

Table 1: Best cost of 10 executions for CVRP instances across all methods.

Instance	N	OPT	Classic LNS	SISR	DPR	DR-ALNS	LNS-RL-NoRoute	LNS-RL
CMT1	50	524,61	524.61	524.61	524.61	524.61	524.61	524.61
CMT11	120	1042,12	1166.31	1149.47	1246.25	1111.06	1217.44	1117.21
CMT12	100	819,56	820.92	868.36	940.82	819.56	820.92	819.56
CMT2	75	835,26	835.26	849.87	846.38	860.26	852.34	835.32
CMT3	100	826,14	830.16	831.34	835.02	838.03	832.07	829.63
CMT4	150	1028,42	1035.13	1039.18	1060.63	1069.87	1038.17	1040.75
CMT5	199	1291,29	1318.50	1382.31	1349.13	1366.01	1344.26	1317.01
tai100a	100	2041,34	2071.73	2082.58	2062.01	2078.74	2108.51	2072.33
tai100b	100	1939,90	1945.73	1941.26	2037.92	1952.25	1997.77	1940.61
tai100c	100	1406,20	1414.60	1419.39	1415.34	1430.74	1432.79	1419.52
tai100d	100	1580,46	1586.08	1601.35	1615.84	1600.67	1673.30	1601.09
tai150a	150	3055,23	3078.95	3148.28	3101.32	3133.75	3192.83	3093.85
tai150b	150	2727,03	2749.91	2926.89	3069.11	2762.15	2827.73	2749.88
tai150c	150	2358,66	2426.97	2412.85	2416.57	2410.46	2516.14	2370.61
tai150d	150	2645,39	2682.20	2737.42	2860.63	2728.08	2724.56	2682.14
tai75a	75	1618,36	1621.96	1625.59	1632.01	1625.36	1632.75	1621.96
tai75b	75	1344,62	1345.30	1344.64	1345.93	1349.62	1484.59	1346.60
tai75c	75	1291,01	1302.32	1300.67	1308.49	1339.79	1347.24	1291.01
tai75d	75	1365,42	1365.91	1378.16	1365.98	1365.42	1397.56	1365.42
X-n101	100	27591	28057.06	30242.89	29156.36	29167.66	29686.43	28181.44
X-n106	105	26362	26643.02	27139.06	26781.32	27444.03	27182.93	26548.00
X-n110	109	14971	15067.05	15391.63	15118.47	15491.03	15471.00	15164.19
X-n115	114	12747	12827.19	12801.18	13233.32	13028.71	14128.48	12831.86
X-n120	119	13332	13593.16	13398.98	14500.20	13799.74	17822.08	13338.59
X-n125	124	55539	56922.86	57963.82	58593.85	58360.71	58746.84	57065.30
X-n129	128	28940	29658.20	31098.86	29770.64	30715.26	33171.25	29622.96
X-n134	133	10916	11103.48	11438.26	11089.81	11734.03	12345.02	11106.06
X-n139	138	13590	13630.64	13730.57	14132.26	14072.83	14873.31	13667.01
X-n143	142	15700	16083.91	15818.19	17540.21	16866.55	19748.39	16003.65
X-n148	147	43448	45955.90	47834.63	47436.50	46939.90	47670.19	46247.66
X-n153	152	21220	21538.84	21693.97	21501.71	21770.69	22333.75	21476.16
X-n157	156	16876	16928.55	17130.46	17817.89	17255.67	17619.88	16965.95
X-n162	161	14138	14269.30	14269.89	15261.21	14517.63	16239.85	14195.86
X-n167	166	20557	21053.32	21403.73	20956.10	22065.03	25490.82	20722.19
X-n172	171	45607	48296.44	49912.26	48581.14	50003.33	49788.00	47942.41
X-n176	175	47812	49475.51	49707.92	49414.63	50671.92	52776.64	48658.19
X-n181	180	25569	25831.15	27146.20	25995.92	26948.25	26105.06	25805.23
X-n186	185	24145	24886.98	26007.08	25273.50	26244.15	26359.78	24747.13
X-n190	189	16980	17401.98	17415.23	17448.19	17778.72	19778.79	17350.52
X-n195	194	44225	47441.81	51223.11	47644.50	48411.06	48223.53	46803.16
X-n200	199	58578	61502.46	63330.18	61398.18	63533.58	63356.98	60676.52
Average	-	15331,31	15811.99	16260.06	16089.75	16272.85	16826.45	15735.59

Table 2: Average cost of 10 executions for CVRP instances across all methods.

Instance	N	OPT	Classic LNS	SISR	DPR	DR-ALNS	LNS-RL-NoRoute	LNS-RL
CMT1	50	524,61	525.29	525.13	526.04	533.58	539.72	525.43
CMT11	120	1042,12	1195.13	1185.76	1322.08	1187.81	1477.03	1159.85
CMT12	100	819,56	843.01	909.10	1028.20	835.27	867.24	840.75
CMT2	75	835,26	843.21	859.69	856.73	889.51	861.37	845.36
CMT3	100	826,14	834.66	835.58	851.71	855.85	842.04	832.82
CMT4	150	1028,42	1043.34	1050.36	1091.95	1102.80	1053.83	1047.13
CMT5	199	1291,29	1327.76	1412.71	1366.73	1420.05	1354.56	1328.33
tai100a	100	2041,34	2086.38	2100.75	2080.01	2128.42	2169.98	2085.86
tai100b	100	1939,90	1960.47	1994.40	2144.97	1984.07	2079.66	1959.85
tai100c	100	1406,20	1425.30	1426.07	1418.91	1447.22	1701.18	1435.21
tai100d	100	1580,46	1603.34	1612.89	1741.12	1626.51	2024.27	1621.94
tai150a	150	3055,23	3116.22	3231.08	3165.34	3261.45	3299.88	3123.24
tai150b	150	2727,03	2836.06	2975.46	3400.95	2904.57	3045.41	2833.91
tai150c	150	2358,66	2450.19	2464.61	2466.32	2465.01	2760.24	2424.44
tai150d	150	2645,39	2714.64	2788.87	3234.51	2801.76	2948.99	2714.83
tai75a	75	1618,36	1636.42	1656.04	1656.48	1651.93	1687.23	1631.96
tai75b	75	1344,62	1349.11	1347.61	1348.55	1400.90	1574.64	1348.54
tai75c	75	1291,01	1333.26	1328.09	1331.59	1365.60	1364.80	1323.54
tai75d	75	1365,42	1379.43	1394.54	1383.02	1391.30	1403.43	1384.32
X-n101	100	27591	28398.33	30967.47	29567.77	29899.46	30781.25	28510.05
X-n106	105	26362	26885.82	27293.11	26848.09	27541.87	27498.46	26738.81
X-n110	109	14971	15316.12	15732.03	15313.88	16072.49	16916.81	15335.82
X-n115	114	12747	12904.98	12886.67	13679.43	13235.15	17694.99	13093.91
X-n120	119	13332	13822.18	13645.75	15064.56	14106.73	18913.45	13711.84
X-n125	124	55539	58308.62	59484.09	59092.88	58851.01	62424.95	57593.15
X-n129	128	28940	30159.31	31410.88	30131.53	31640.11	34005.50	29873.55
X-n134	133	10916	11179.47	11596.95	11290.54	11929.28	12875.01	11179.72
X-n139	138	13590	13931.63	13869.45	14796.46	14682.82	18463.91	13840.28
X-n143	142	15700	16405.04	16239.05	18085.07	17283.05	21918.47	16296.38
X-n148	147	43448	46974.32	49487.57	47966.96	48153.26	49773.43	46843.52
X-n153	152	21220	21759.92	21915.11	21955.41	22297.50	23610.67	21767.91
X-n157	156	16876	17061.49	17256.92	18733.11	17517.16	20361.56	17007.57
X-n162	161	14138	14615.29	14414.36	16860.16	14982.75	18522.12	14331.61
X-n167	166	20557	21371.34	21744.36	22006.59	22709.17	27004.77	21063.27
X-n172	171	45607	49981.00	51483.11	49092.41	51126.12	52314.64	48649.87
X-n176	175	47812	49916.08	50367.52	50096.02	51027.13	56128.31	49312.18
X-n181	180	25569	25930.81	27465.68	26143.65	27286.90	26692.96	25922.22
X-n186	185	24145	25119.07	26649.89	25552.33	27236.92	30820.05	24985.03
X-n190	189	16980	17489.95	17484.42	17587.43	17961.57	20503.10	17380.69
X-n195	194	44225	48588.53	52122.18	48322.16	49635.07	48901.73	47710.90
X-n200	199	58578	61502.46	64005.93	61841.21	64033.78	65402.77	60937.62
Average	-	15331,31	16051.83	16551.74	16401.04	16596.66	17916.69	15915.93

Table 3: Average computation time of 10 executions for CVRP instances across all methods.

Instance	N	Classic LNS	SISR	DPR	DR-ALNS	LNS-RL-NoRoute	LNS-RL
CMT1	50	386.05	161.25	416.17	55.80	568.99	373.07
CMT11	120	1669.64	598.72	464.39	686.56	637.14	424.15
CMT12	100	1096.09	415.49	456.64	436.56	625.33	412.23
CMT2	75	639.78	244.69	439.36	149.80	600.73	391.81
CMT3	100	1242.11	459.05	456.42	417.53	627.02	410.81
CMT4	150	3425.11	1072.97	495.40	1331.86	687.29	442.15
CMT5	199	7145.46	2000.53	528.78	3173.86	815.35	468.68
tai100a	100	1076.54	1046.46	467.02	385.47	700.89	413.39
tai100b	100	1065.03	1102.97	472.40	377.82	704.93	414.85
tai100c	100	1059.41	1094.92	470.83	392.90	703.74	413.66
tai100d	100	1085.23	1125.71	470.02	383.67	701.79	415.11
tai150a	150	3045.47	2697.41	504.88	1233.44	768.00	445.85
tai150b	150	3008.58	2695.14	511.21	1332.68	778.09	446.90
tai150c	150	3345.22	2454.27	508.43	1347.10	783.58	449.83
tai150d	150	3308.58	2329.91	510.09	1204.96	777.33	447.64
tai75a	75	574.46	278.32	450.45	170.12	679.76	397.94
tai75b	75	564.45	270.23	449.71	182.81	681.52	396.38
tai75c	75	585.32	274.78	451.55	180.36	681.91	396.33
tai75d	75	579.98	634.00	452.47	180.33	682.46	395.57
X-n101	100	1101.91	739.27	454.38	243.39	699.53	402.32
X-n106	105	1164.97	841.83	464.80	364.12	714.67	411.90
X-n110	109	1274.02	903.29	468.53	557.85	720.61	414.21
X-n115	114	1452.12	1269.55	482.33	1031.46	743.81	430.97
X-n120	119	1684.84	1344.07	488.81	1024.40	738.26	432.83
X-n125	124	1572.42	1213.60	479.44	649.85	733.34	421.13
X-n129	128	1678.44	625.74	470.63	894.12	732.02	417.61
X-n134	133	1964.19	700.69	472.63	1064.26	748.13	424.13
X-n139	138	2303.09	766.03	481.77	1342.19	750.97	432.39
X-n143	142	2656.00	1046.12	504.84	1768.06	773.56	446.39
X-n148	147	2458.12	737.39	482.06	1008.93	745.74	423.80
X-n153	152	3345.56	1181.60	508.28	2168.34	789.74	446.30
X-n157	156	3485.04	949.74	488.81	1602.57	756.07	436.10
X-n162	161	4144.34	2735.34	507.79	2197.73	775.72	447.07
X-n167	166	4293.88	3084.50	508.53	2474.75	784.27	450.68
X-n172	171	4741.21	2747.91	497.22	1834.95	776.75	436.50
X-n176	175	4635.10	3292.45	522.50	2616.78	793.44	453.59
X-n181	180	5036.25	2478.38	518.67	2681.97	792.17	451.22
X-n186	185	5356.58	3152.91	519.84	3793.71	790.97	458.92
X-n190	189	7351.08	4426.69	535.03	4184.48	807.35	477.79
X-n195	194	7043.88	2970.40	523.40	3460.63	804.18	452.53
X-n200	199	6337.44	3039.82	522.84	4065.11	815.63	454.35
Average	-	2682.51	1492.78	484.86	1333.01	731.53	428.76