

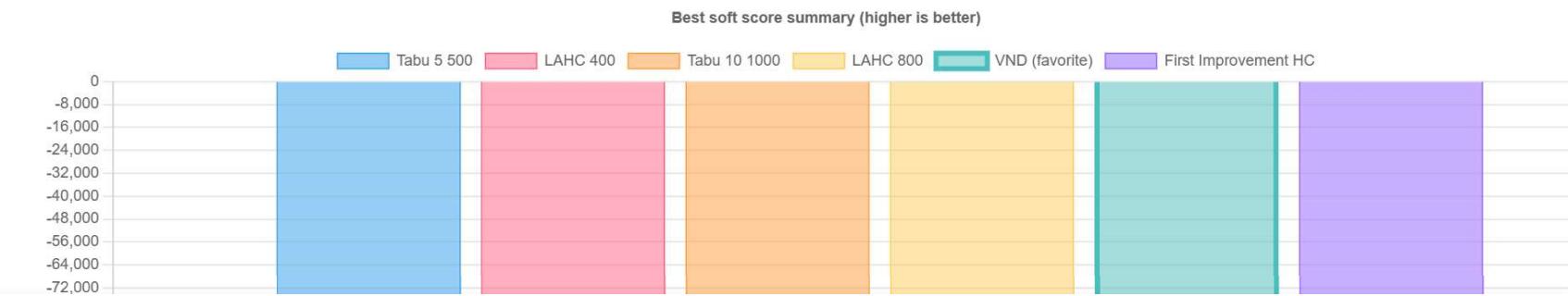
Result summary

3 benchmarks have failed!

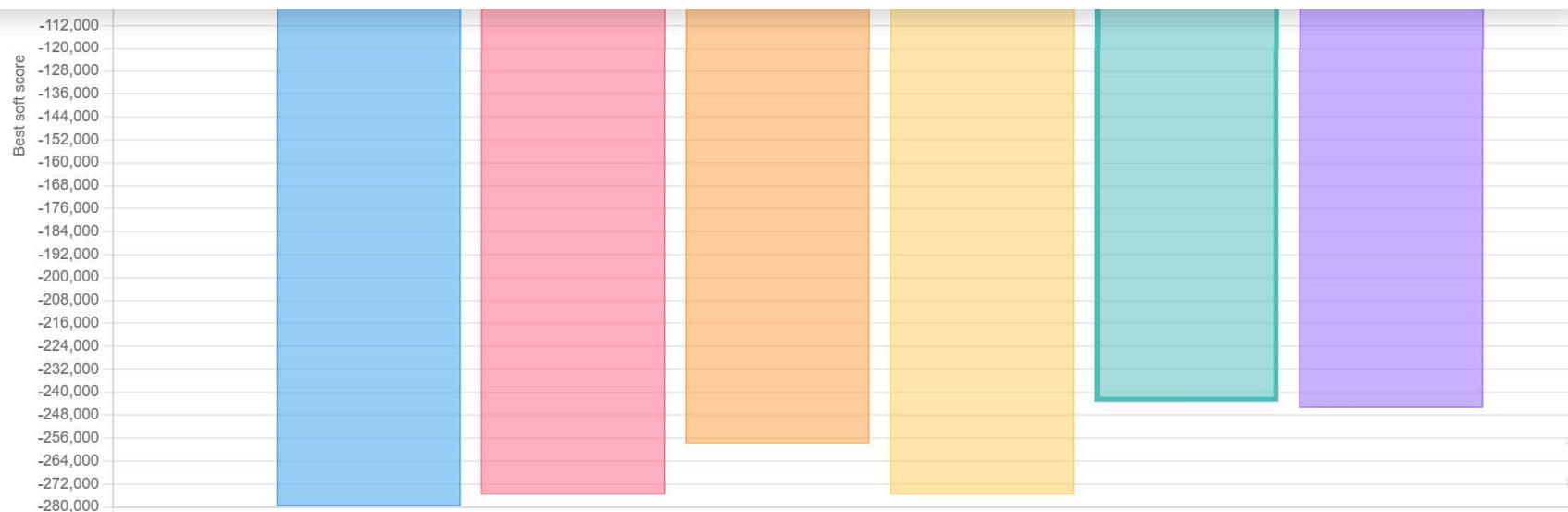
Best score Best score scalability Best score distribution Winning score difference

Worst score difference percentage (ROI)

Useful for visualizing the best solver configuration.



Benchmark Report



Solver	Total	Average	Standard Deviation	Problem
				airport_auto_example_2
Tabu 5 500 5	0hard/-279662soft	0hard/-279662soft	0.0E0/0.0E0	0hard/-279662soft 5
LAHC 400 3	0hard/-275632soft	0hard/-275632soft	0.0E0/0.0E0	0hard/-275632soft 3
Simulated Annealing F				Failed
Great Deluge F				Failed
Tabu 10 1000 2	0hard/-258002soft	0hard/-258002soft	0.0E0/0.0E0	0hard/-258002soft 2
LAHC 800 3	0hard/-275632soft	0hard/-275632soft	0.0E0/0.0E0	0hard/-275632soft 3
VND 0	0hard/-243324soft	0hard/-243324soft	0.0E0/0.0E0	0hard/-243324soft 0
First Improvement HC 1	0hard/-245448soft	0hard/-245448soft	0.0E0/0.0E0	0hard/-245448soft 1
LAHC 400 Entity-focused F				Failed

Performance summary

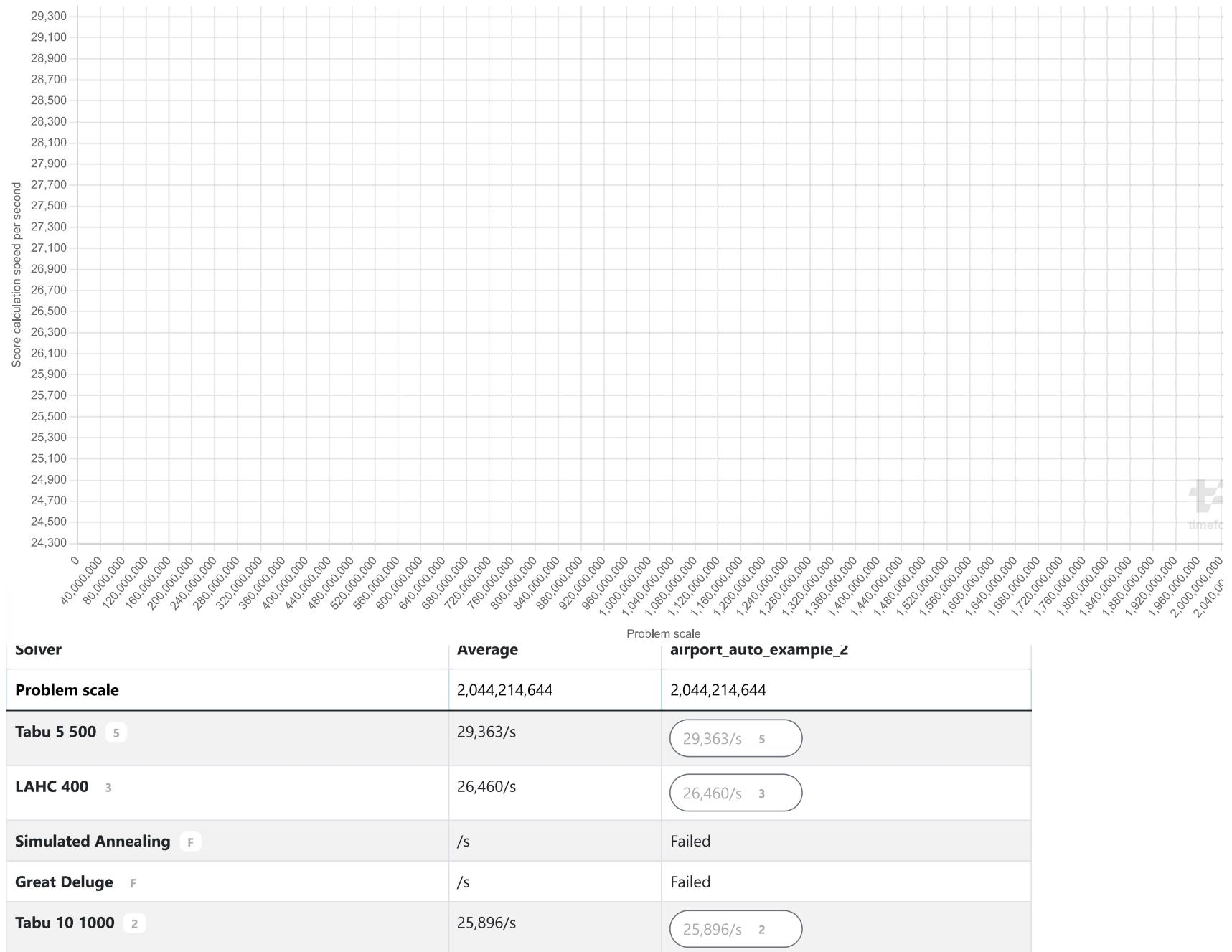
Score calculation speed Move evaluation speed Worst score calculation speed difference percentage Time spent

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.

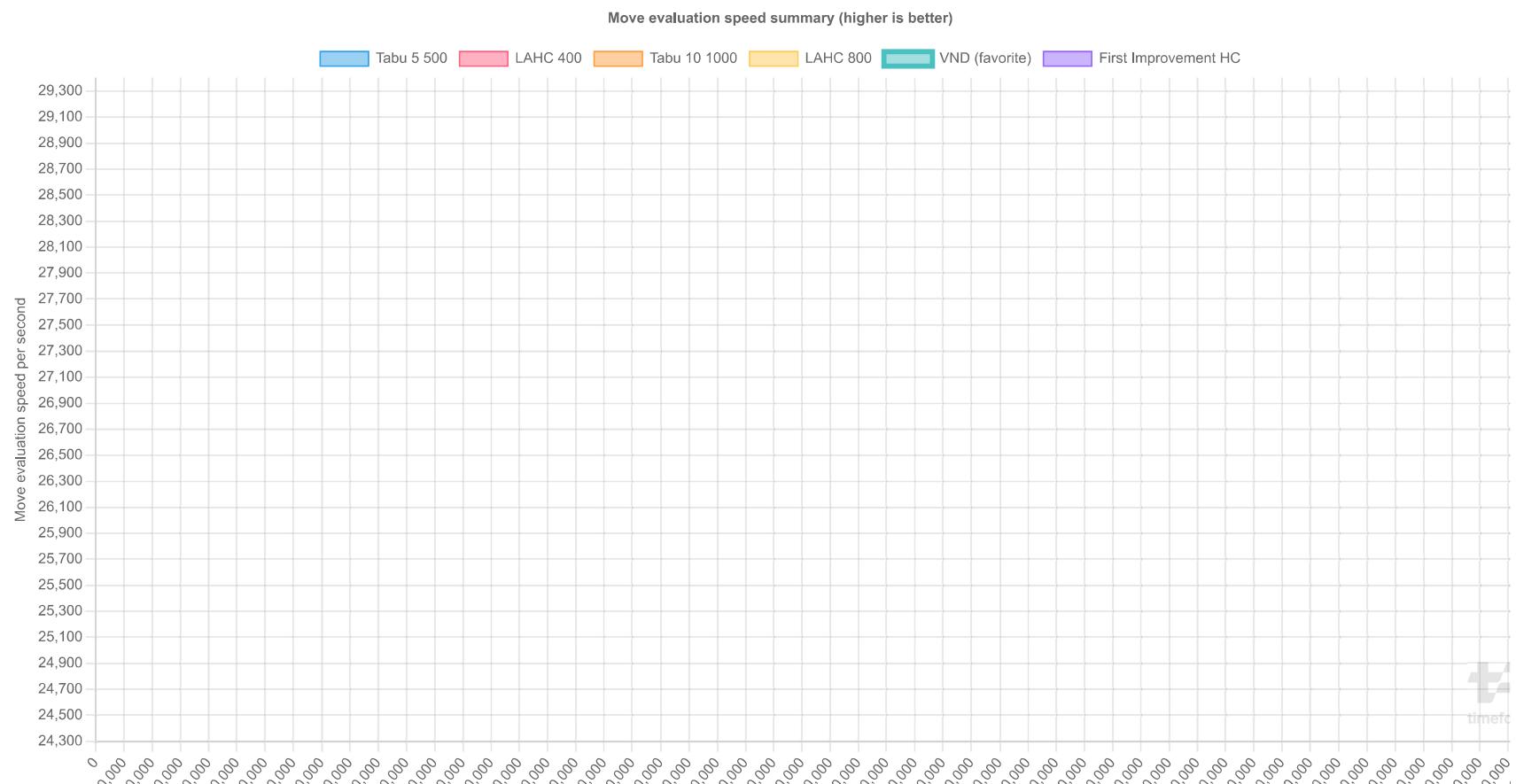
Score calculation speed summary (higher is better)

Tabu 5 500 LAHC 400 Tabu 10 1000 LAHC 800 VND (favorite) First Improvement HC



Solver	Average	Problem
		airport_auto_example_2
Problem scale	2,044,214,644	2,044,214,644
LAHC 800 3	25,626/s	25,626/s 3
VND 0	24,784/s	24,784/s 0
First Improvement HC 1	24,398/s	24,398/s 1
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.



4^v 8^v 12^v 16^v 20^v 24^v 28^v 32^v 36^v 40^v 44^v 48^v 52^v 56^v 60^v 64^v 68^v 72^v 76^v 80^v 84^v 88^v 92^v 96^v 1,00^v 1,04^v 1,08^v 1,12^v 1,16^v 1,20^v 1,24^v 1,28^v 1,32^v 1,36^v 1,40^v 1,44^v 1,48^v 1,52^v 1,56^v 1,60^v 1,64^v 1,68^v 1,72^v 1,76^v 1,80^v 1,84^v 1,88^v 1,92^v 1,96^v 2,00^v 2,04^v

Problem scale

Solver	Average	airport_auto_example_2
Problem scale	2,044,214,644	2,044,214,644
Tabu 5 500 5	29,363/s	29,363/s 5
LAHC 400 3	26,460/s	26,460/s 3
Simulated Annealing F	/s	Failed
Great Deluge F	/s	Failed
Tabu 10 1000 2	25,896/s	25,896/s 2
LAHC 800 3	25,626/s	25,626/s 3
VND 0	24,784/s	24,784/s 0
First Improvement HC 1	24,398/s	24,398/s 1
LAHC 400 Entity-focused F	/s	Failed

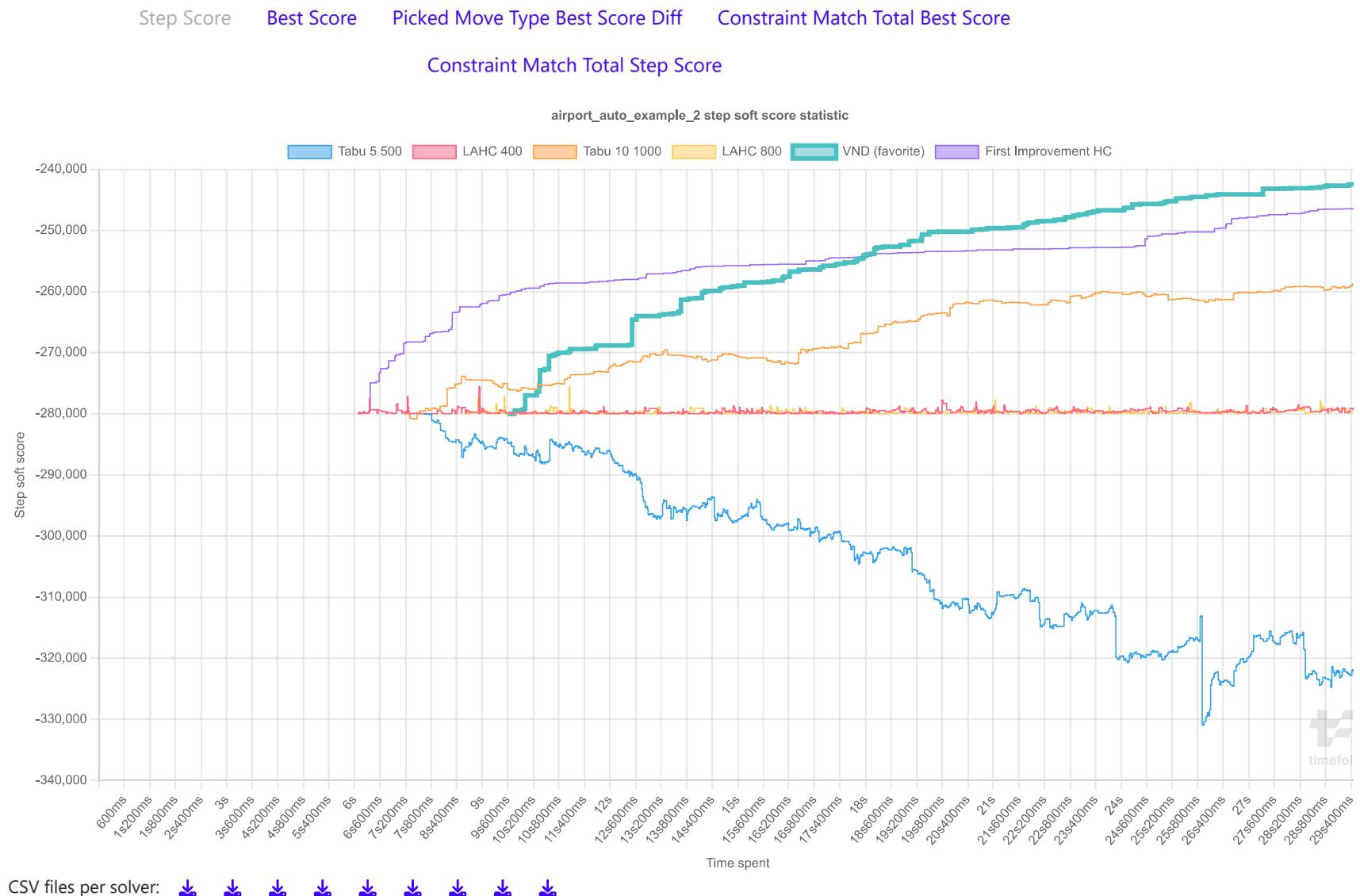
Problem benchmarks

airport_auto_example_2

3 benchmarks have failed!

Entity count	40
Variable count	40
Maximum value count	800
Problem scale	2,044,214,644
Time to load input solution	0.005 s. (5 ms.)
Memory usage after loading input solution	11,930,372 bytes on average

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



airport_auto_example_2_Tabu 5 500

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

Explanation of score (0hard/-280004soft):**Constraint** matches:

```

-218904soft: constraint (Total delay) has 524 matches:
-9624soft: justified with ([null])
-6912soft: justified with ([null])
...
-61100soft: constraint (Company terminal mismatch) has 611 matches:
-100soft: justified with ([null])
-100soft: 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 726):
-9724soft: indicted with (null) has 2 matches:
-9624soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-7012soft: indicted with (null) has 2 matches:
-6912soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-4640soft: indicted with (null) has 2 matches:
-4540soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-4402soft: indicted with (null) has 2 matches:
-4302soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-4243soft: indicted with (null) has 2 matches:
-4143soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
...

```

airport_auto_example_2_LAHC 400

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

Explanation of score (0hard/-275556soft):**Constraint** matches:

```

-212956soft: constraint (Total delay) has 532 matches:
-4474soft: justified with ([null])
-4388soft: justified with ([null])
...
-62600soft: constraint (Company terminal mismatch) has 626 matches:
-100soft: justified with ([null])
-100soft: 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 735):
-4574soft: indicted with (null) has 2 matches:
  -4474soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-4488soft: indicted with (null) has 2 matches:
  -4388soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-4291soft: indicted with (null) has 2 matches:
  -4191soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-4087soft: indicted with (null) has 2 matches:
  -3987soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-3850soft: indicted with (null) has 2 matches:
  -3750soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
...

```

airport_auto_example_2_Simulated Annealing

3 benchmarks have failed!

airport_auto_example_2_Great Deluge

3 benchmarks have failed!

airport_auto_example_2_Tabu 10 1000

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

```

Explanation of score (0hard/-258633soft):
Constraint matches:
-195233soft: constraint (Total delay) has 522 matches:
  -4610soft: justified with ([null])
  -4162soft: justified with ([null])
...
-63400soft: constraint (Company terminal mismatch) has 634 matches:
  -100soft: justified with ([null])
  -100soft: 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 745):

```

-4710soft: indicted with (null) has 2 matches:
  -4610soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-4262soft: indicted with (null) has 2 matches:
  -4162soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-3942soft: indicted with (null) has 2 matches:
  -3842soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-3826soft: indicted with (null) has 2 matches:
  -3726soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-3654soft: indicted with (null) has 2 matches:
  -3554soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
...

```

airport_auto_example_2_LAHC 800

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

Explanation of score (0hard/-275556soft):**Constraint matches:**

```

-212956soft: constraint (Total delay) has 532 matches:
  -4474soft: justified with ([null])
  -4388soft: justified with ([null])
...
-62600soft: constraint (Company terminal mismatch) has 626 matches:
  -100soft: justified with ([null])
  -100soft: 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 735):

```

-4574soft: indicted with (null) has 2 matches:
  -4474soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-4488soft: indicted with (null) has 2 matches:
  -4388soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-4291soft: indicted with (null) has 2 matches:
  -4191soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)
-4087soft: indicted with (null) has 2 matches:
  -3987soft: constraint (Total delay)
  -100soft: constraint (Company terminal mismatch)

```

```
-3850soft: indicted with (null) has 2 matches:  
-3750soft: constraint (Total delay)  
-100soft: constraint (Company terminal mismatch)  
...
```

airport_auto_example_2_VND

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

```
Explanation of score (0hard/-242410soft):  
Constraint matches:  
-181310soft: constraint (Total delay) has 515 matches:  
-4486soft: justified with ([null])  
-4300soft: justified with ([null])  
...  
-61100soft: constraint (Company terminal mismatch) has 611 matches:  
-100soft: justified with ([null])  
-100soft: 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 727):  
-4586soft: indicted with (null) has 2 matches:  
-4486soft: constraint (Total delay)  
-100soft: constraint (Company terminal mismatch)  
-4400soft: indicted with (null) has 2 matches:  
-4300soft: constraint (Total delay)  
-100soft: constraint (Company terminal mismatch)  
-4252soft: indicted with (null) has 1 matches:  
-4252soft: constraint (Total delay)  
-4204soft: indicted with (null) has 2 matches:  
-4104soft: constraint (Total delay)  
-100soft: constraint (Company terminal mismatch)  
-3508soft: indicted with (null) has 1 matches:  
-3508soft: constraint (Total delay)  
...
```

airport_auto_example_2_First Improvement HC

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

```
Explanation of score (0hard/-246278soft):  
Constraint matches:  
-185078soft: constraint (Total delay) has 516 matches:
```

```

-5114soft: justified with ([null])
-4776soft: justified with ([null])
...
-61200soft: constraint (Company terminal mismatch) has 612 matches:
-100soft: justified with ([null])
-100soft: 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 727):
-5214soft: indicted with (null) has 2 matches:
-5114soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-4876soft: indicted with (null) has 2 matches:
-4776soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-4458soft: indicted with (null) has 2 matches:
-4358soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-3910soft: indicted with (null) has 2 matches:
-3810soft: constraint (Total delay)
-100soft: constraint (Company terminal mismatch)
-3884soft: indicted with (null) has 1 matches:
-3884soft: constraint (Total delay)
...

```

airport_auto_example_2_LAHC 400 Entity-focused

3 benchmarks have failed!

Solver benchmarks

Tabu 5 500	5	LAHC 400	3	Simulated Annealing	F	Great Deluge	F	Tabu 10 1000	2	LAHC 800	3
VND	0	First Improvement	HC	1	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/>
    <listSwapMoveSelector/>
    <kOptListMoveSelector/>
  </unionMoveSelector>
  <acceptor>
    <valueTabuSize>5</valueTabuSize>
  </acceptor>
  <forager>
    <acceptedCountLimit>500</acceptedCountLimit>
  </forager>
</localSearch>
</solver>

```

Environment Information

Name	2026-01-18_133314
Aggregation	false
Failure count	3
Starting timestamp	2026. gada 18. janv. 13:33:14
Warm-up time spent	0.030 s. (30 ms.)
Parallel benchmark count / available processors	1 / 8
Benchmark time spent	09:04.229 s. (544,229 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](#)