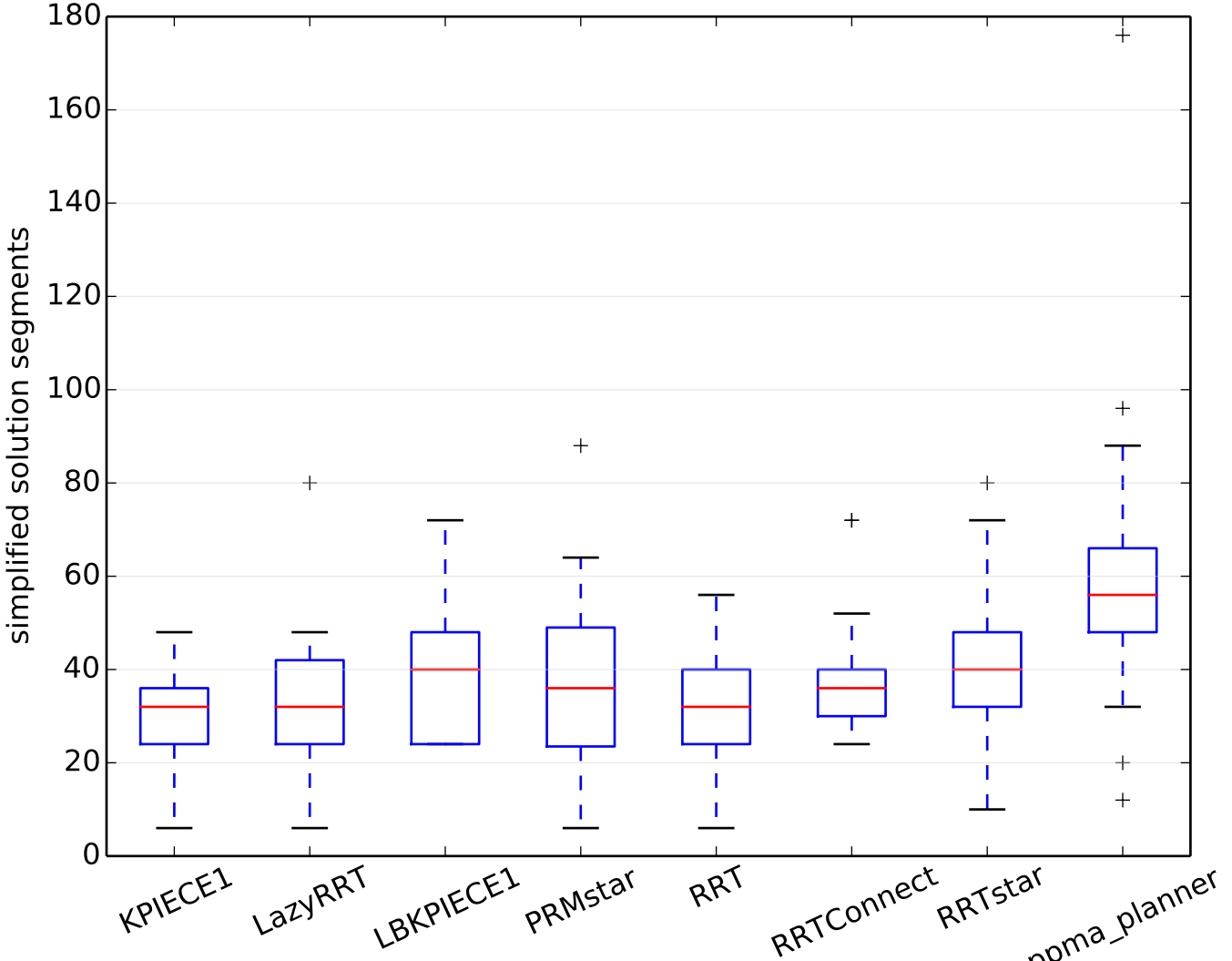

0.05
0.04
0.03
0.02
0.01
0.00
simplification time
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ompa_planner

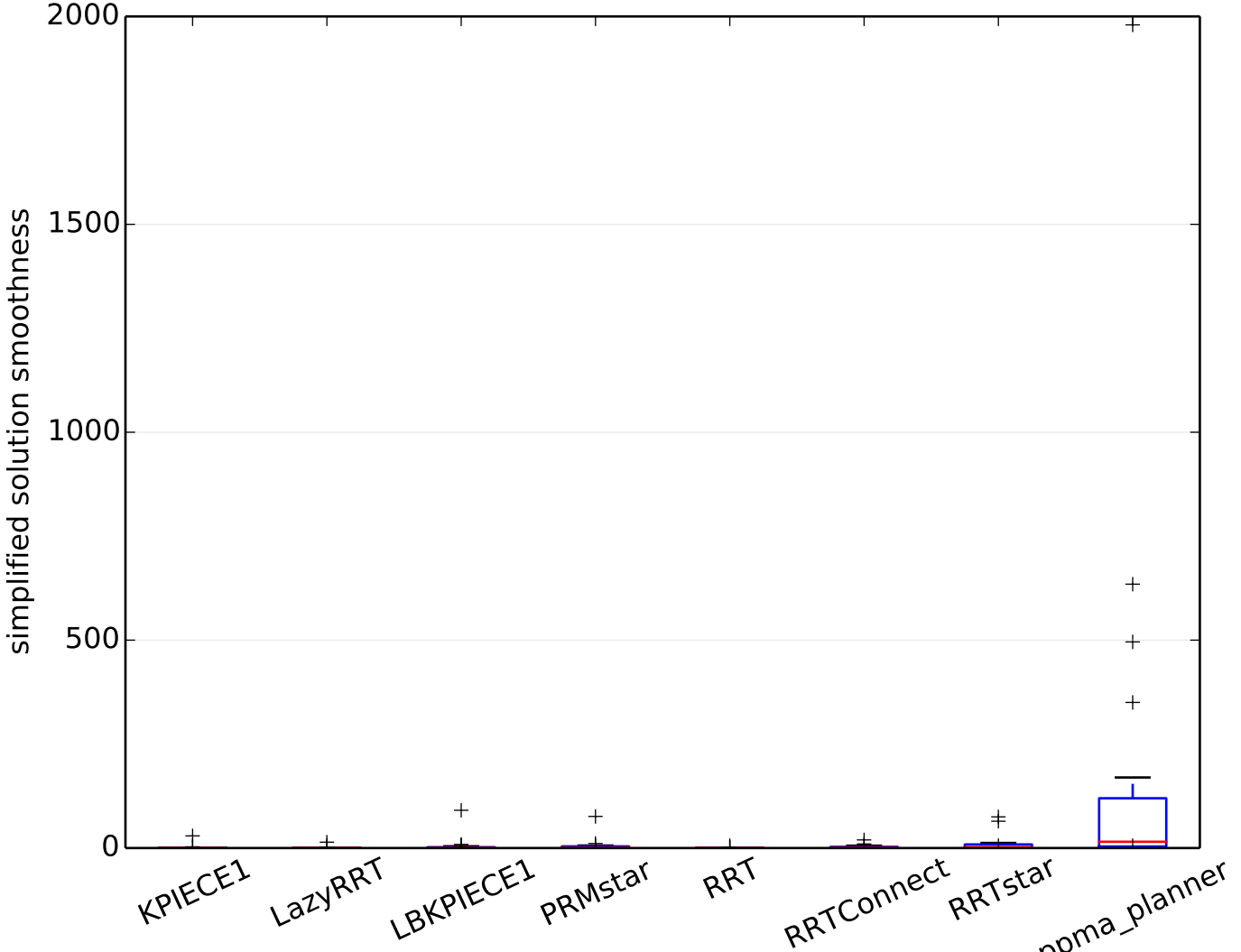

simplified correct solution (%)
100
80
60
40
20
0
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ema_planner

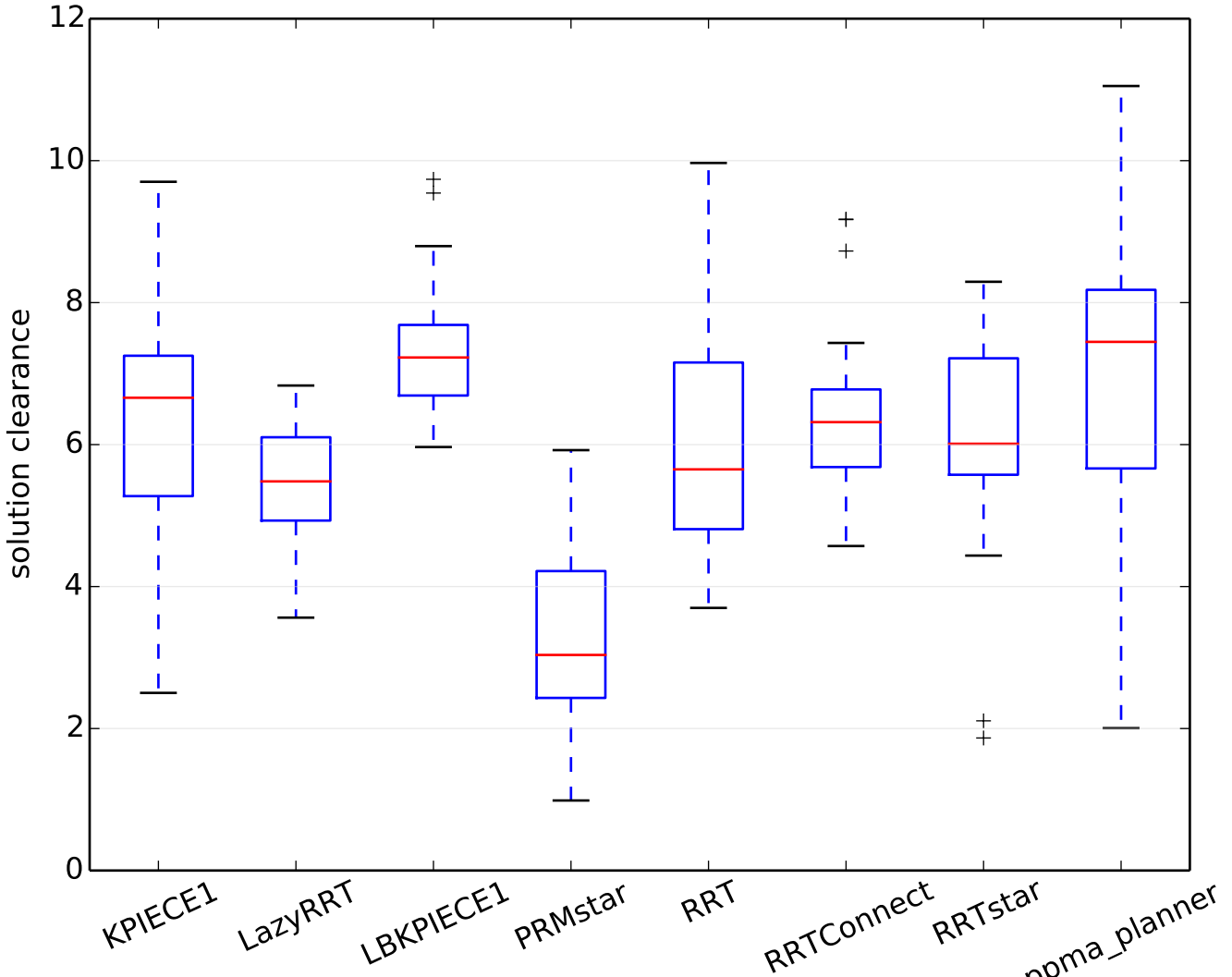

simplified correct solution strict (%)
100
80
60
40
20
0
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ma_planner

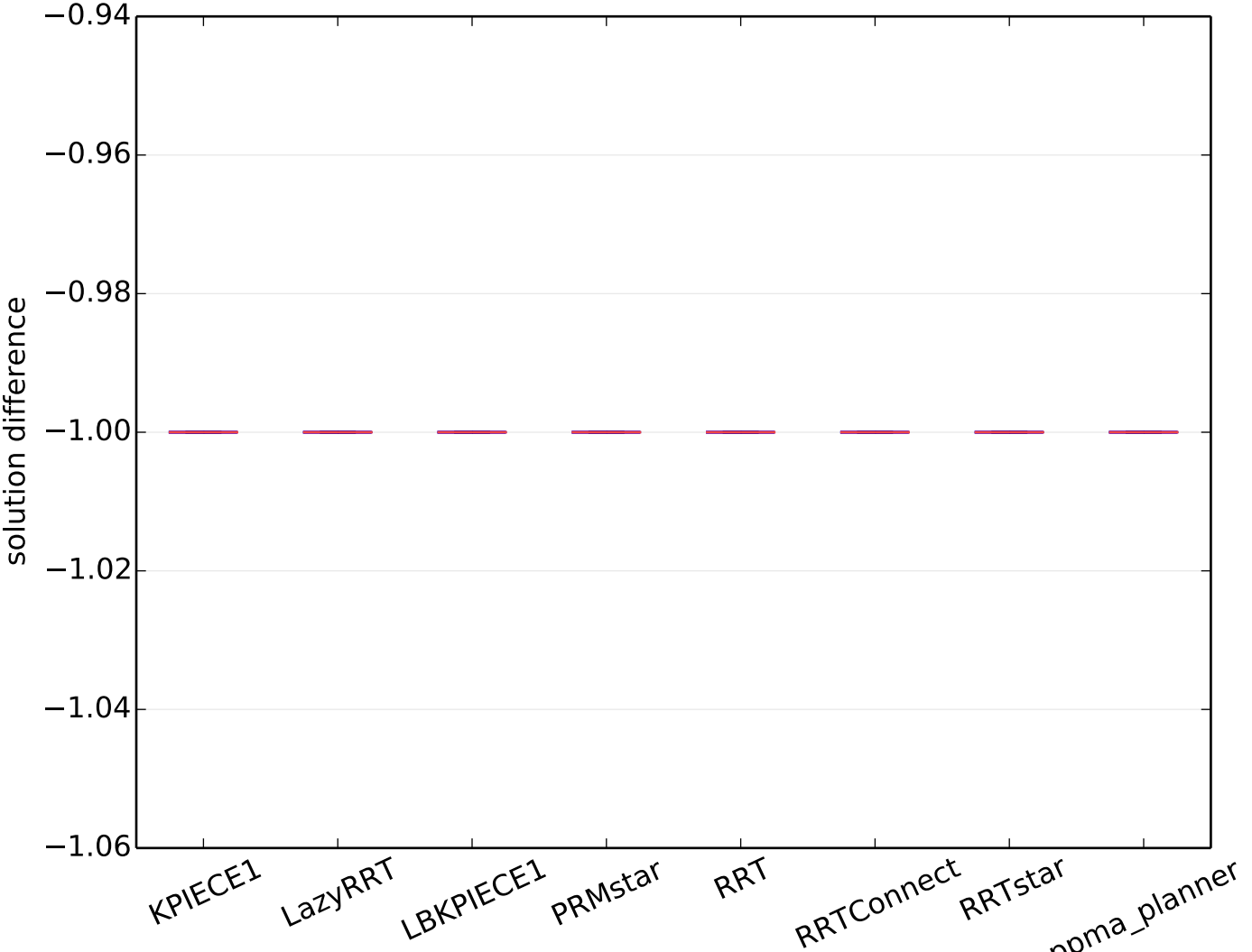

simplified solution clearance
10
8
6
4
2
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ompa_planner

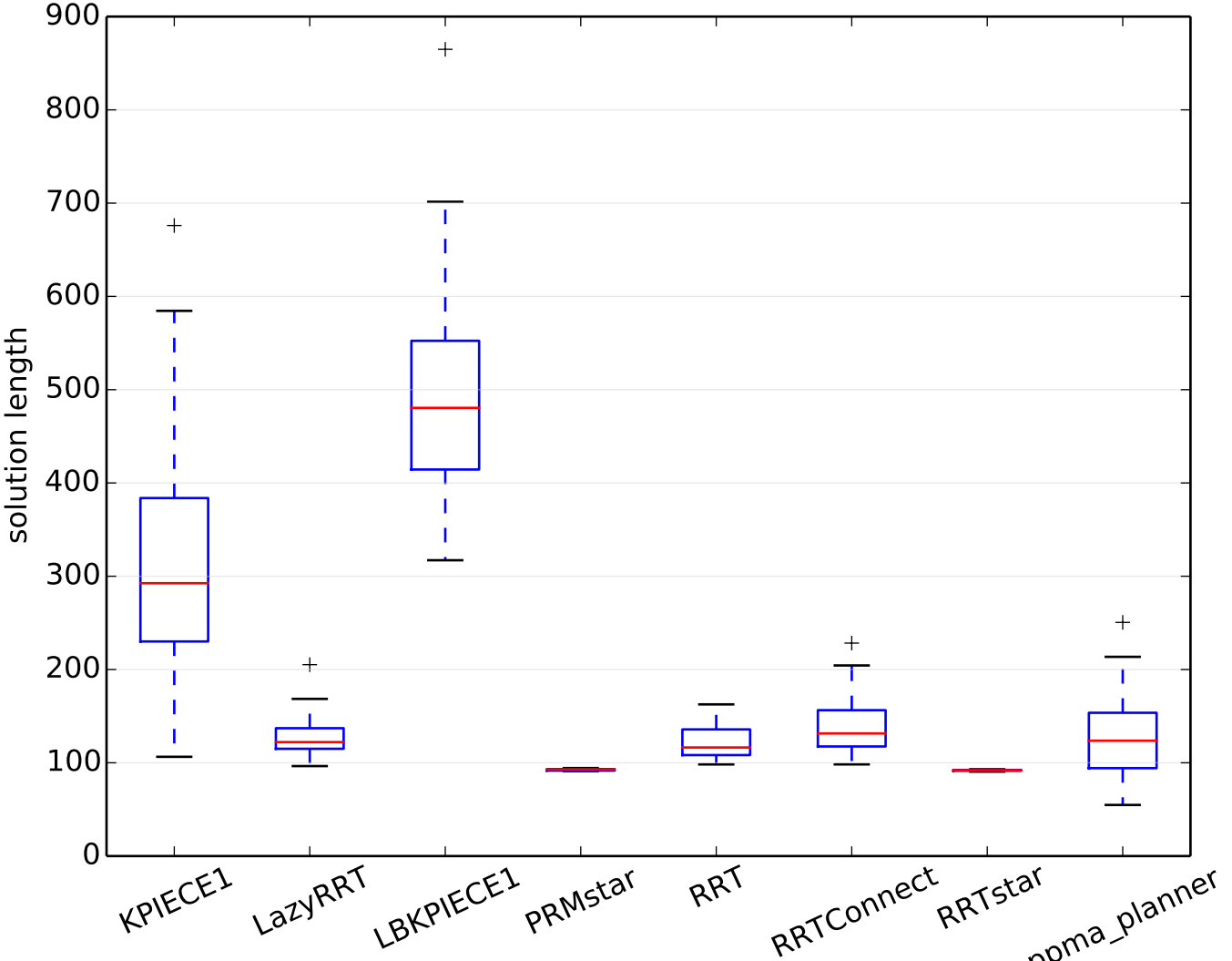

simplified solution length
140
120
100
80
60
40
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ompa_planner

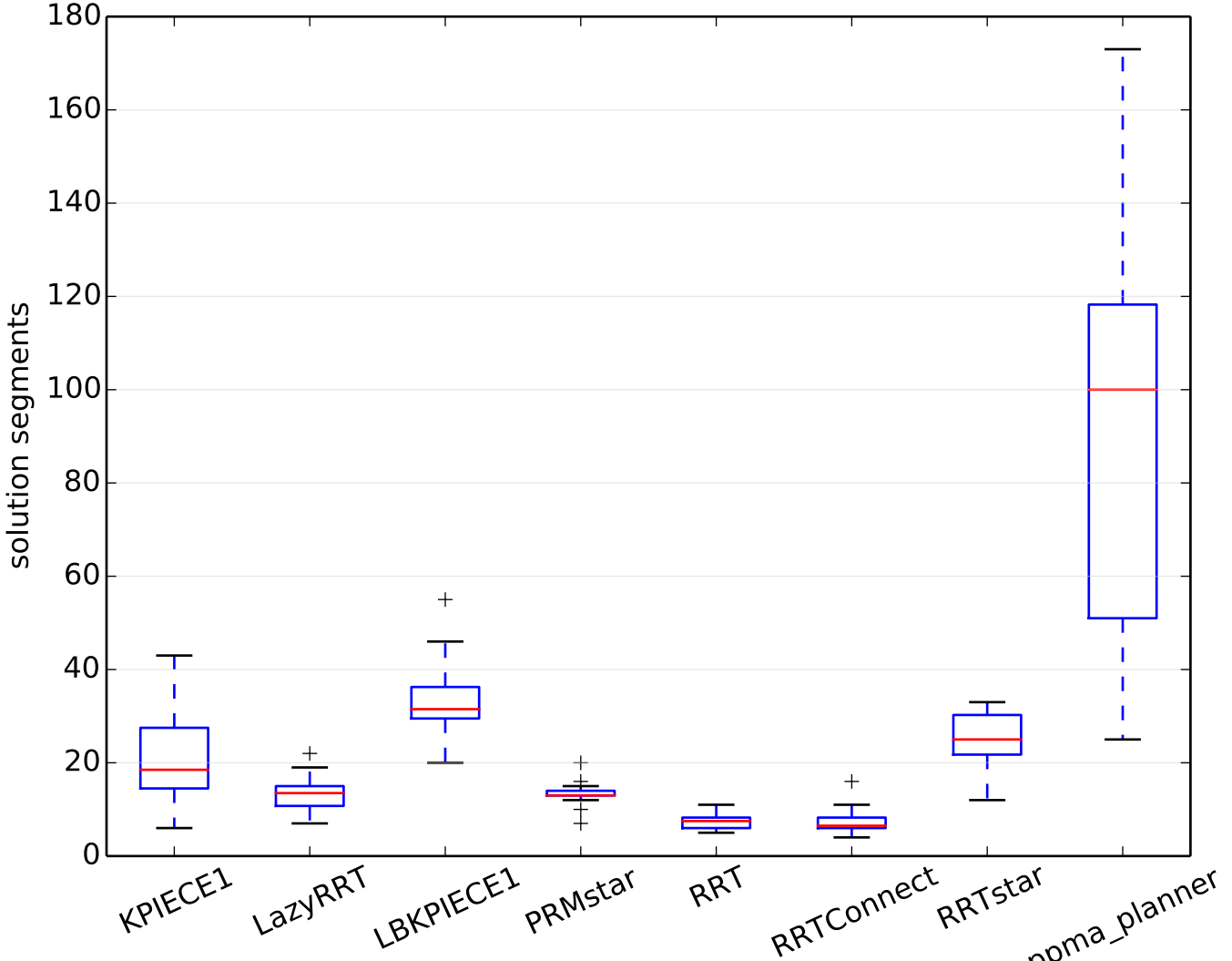

simplified solution segments
0
20
40
60
80
100
120
140
160
180
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ompa_planner

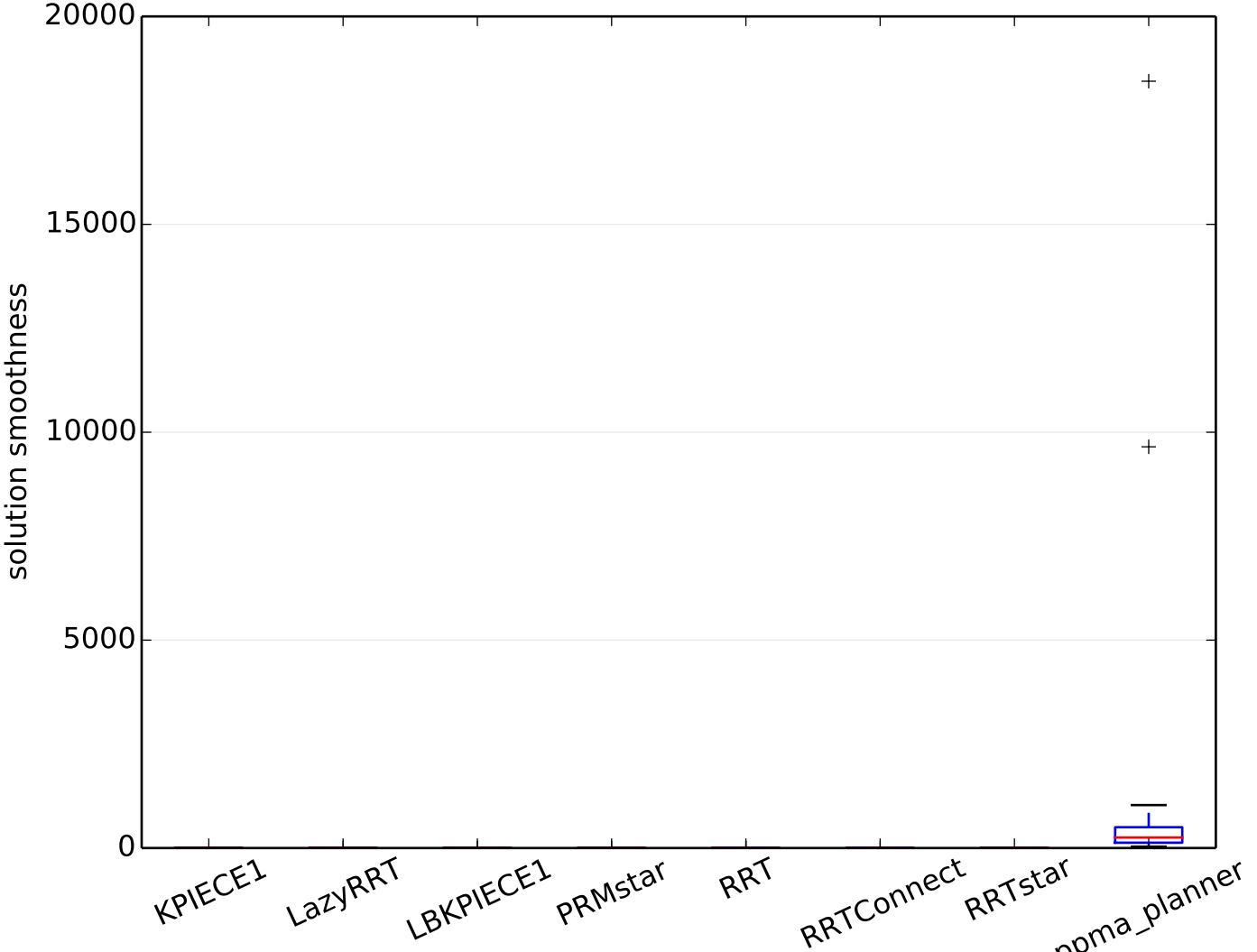

simplified solution smoothness
2000
1500
1000
500
0
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

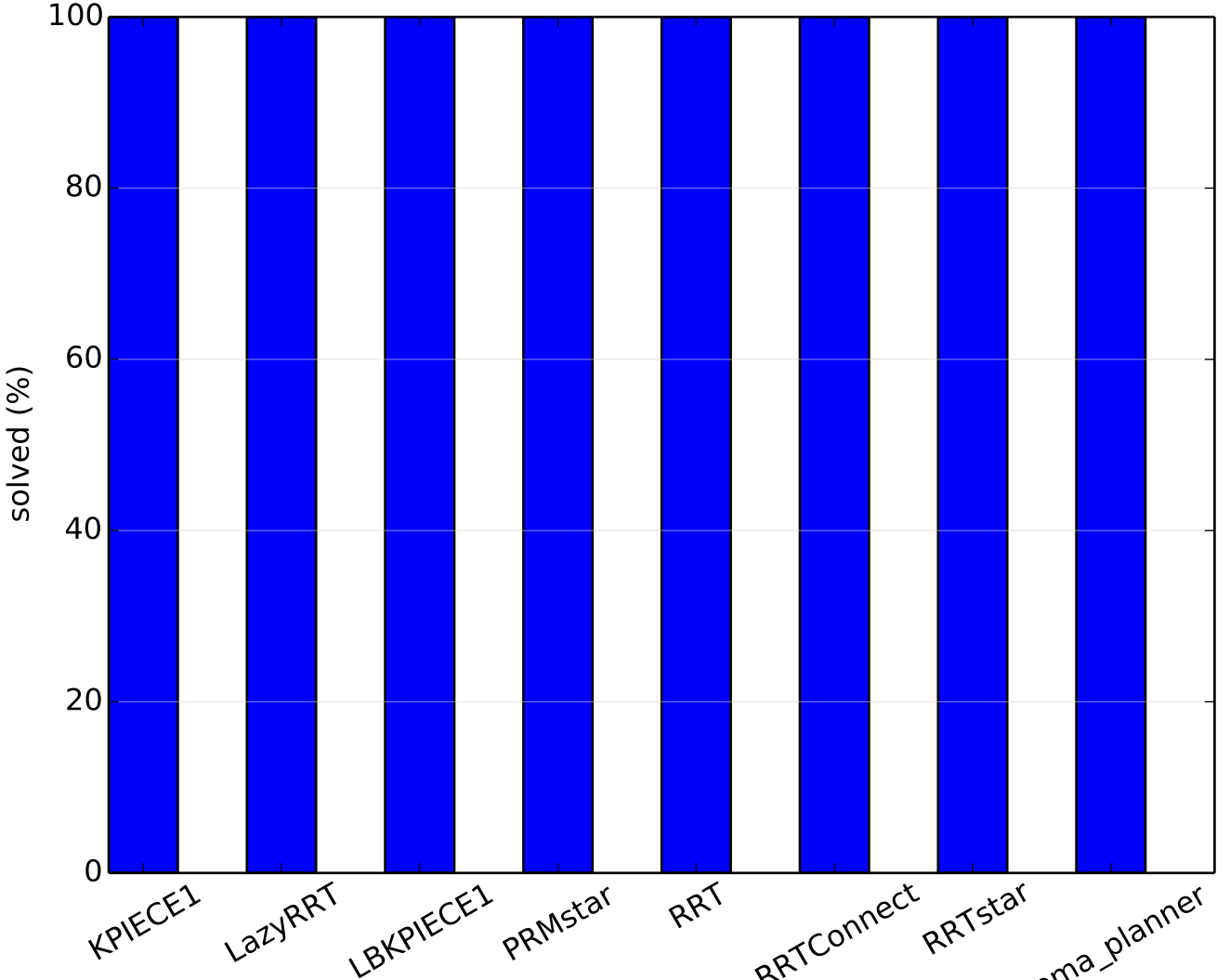

solution clearance
0
2
4
6
8
10
12
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ompa_planner

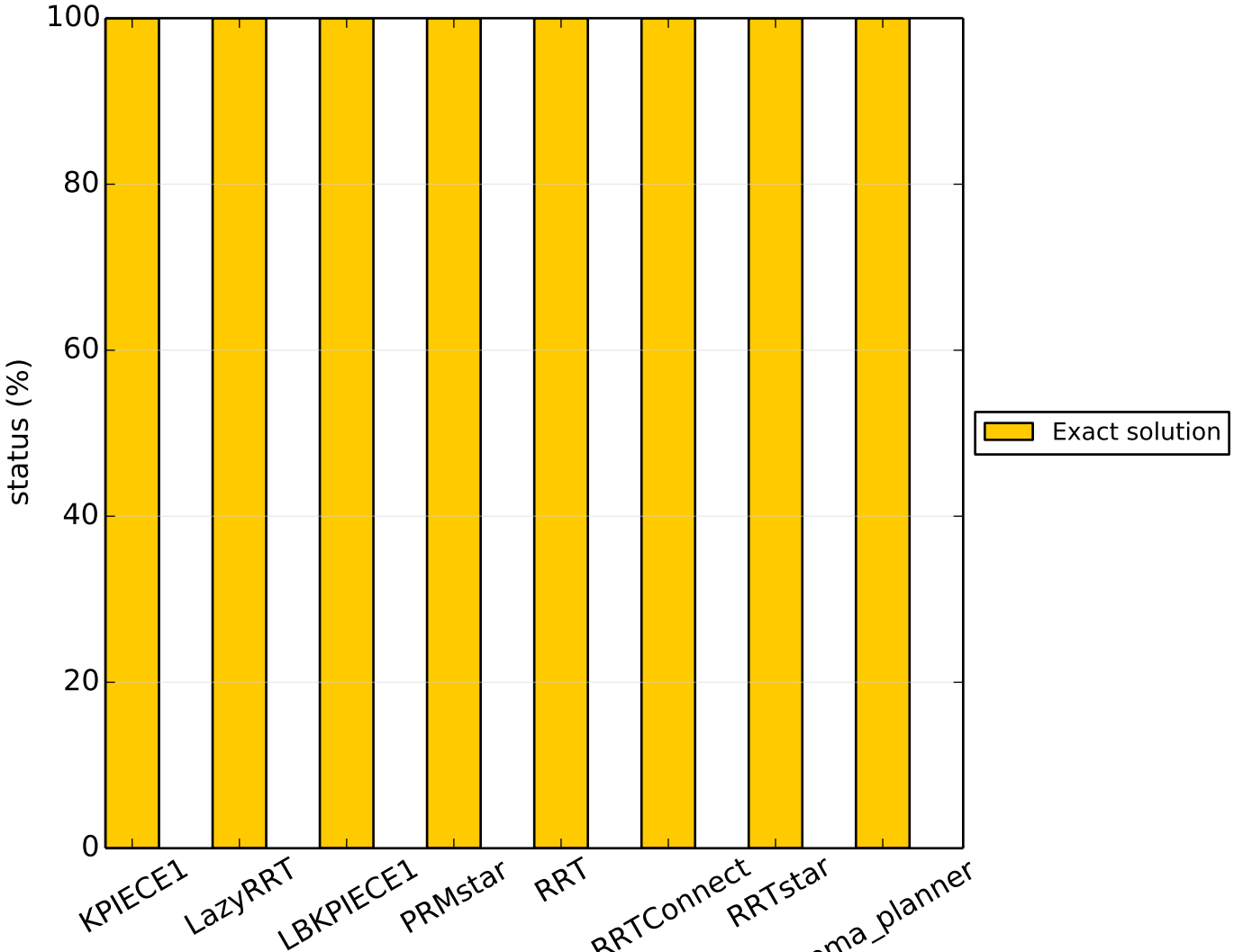

−0.94
−0.96
−0.98
−1.00
−1.02
−1.04
−1.06
solution difference
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

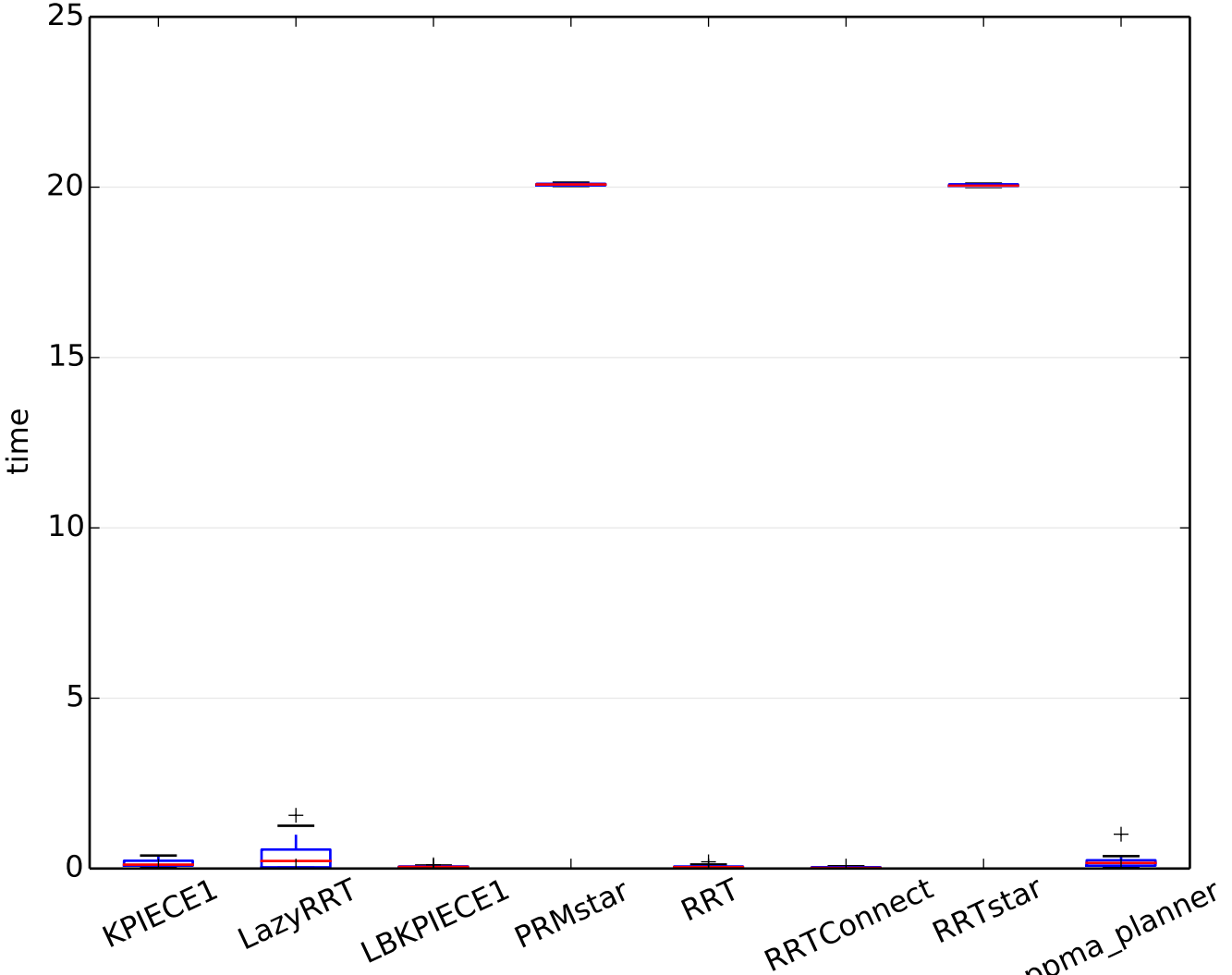

solution length
900
800
700
600
500
400
300
200
100
0
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

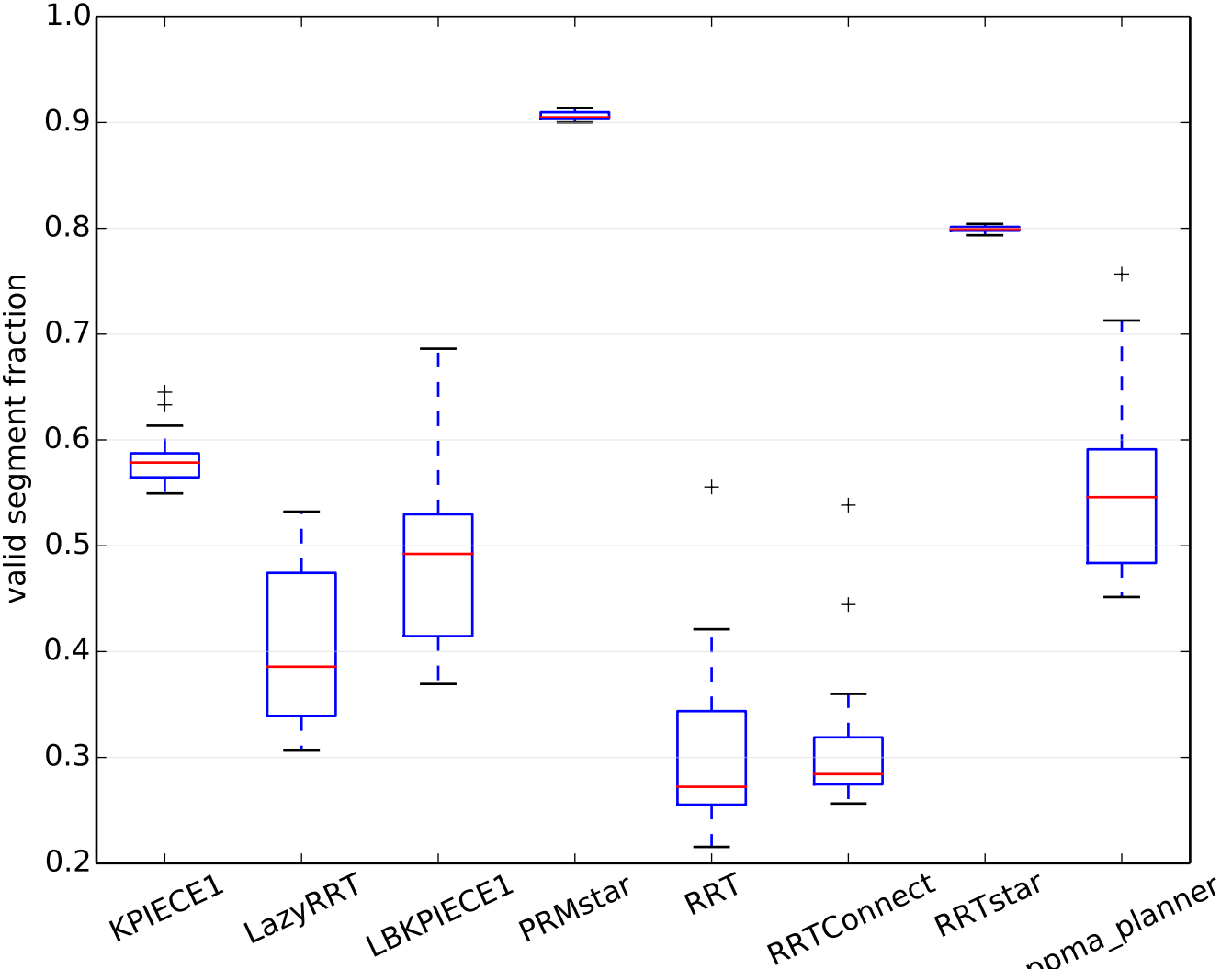

solution segments
0
20
40
60
80
100
120
140
160
180
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

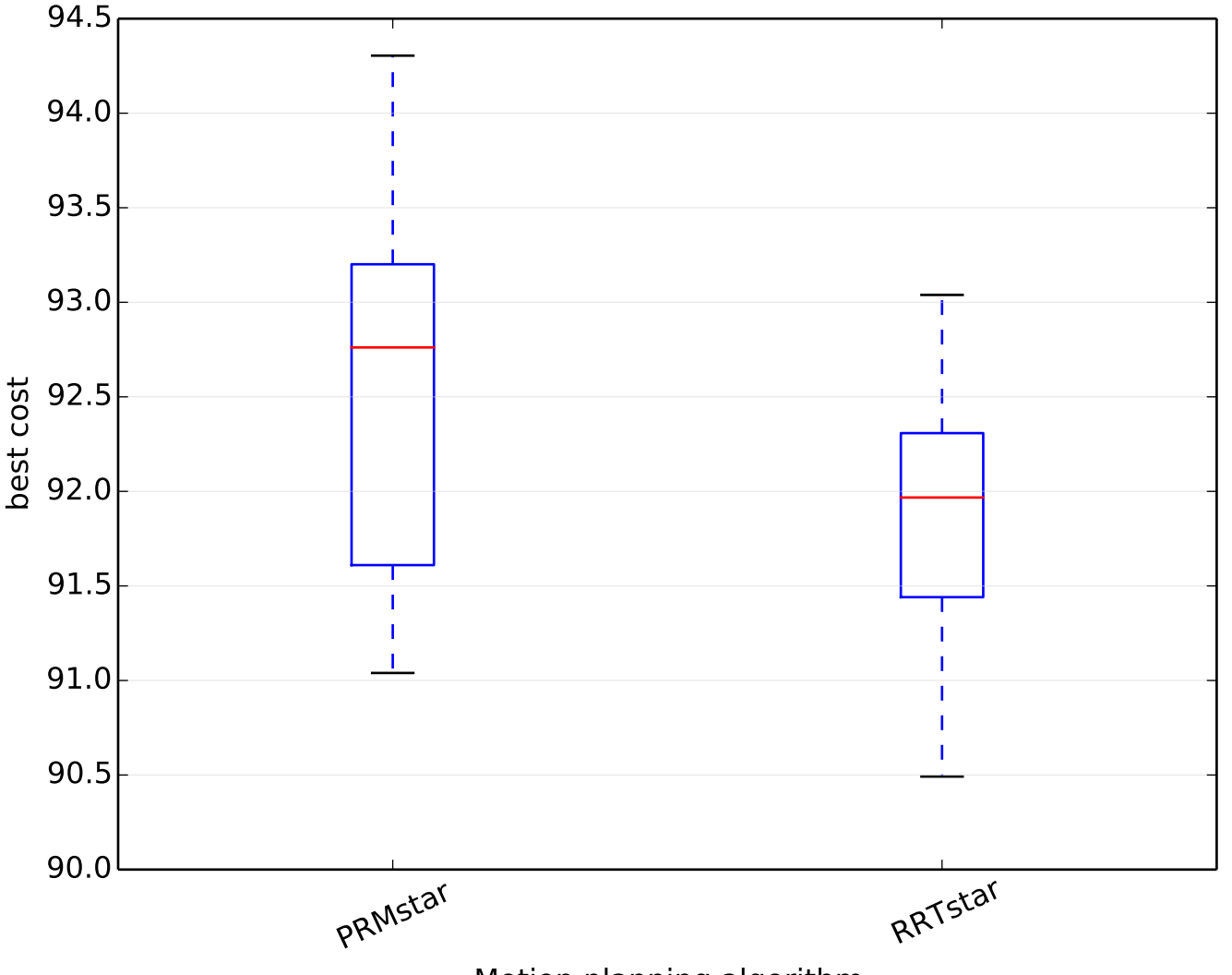

solution smoothness
20000
15000
10000
5000
0
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

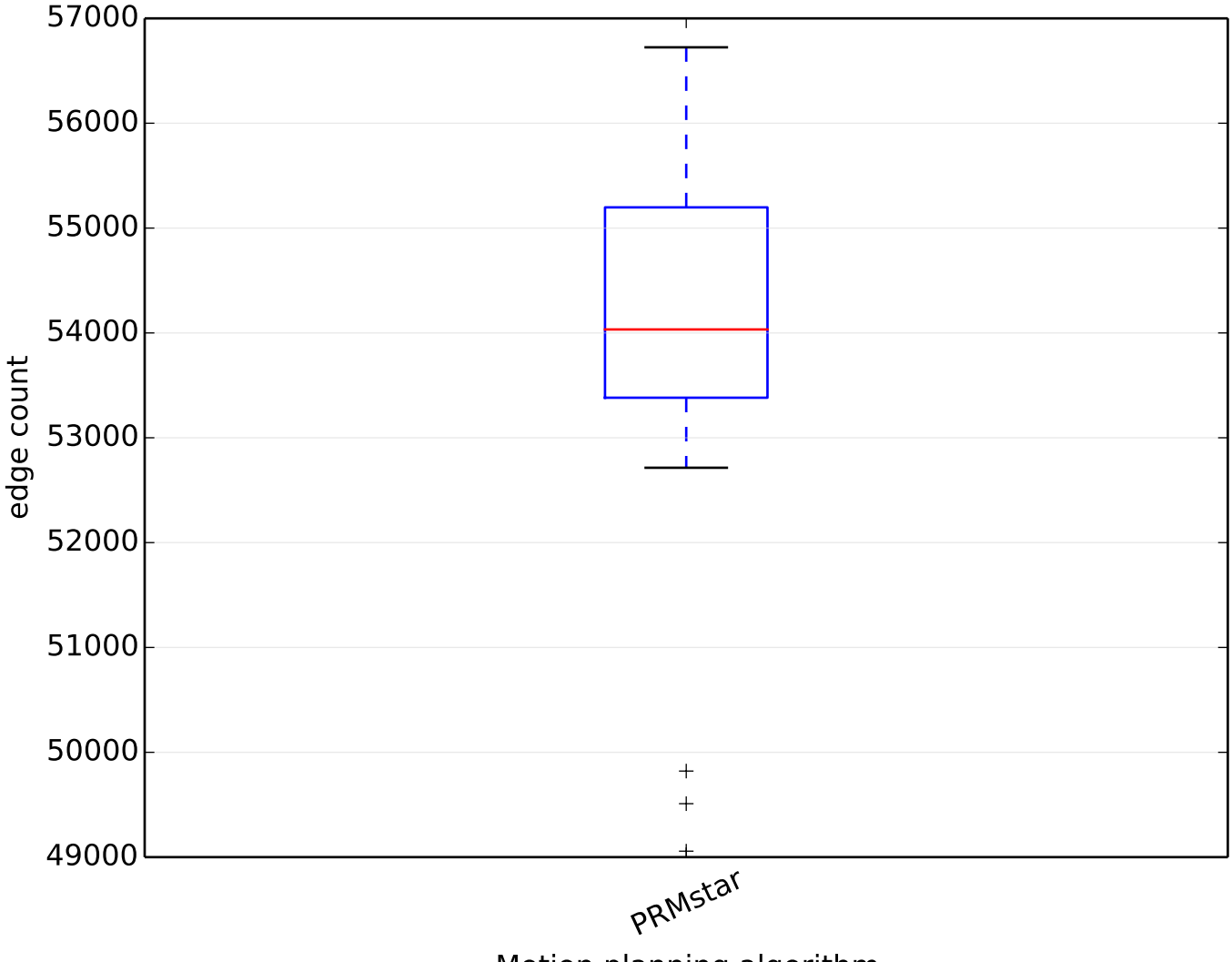

100
80
60
40
20
0
solved (%)
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ma_planner

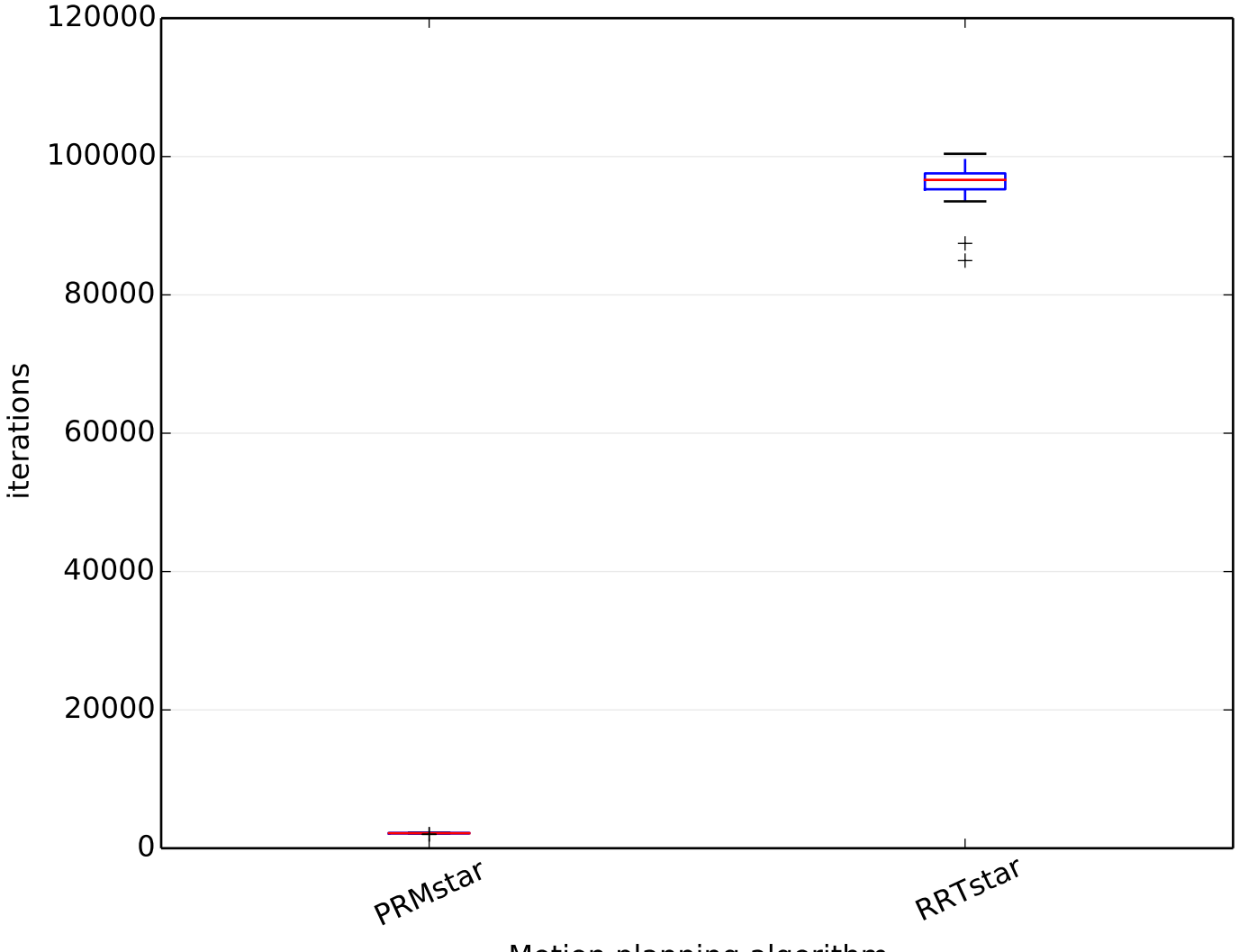

100
80
60
40
20
0
status (%)
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ma_planner
Exact solution

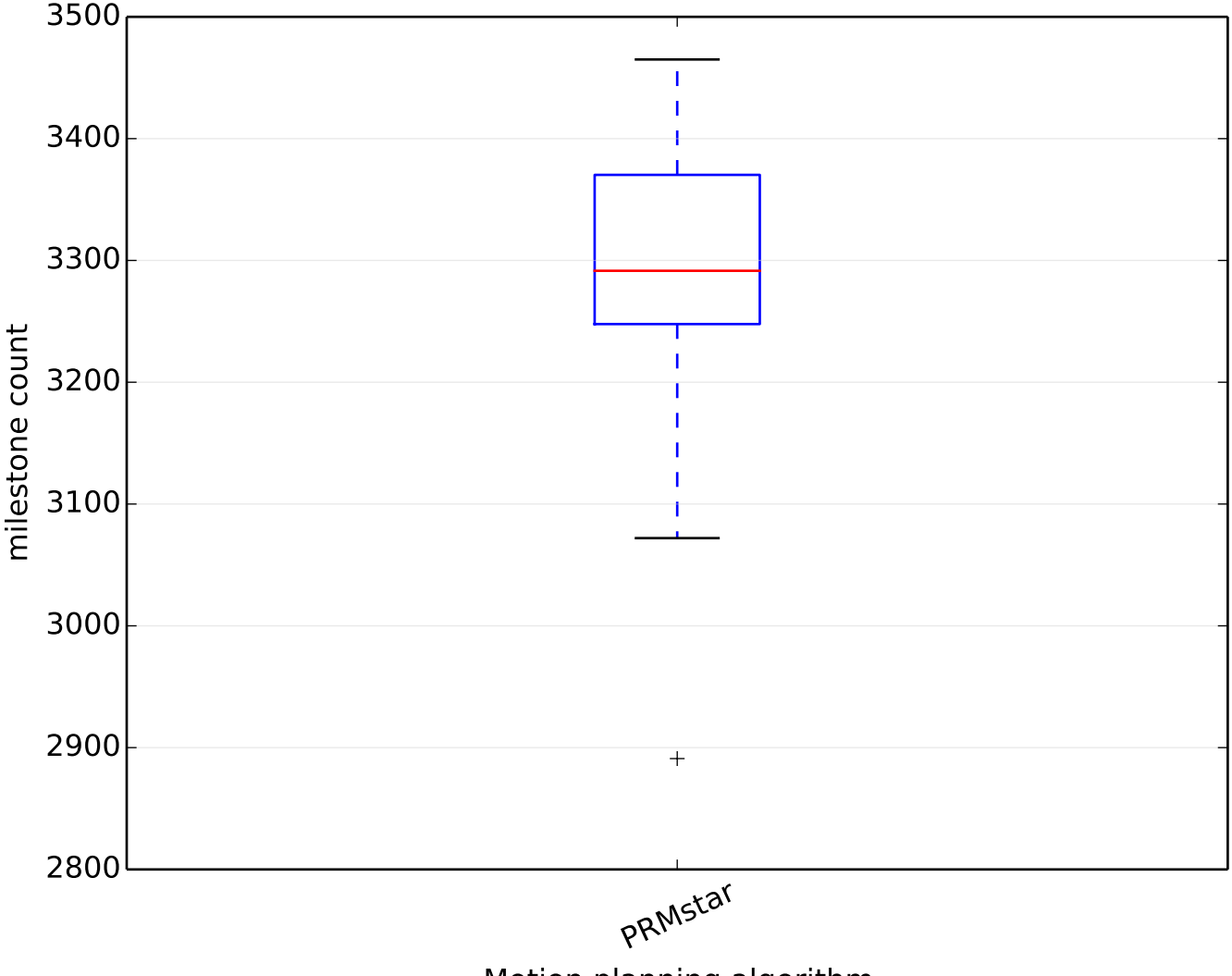

25
20
15
10
5
0
time
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ppma_planner

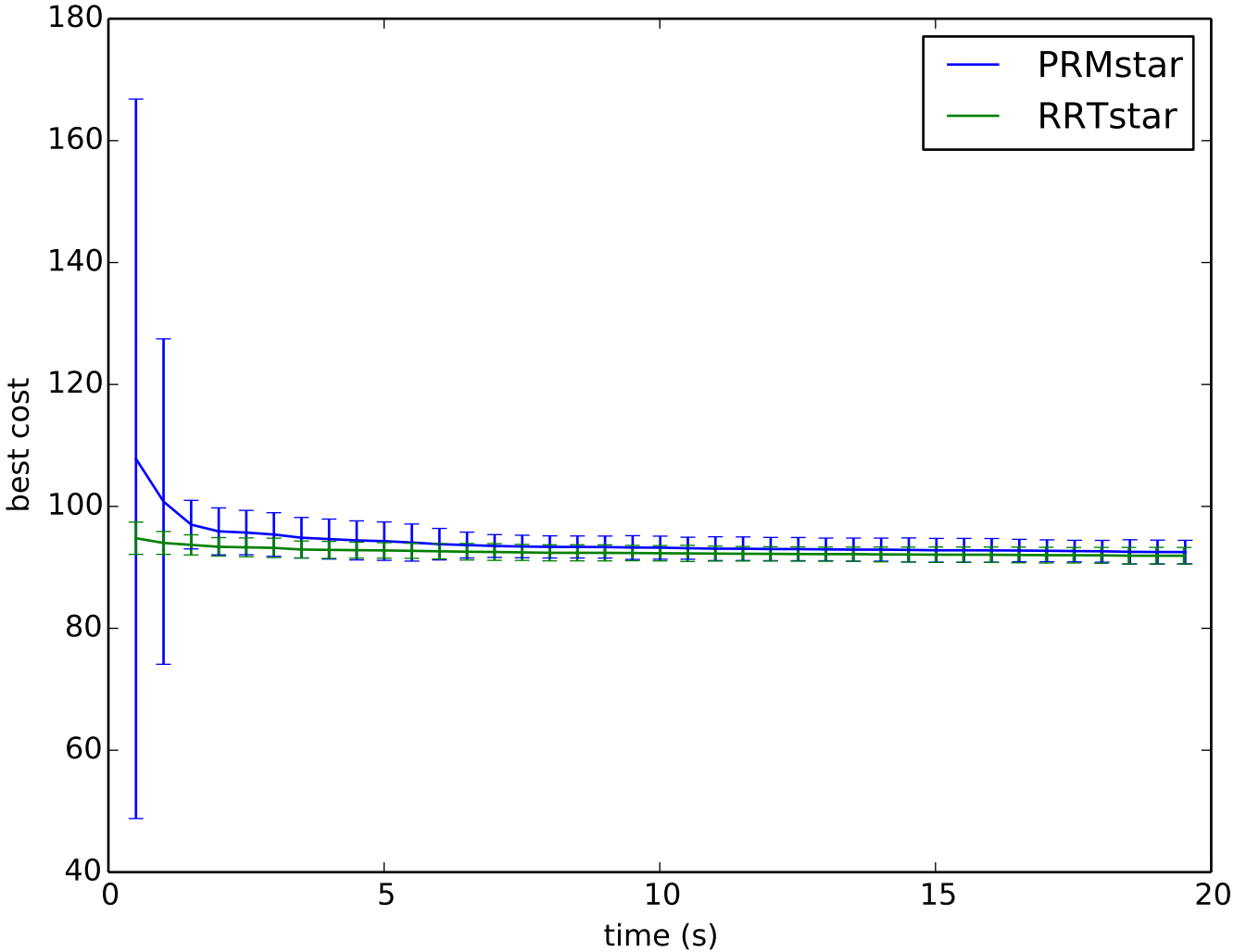

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
valid segment fraction
KPIECE1
LazyRRT
LBKPIECE1
PRMstar
RRT
RRTConnect
RRTstar
ompa_planner

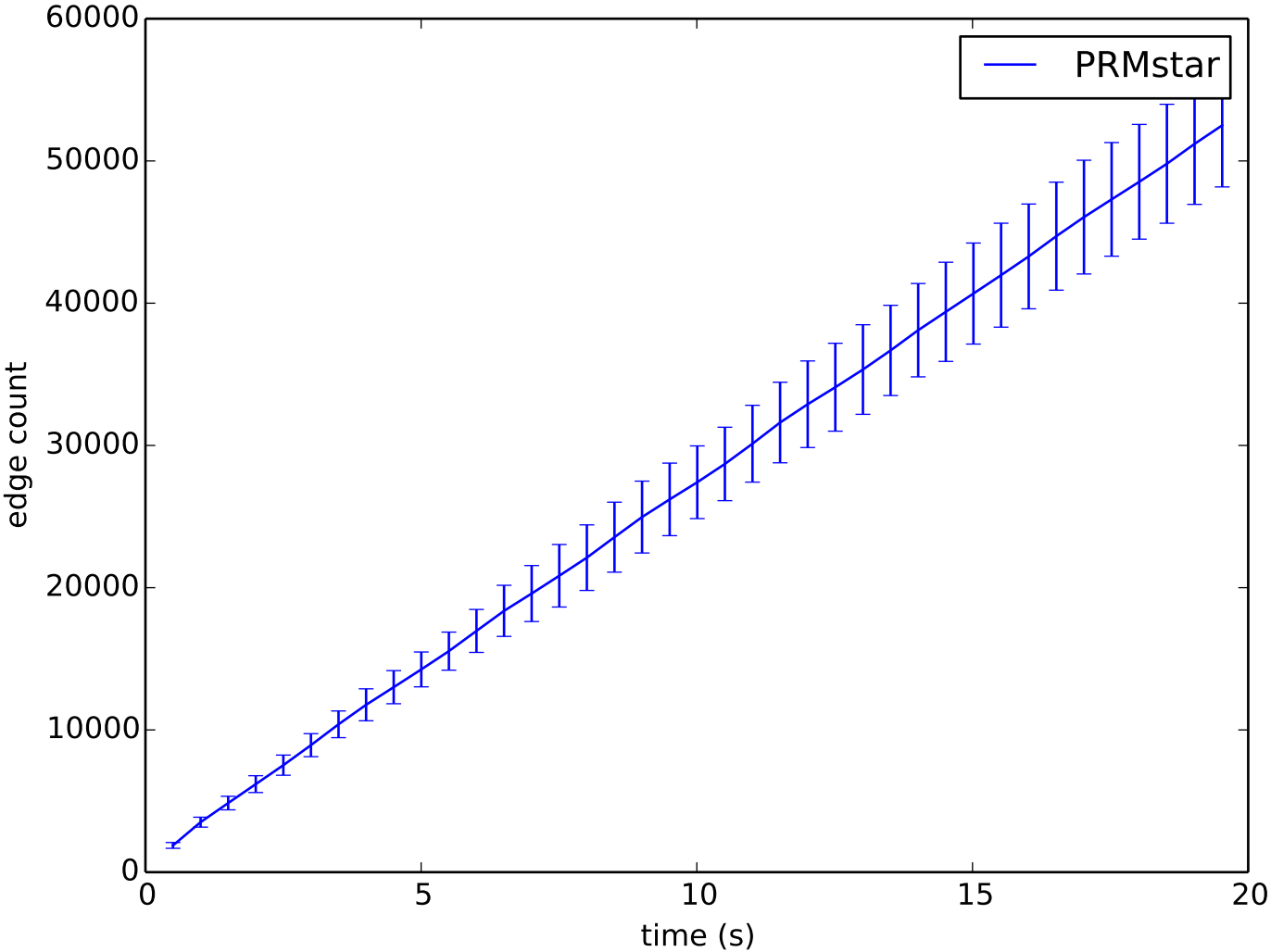

94.5
94.0
93.5
93.0
92.5
92.0
91.5
91.0
90.5
90.0
best cost
PRMstar
RRTstar
Motion planning algorithm

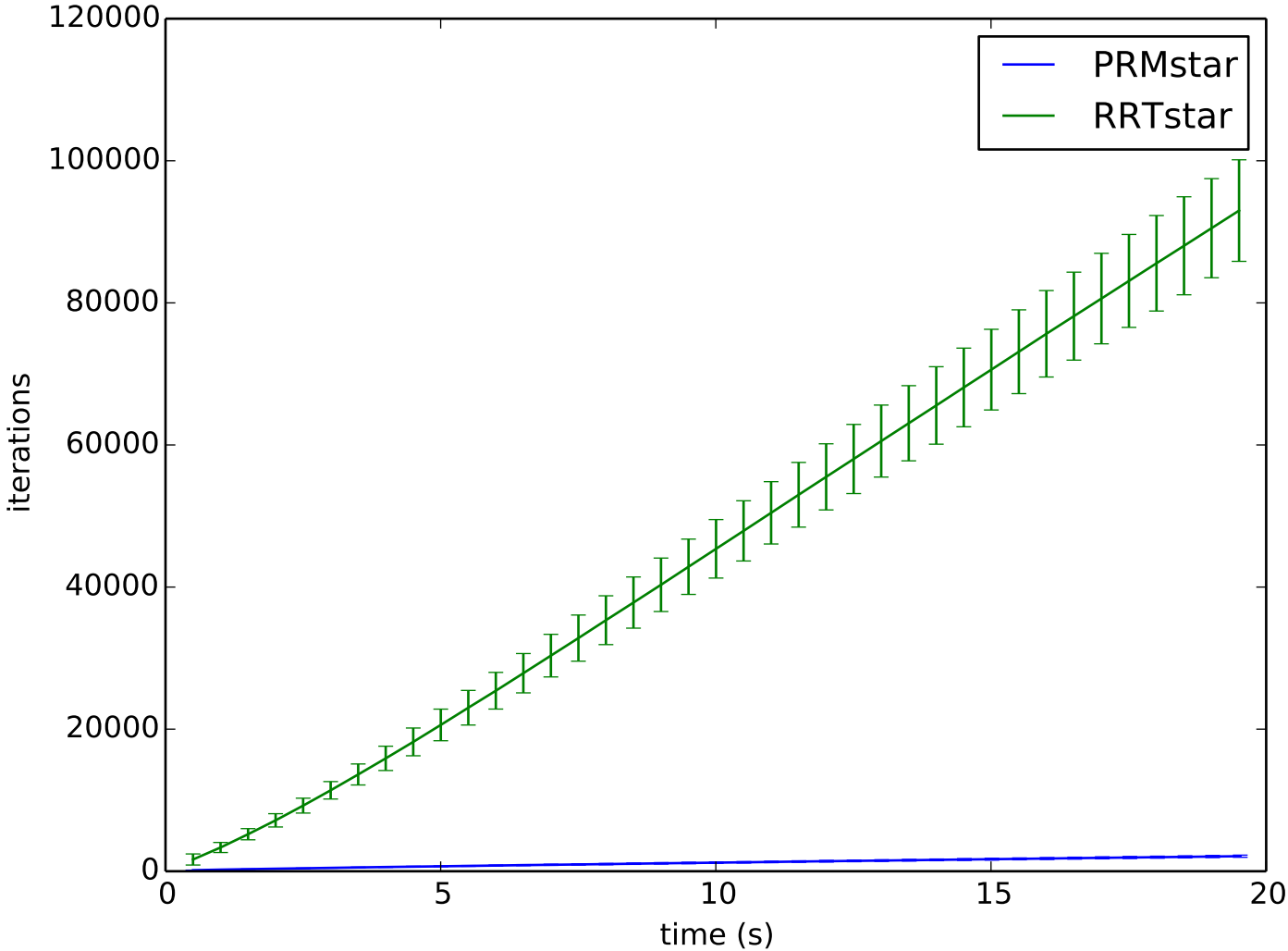

57000
56000
55000
54000
53000
52000
51000
50000
49000
edge count
PRMstar
Motion planning algorithm

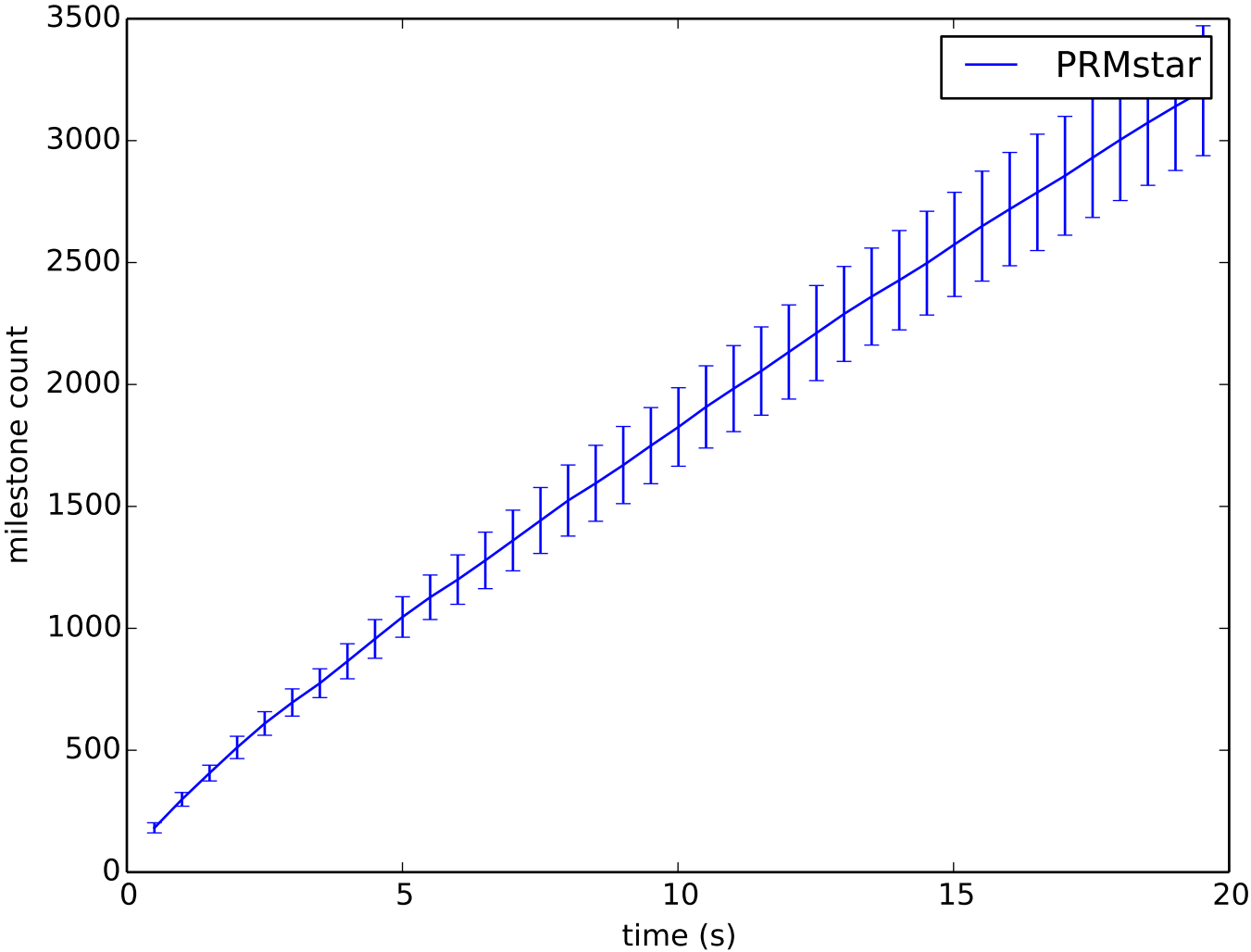

120000
100000
80000
60000
40000
20000
0
iterations
PRMstar
RRTstar
Motion planning algorithm


3500
3400
3300
3200
3100
3000
2900
2800
milestone count
PRMstar
Motion planning algorithm


PRMstar
RRTstar
best cost
time (s)
180
160
140
120
100
80
60
40
0
5
10
15
20


PRMstar
edge count
time (s)
0
10000
20000
30000
40000
50000
60000
0
5
10
15
20


PRMstar
RRTstar
iterations
time (s)
0
20000
40000
60000
80000
100000
120000
0
5
10
15
20


PRMstar
milestone count
time (s)
0
500
1000
1500
2000
2500
3000
3500
0
5
10
15
20

Experiment "Passage"

Number of averaged runs: 20

Time limit per run: 20 seconds

Memory limit per run: 10000 MB