

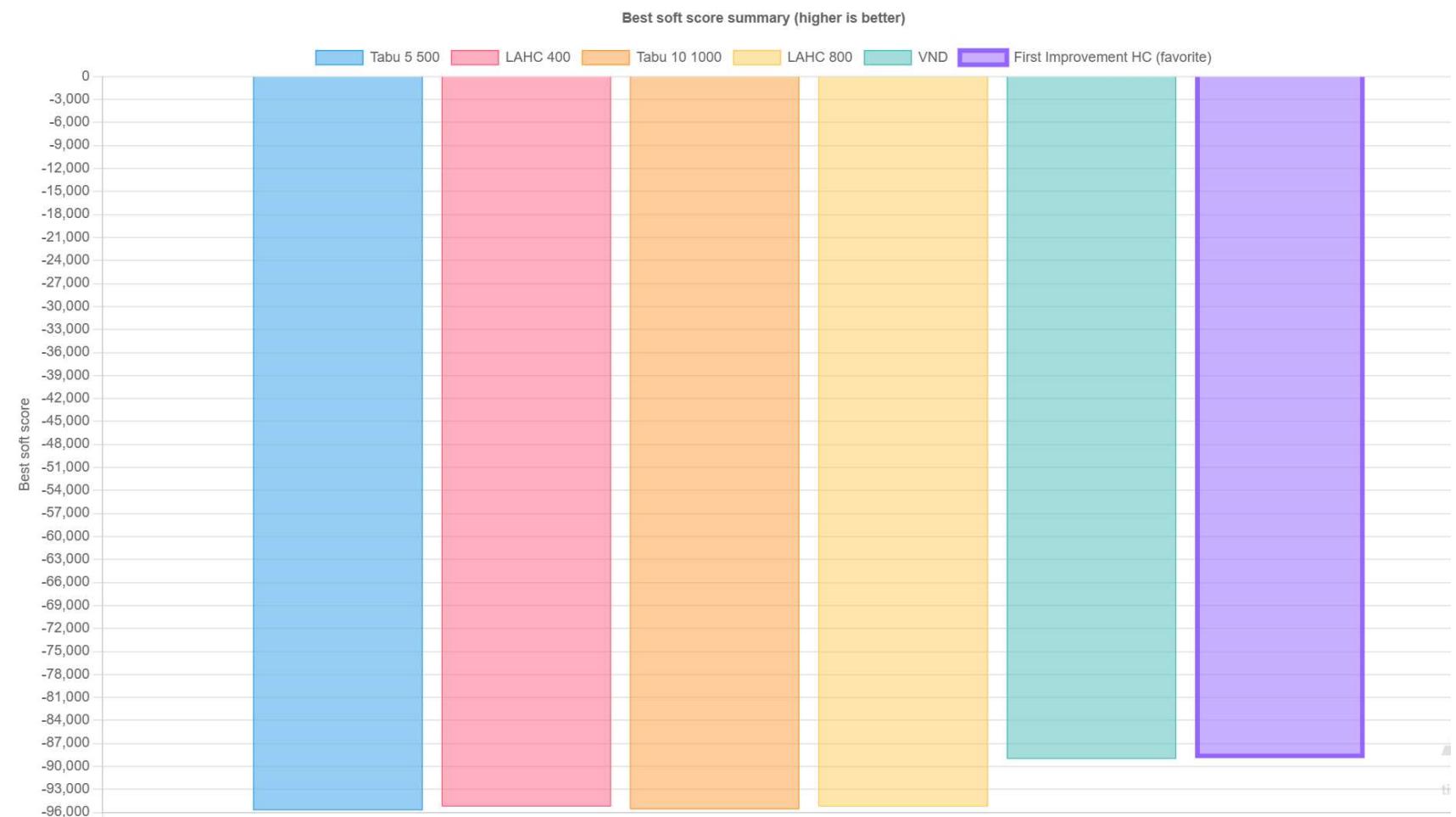
Result summary

3 benchmarks have failed!

Best score Best score scalability Best score distribution Winning score difference

Worst score difference percentage (ROI)

Useful for visualizing the best solver configuration.



Solver	Total	Average	Standard Deviation	Problem
				airport_auto_example_5
Tabu 5 500 5	0hard/-95730soft	0hard/-95730soft	0.0E0/0.0E0	(0hard/-95730soft 5)
LAHC 400 2	0hard/-95230soft	0hard/-95230soft	0.0E0/0.0E0	(0hard/-95230soft 2)
Simulated Annealing F				Failed
Great Deluge F				Failed
Tabu 10 1000 4	0hard/-95611soft	0hard/-95611soft	0.0E0/0.0E0	(0hard/-95611soft 4)
LAHC 800 2	0hard/-95230soft	0hard/-95230soft	0.0E0/0.0E0	(0hard/-95230soft 2)
VND 1	0hard/-89015soft	0hard/-89015soft	0.0E0/0.0E0	(0hard/-89015soft 1)
First Improvement HC 0	0hard/-88922soft	0hard/-88922soft	0.0E0/0.0E0	(0hard/-88922soft 0)
LAHC 400 Entity-focused F				Failed

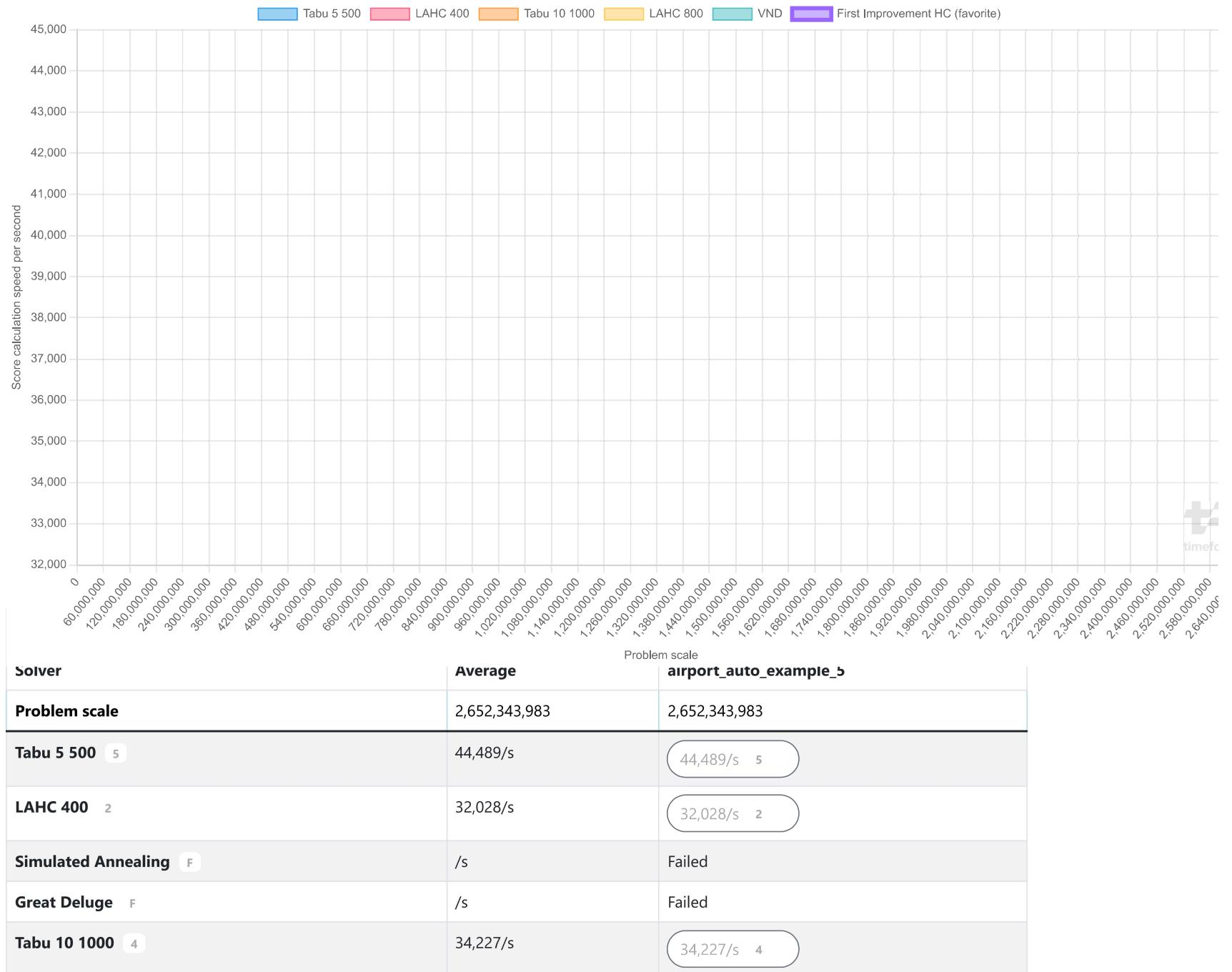
Performance summary

Score calculation speed Move evaluation speed Worst score calculation speed difference percentage Time spent

Time spent scalability Best score per time spent

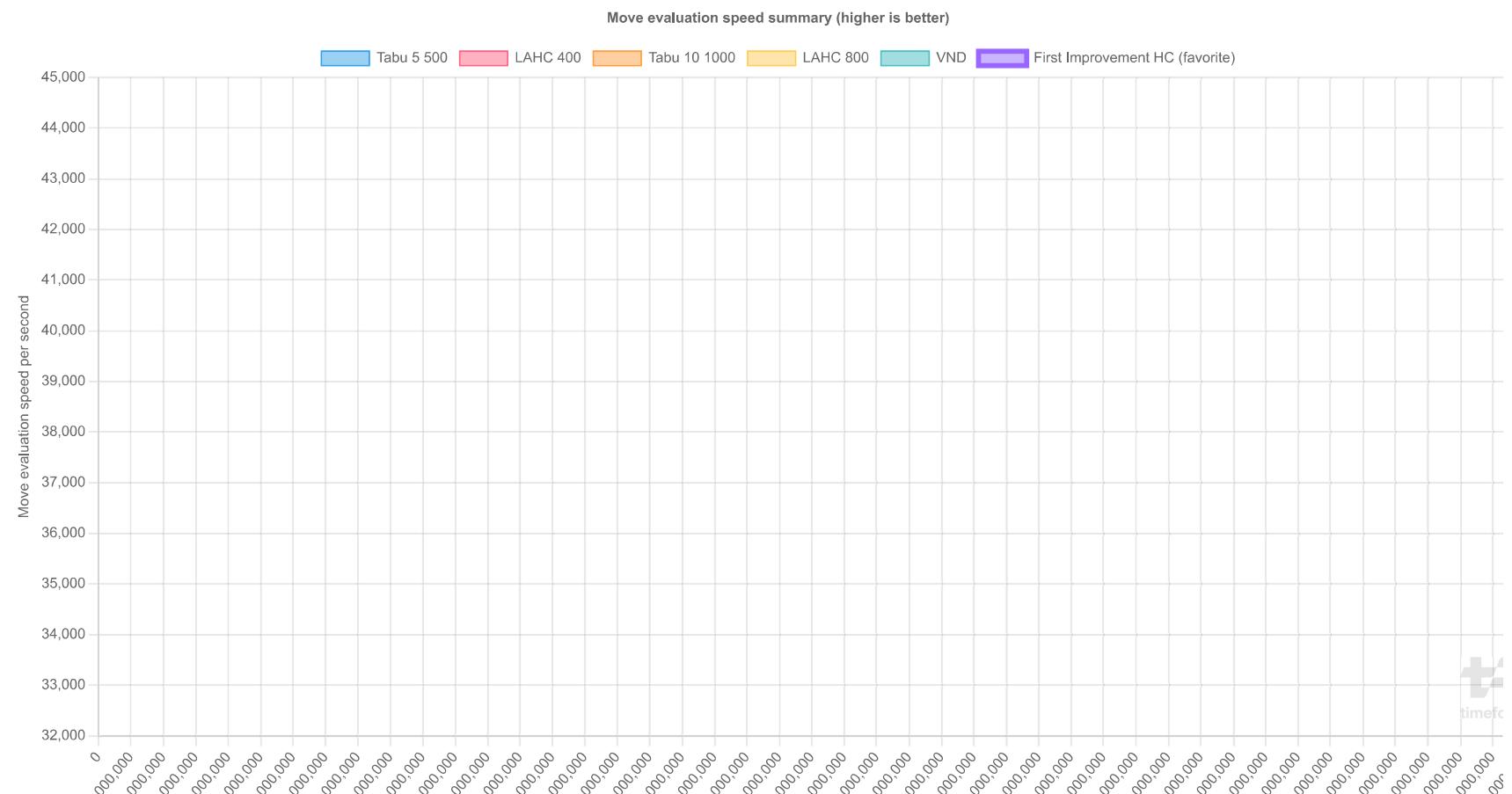
Useful for comparing different score calculators and/or constraint implementations (presuming that the solver configurations do not differ otherwise). Also useful to measure the scalability cost of an extra constraint.

Score calculation speed summary (higher is better)



Solver	Average	Problem
		airport_auto_example_5
Problem scale	2,652,343,983	2,652,343,983
LAHC 800 2	41,869/s	41,869/s 2
VND 1	38,848/s	38,848/s 1
First Improvement HC 0	38,949/s	38,949/s 0
LAHC 400 Entity-focused F	/s	Failed

Useful for comparing different score calculators and/or constraint implementations (presuming that the solver configurations do not differ otherwise). Also useful to measure the scalability cost of an extra constraint.



6^c 12^c 18^c 24^c 30^c 36^c 42^c 48^c 54^c 60^c 66^c 72^c 78^c 84^c 90^c 96^c 1,02^c 1,08^c 1,14^c 1,20^c 1,26^c 1,32^c 1,38^c 1,44^c 1,50^c 1,56^c 1,62^c 1,68^c 1,74^c 1,80^c 1,86^c 1,92^c 1,98^c 2,04^c 2,10^c 2,16^c 2,22^c 2,28^c 2,34^c 2,40^c 2,46^c 2,52^c 2,58^c 2,64^c

Problem scale

Solver	Average	airport_auto_example_5
Problem scale	2,652,343,983	2,652,343,983
Tabu 5 500 5	44,489/s	44,489/s 5
LAHC 400 2	32,028/s	32,028/s 2
Simulated Annealing F	/s	Failed
Great Deluge F	/s	Failed
Tabu 10 1000 4	34,227/s	34,227/s 4
LAHC 800 2	41,869/s	41,869/s 2
VND 1	38,848/s	38,848/s 1
First Improvement HC 0	38,949/s	38,949/s 0
LAHC 400 Entity-focused F	/s	Failed

Problem benchmarks

airport_auto_example_5

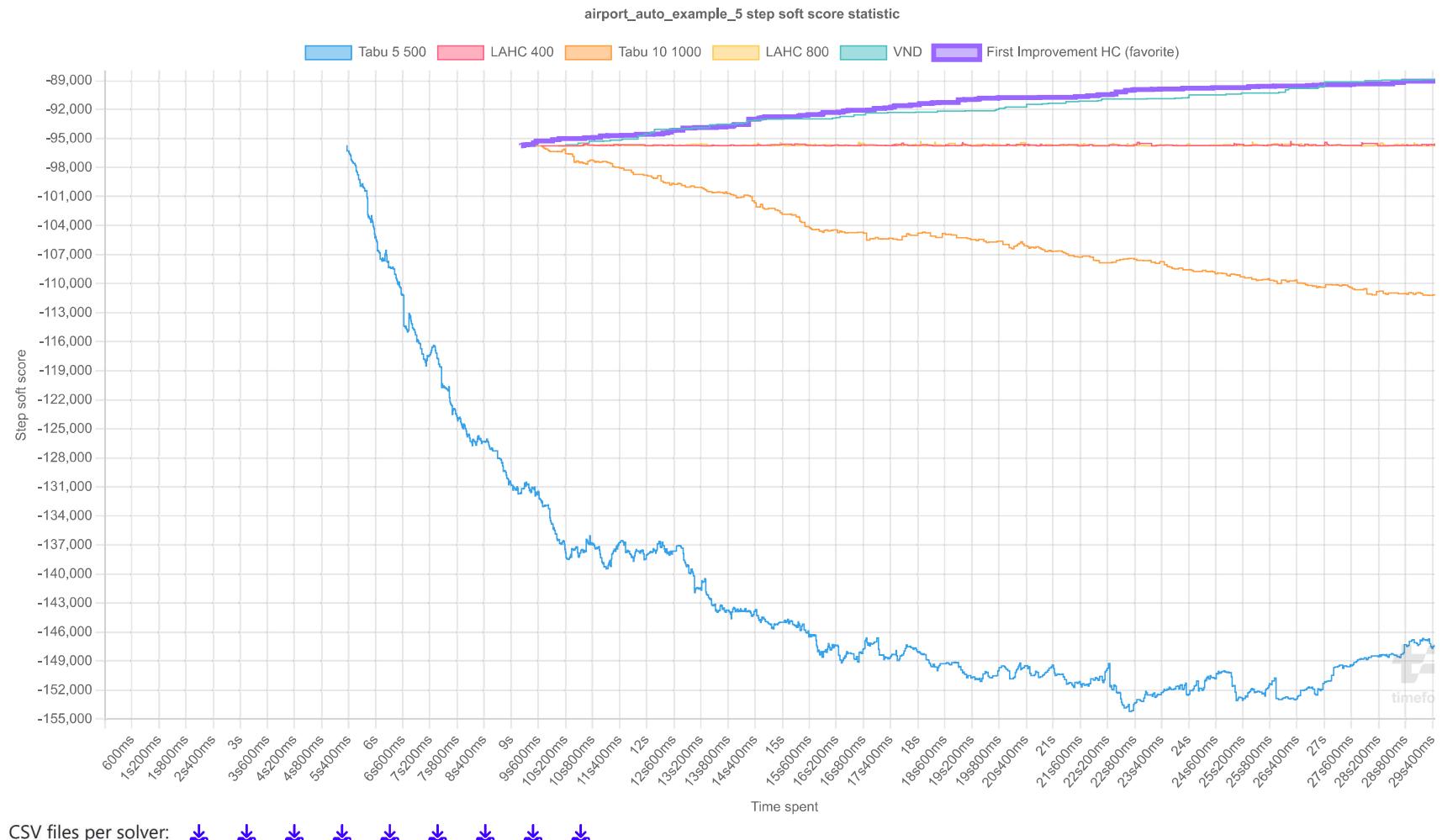
3 benchmarks have failed!

Entity count	50
Variable count	50
Maximum value count	1,000
Problem scale	2,652,343,983
Time to load input solution	0.003 s. (3 ms.)
Memory usage after loading input solution	12,067,922 bytes on average

Only the median sub single run of each solver is shown in the statistics below.

Step Score Best Score Picked Move Type Best Score Diff Constraint Match Total Best Score

Constraint Match Total Step Score



Benchmark Report

Only the median sub single run of each solver is shown in the statistics below.

```

Explanation of score (0hard/-95730soft):
Constraint matches:
-49100soft: constraint (Company terminal mismatch) has 491 matches:
-100soft: justified with ([null])
-100soft: justified with ([null])
...
-46630soft: constraint (Total delay) has 484 matches:
-1190soft: justified with ([null])
-1090soft: justified with ([null])
...
0: constraint (Arrival must finish before departure starts) has 0 matches:
0: constraint (Gate type mismatch) has 0 matches:
0: constraint (Must assign gate after scheduled time) has 0 matches:
Indictments (top 5 of 649):
-1190soft: indicted with (null) has 1 matches:
-1190soft: constraint (Total delay)
-1090soft: indicted with (null) has 1 matches:
-1090soft: constraint (Total delay)
-960soft: indicted with (null) has 1 matches:
-960soft: constraint (Total delay)
-764soft: indicted with (null) has 2 matches:
-664soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-660soft: indicted with (null) has 2 matches:
-560soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
...

```

airport_auto_example_5_LAHC 400

Only the median sub single run of each solver is shown in the statistics below.

```

Explanation of score (0hard/-95299soft):
Constraint matches:
-51800soft: constraint (Company terminal mismatch) has 518 matches:
-100soft: justified with ([null])
-100soft: justified with ([null])
...
-43499soft: constraint (Total delay) has 486 matches:
-1090soft: justified with ([null])
-760soft: justified with ([null])
...
0: constraint (Arrival must finish before departure starts) has 0 matches:
0: constraint (Gate type mismatch) has 0 matches:
0: constraint (Must assign gate after scheduled time) has 0 matches:
Indictments (top 5 of 672):
-1090soft: indicted with (null) has 1 matches:

```

```
-1090soft: constraint (Total delay)
-764soft: indicted with (null) has 2 matches:
-664soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-760soft: indicted with (null) has 1 matches:
-760soft: constraint (Total delay)
-576soft: indicted with (null) has 1 matches:
-576soft: constraint (Total delay)
-552soft: indicted with (null) has 1 matches:
-552soft: constraint (Total delay)
...
...
```

airport_auto_example_5_Simulated Annealing

3 benchmarks have failed!

airport_auto_example_5_Great Deluge

3 benchmarks have failed!

airport_auto_example_5_Tabu 10 1000

Only the median sub single run of each solver is shown in the statistics below.

Explanation of score (0hard/-95726soft):

Constraint matches:

```
-49100soft: constraint (Company terminal mismatch) has 491 matches:
-100soft: justified with ([null])
-100soft: justified with ([null])
...
-46626soft: constraint (Total delay) has 483 matches:
-1190soft: justified with ([null])
-1090soft: justified with ([null])
...
0: constraint (Arrival must finish before departure starts) has 0 matches:
0: constraint (Gate type mismatch) has 0 matches:
0: constraint (Must assign gate after scheduled time) has 0 matches:
```

Indictments (top 5 of 649):

```
-1190soft: indicted with (null) has 1 matches:
-1190soft: constraint (Total delay)
-1090soft: indicted with (null) has 1 matches:
-1090soft: constraint (Total delay)
-960soft: indicted with (null) has 1 matches:
-960soft: constraint (Total delay)
```

```
-764soft: indicted with (null) has 2 matches:
  -664soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-660soft: indicted with (null) has 2 matches:
  -560soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
...

```

airport_auto_example_5_LAHC 800

Only the median sub single run of each solver is shown in the statistics below.

```
Explanation of score (0hard/-95299soft):
Constraint matches:
  -51800soft: constraint (Company terminal mismatch) has 518 matches:
    -100soft: justified with ([null])
    -100soft: justified with ([null])
    ...
  -43499soft: constraint (Total delay) has 486 matches:
    -1090soft: justified with ([null])
    -760soft: justified with ([null])
    ...
  0: constraint (Arrival must finish before departure starts) has 0 matches:
  0: constraint (Gate type mismatch) has 0 matches:
  0: constraint (Must assign gate after scheduled time) has 0 matches:
Indictments (top 5 of 672):
  -1090soft: indicted with (null) has 1 matches:
    -1090soft: constraint (Total delay)
  -764soft: indicted with (null) has 2 matches:
    -664soft: constraint (Total delay)
    -100soft: constraint (Company terminal mismatch)
  -760soft: indicted with (null) has 1 matches:
    -760soft: constraint (Total delay)
  -576soft: indicted with (null) has 1 matches:
    -576soft: constraint (Total delay)
  -552soft: indicted with (null) has 1 matches:
    -552soft: constraint (Total delay)
...

```

airport_auto_example_5_VND

Only the median sub single run of each solver is shown in the statistics below.

```
Explanation of score (0hard/-88813soft):
Constraint matches:
```

```

-49700soft: constraint (Company terminal mismatch) has 497 matches:
  -100soft: justified with ([null])
  -100soft: justified with ([null])
  ...
-39113soft: constraint (Total delay) has 474 matches:
  -664soft: justified with ([null])
  -650soft: justified with ([null])
  ...
0: constraint (Arrival must finish before departure starts) has 0 matches:
0: constraint (Gate type mismatch) has 0 matches:
0: constraint (Must assign gate after scheduled time) has 0 matches:
Indictments (top 5 of 651):
  -764soft: indicted with (null) has 2 matches:
    -664soft: constraint (Total delay)
    -100soft: constraint (Company terminal mismatch)
  -670soft: indicted with (null) has 2 matches:
    -570soft: constraint (Total delay)
    -100soft: constraint (Company terminal mismatch)
  -650soft: indicted with (null) has 1 matches:
    -650soft: constraint (Total delay)
  -622soft: indicted with (null) has 2 matches:
    -522soft: constraint (Total delay)
    -100soft: constraint (Company terminal mismatch)
  -560soft: indicted with (null) has 1 matches:
    -560soft: constraint (Total delay)
  ...

```

airport_auto_example_5_First Improvement HC

Only the median sub single run of each solver is shown in the statistics below.

```

Explanation of score (0hard/-89063soft):
Constraint matches:
  -48800soft: constraint (Company terminal mismatch) has 488 matches:
    -100soft: justified with ([null])
    -100soft: justified with ([null])
    ...
  -40263soft: constraint (Total delay) has 481 matches:
    -1090soft: justified with ([null])
    -1060soft: justified with ([null])
    ...
0: constraint (Arrival must finish before departure starts) has 0 matches:
0: constraint (Gate type mismatch) has 0 matches:
0: constraint (Must assign gate after scheduled time) has 0 matches:
Indictments (top 5 of 651):
  -1160soft: indicted with (null) has 2 matches:
    -1060soft: constraint (Total delay)
    -100soft: constraint (Company terminal mismatch)

```

```

-1090soft: indicted with (null) has 1 matches:
  -1090soft: constraint (Total delay)
-764soft: indicted with (null) has 2 matches:
  -664soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-660soft: indicted with (null) has 2 matches:
  -560soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-648soft: indicted with (null) has 2 matches:
  -548soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
...

```

airport_auto_example_5_LAHC 400 Entity-focused

3 benchmarks have failed!

Solver benchmarks

Tabu 5 500	5	LAHC 400	2	Simulated Annealing	F	Great Deluge	F	Tabu 10 1000	4	LAHC 800	2
VND	1	First Improvement HC	0	LAHC 400 Entity-focused	F						

```

<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<solver xmlns="https://timefold.ai/xsd/solver">
  <environmentMode>PHASE_ASSERT</environmentMode>
  <monitoring>
    <metric>STEP_SCORE</metric>
    <metric>BEST_SCORE</metric>
    <metric>PICKED_MOVE_TYPE_BEST_SCORE_DIFF</metric>
    <metric>CONSTRAINT_MATCH_TOTAL_BEST_SCORE</metric>
    <metric>CONSTRAINT_MATCH_TOTAL_STEP_SCORE</metric>
  </monitoring>
  <solutionClass>lv.lu.eztf.dn.combopt.evrp.domain.EVRPsolution</solutionClass>
  <entityClass>lv.lu.eztf.dn.combopt.evrp.domain.Gate</entityClass>
  <entityClass>lv.lu.eztf.dn.combopt.evrp.domain.Visit</entityClass>
  <scoreDirectorFactory>
    <constraintProviderClass>lv.lu.eztf.dn.combopt.evrp.solver.ConstraintStreamCostFunction</constraintProviderClass>
  </scoreDirectorFactory>
  <termination>
    <secondsSpentLimit>30</secondsSpentLimit>
  </termination>
  <constructionHeuristic/>
  <localSearch>
    <unionMoveSelector>
      <subListChangeMoveSelector/>
      <listChangeMoveSelector/>
    </unionMoveSelector>
  </localSearch>

```

```

<listSwapMoveSelector/>
<kOptListMoveSelector/>
</unionMoveSelector>
<acceptor>
  <valueTabuSize>5</valueTabuSize>
</acceptor>
<forager>
  <acceptedCountLimit>500</acceptedCountLimit>
</forager>
</localSearch>
</solver>

```

Environment Information

Name	2026-01-18_125416
Aggregation	false
Failure count	3
Starting timestamp	2026. gada 18. janv. 12:54:16
Warm-up time spent	0.030 s. (30 ms.)
Parallel benchmark count / available processors	1 / 8
Benchmark time spent	09:03.423 s. (543,423 ms.)
Environment mode	PHASE_ASSERT
Logging level for ai.timefold.solver.core	DEBUG
Solver ranking class	TotalScoreSolverRankingComparator
VM max memory (as in -Xmx but lower)	4,217,372,672 bytes
Timefold Solver version	Community Edition v1.27.0
Java version	Java 17.0.16 (Eclipse Adoptium)
Java VM	Java OpenJDK 64-Bit Server VM 17.0.16+8 (Eclipse Adoptium)
Operating system	Windows 11 amd64 10.0
Report locale	Unknown
Report timezone	Europe/Riga

[Timefold](#) [Documentation](#) [Code](#) [Support](#)